

Project Delivery Partner Appointment

Crossrail Limited

(the Employer)

and

Bechtel Limited

(the Project Delivery Partner)

and

Bechtel Corporation

(the Guarantor)

Project Delivery Partner Services

Contract No. 2166

This amended contract is based on the NEC Professional Services Contract, the copyright in which standard form belongs to the Institution of Civil Engineers.

17 April 2009

This agreement is made on the 17th day of April 2009

Between **CROSSRAIL LIMITED** (company number 4212657) of 25 Canada Square, London E14 5LQ

(the *Employer*)

and **BECHTEL LIMITED** (company number 0506133) of 11 Pilgrim Street, London EC4V 6RN

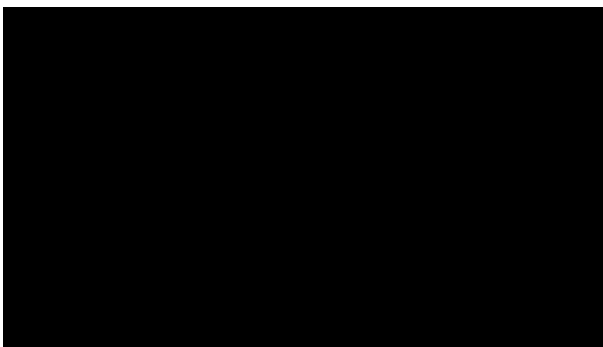
(the *Project Delivery Partner*)

and **BECHTEL CORPORATION** of 6100 Neil Road, Suite 500, Reno, Nevada 89511, USA

(the *Guarantor*)

1. The *Employer* wishes to appoint the *Project Delivery Partner* to carry out certain delivery partner services in relation to the Crossrail project, London.
2. The *Employer* will pay the *Project Delivery Partner* the amount due and carry out his duties in accordance with this agreement (including the conditions of contract).
3. The *Project Delivery Partner* will Provide the Services in accordance with this agreement (including the conditions of contract).
4. This agreement (including the conditions of contract) and the documents referred to in it form this contract. References in the conditions of contract to "the contract" are references to this contract. This agreement (including the conditions of contract) shall take precedence over any other document forming part of this contract.
5. In consideration of the *Employer* appointing the *Project Delivery Partner* to Provide the Services, the *Guarantor* has agreed to guarantee the obligations of the *Project Delivery Partner* hereunder.
6. This agreement may be executed in any number of counterparts which shall together constitute one agreement and each Party may enter into this agreement by signing any such counterpart provided always that it is a condition precedent to this agreement coming into effect that the *Project Delivery Partner* provides a counterpart signed by the *Guarantor*.

Executed as a deed and delivered on the date above by:



(signed)

(signed)

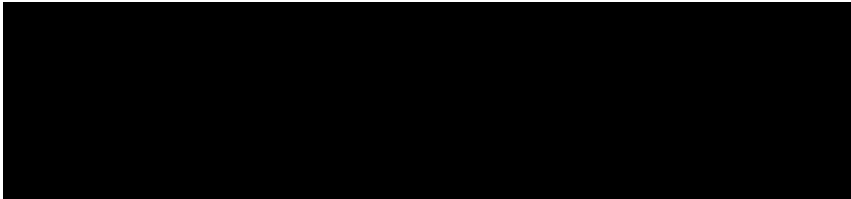
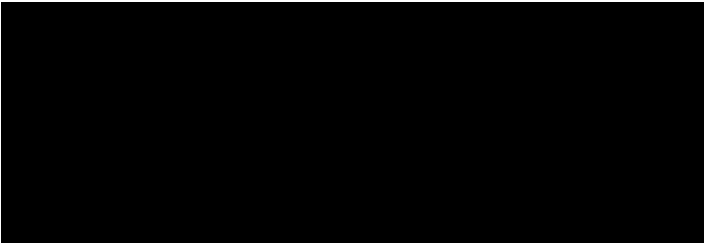
On behalf of **Crossrail Limited**



(signed)

(signed)

On behalf of **Bechtel Limited**



On behalf of **Bechtel Corporation**

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CROSSRAIL
Project Delivery Partner Conditions of Contract

Professional Services Contract

Terms and Conditions

An NEC document

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CORE CLAUSES

1 General

Actions 10

- 10.1 The *Employer* and the *Project Delivery Partner* shall act as stated in this contract and in a spirit of mutual trust and co-operation.

Identified and defined terms 11

- 11.1 In these conditions of contract, terms identified in the Contract Data are in italics and defined terms have capital initials.

- 11.2 (1) The Accepted Programme is the programme set out in the Service Delivery Plan or is the latest programme accepted by the *Employer*. The latest programme accepted by the *Employer* supersedes previous Accepted Programmes.

- (2) The Act is the Housing Grants, Construction and Regeneration Act 1996.

- (3) A period of time stated in days is a period calculated in accordance with Section 116 of the Act.

- (4) Not used.

- (5) Auditor means any person (including the District Auditor, National Audit Office or any internal auditor) with the responsibility for auditing the accounts of the *Employer* and any person conducting an audit in accordance with the *Employer's* quality management system.

- (6) Background Rights means in respect of each party the Intellectual Property rights owned by or otherwise in the possession of that party at the date of this contract.

- (7) BH Works means the permanent and temporary works to be carried out by Berkeley Homes (as defined in the PDA) under the Woolwich Station Box Deed (as defined in the PDA).

- (8) CWG Works means the permanent and temporary works to be carried out by the CWG SPV (as defined in the

PDA) under the CWG Agreement (as defined in the PDA).

- (9) Completion is when the *Project Delivery Partner* has
- done all the work which the Scope states he is to do by the Completion Date and
 - corrected all notified or patent Defects.

If the work which the *Project Delivery Partner* is to do by the Completion Date is not stated in the Scope, Completion is when the *Project Delivery Partner* has done all the work necessary for the rail transport system that is the subject of the Programme to commence full operations and so there are no notified or patent Defects.

- (10) The Completion Date is the *completion date* unless later changed in accordance with this contract.

- (11) Confidential Information means any information of whatever kind (whether commercial, technical, financial, operational or otherwise, in whatever form and whether or not recorded in any way) relating to the *Employer* or the Programme.

- (12) The Contract Date is the date of execution by the Parties of this contract.

- (13) A Defect is a part of the *services* which is not in accordance with the contract.

- (14) Not used.

- (15) Depot Works means the permanent and temporary works to be carried out by the Depot Contractor (as defined in the PDA) under the Depot Contract (as defined in the PDA).

- (16) FOI Legislation means the Freedom of Information Act 2000, all regulations made under it and the Environmental Information Regulations 2004 and any amendment or re-enactment of any of them and any guidance issued by the Information Commissioner in relation to such legislation.

- (17) Foreground Rights means all Intellectual Property rights developed by either party (and in the case of the *Project Delivery Partner* any Intellectual Property developed by

any Subconsultant to the *Project Delivery Partner*) under or in connection with this contract and/or the services, including but not limited to all Intellectual Property rights in the Materials.

- (18) Information Request means a request for information under the FOI Legislation.
- (19) Intellectual Property means any and all patents, trade marks, rights in designs, get-up, trade, business or domain names, copyrights including rights in computer software (including source codes) and databases, topography rights (in each case whether registered or not and any applications to register or rights to apply for registration of any of the foregoing), rights in inventions, Know-How, trade secrets and other confidential information, rights in databases and other intellectual property rights of a similar or corresponding character which may now or in the future subsist in any part of the world.
- (20) A Key Date is the date by which work is to meet the Condition stated. The Key Date is the *key date* stated in the Contract Data and the Condition is the *condition* stated in the Contract Data unless later changed in accordance with this contract.
- (21) Know-How means information and know-how whether patentable or not including but not limited to all patented techniques, operating instructions, machinery designs, raw material or products specifications, drawings, blueprints, and any other technical and commercial information relating to design, development, manufacture, assembly, use or sale.
- (22) Legislation means any Act of Parliament or subordinate legislation within the meaning of Section 21(1) of the Interpretation Act 1978, any exercise of the Royal Prerogative, and any enforceable community right within the meaning of Section 2 of the European Communities Act 1972, in each case in the United Kingdom.
- (23) Materials means all documents, items, information, data, reports, drawings, specifications, plans, software, designs, inventions and/or other material produced or supplied by the *Project Delivery Partner* as part of or in connection with the *services* and/or this contract.
- (24) New Employer means *TfL*, *DfT* or any company which is a holding company or subsidiary (within the meaning of Section 1159 of the Companies Act 2006) of *TfL* or *DfT*

or is a company in which *TfL* or *DfT* or any such holding company or subsidiary holds more than 25% of the issued equity share capital (as defined by Section 548 of the Companies Act 2006).

- (25) On-Network Works means the Crossrail Project Works (as defined in the PDA) undertaken by Network Rail (as defined in the PDA) pursuant to the NR Regulatory Protocol (as defined in the PDA): (i) between Maidenhead in the County of Berkshire and Royal Oak in the City of Westminster; (ii) between Pudding Mill Lane in the London Borough of Newham and Shenfield in the County of Essex; and (iii) between Plumstead and Abbey Wood, both in the London Borough of Greenwich.
- (26) Others are people or organisations who are not the *Employer*, the *Project Delivery Partner*, the *Guarantor*, the *Adjudicator* or any employee, Subconsultant or supplier of the *Project Delivery Partner*.
- (27) The Parties are the *Employer* and the *Project Delivery Partner*.
- (28) PDA is the Project Development Agreement between the *Employer*, *TfL* and the Secretary of State for Transport dated 3 December 2008.
- (29) The Policies are the *Employer's Policies and Procedures* and any other such policies of which the *Employer* notifies the *Project Delivery Partner*.
- (30) Premises are the property approved or made available by the *Employer* which is used by the *Project Delivery Partner* in Providing the Services and which, as at the Contract Date are identified in the Contract Data.
- (31) The Price for Services Provided to Date is the Time Charge for the work which has been completed. Completed Work is work that has been completed without Defects.
- (32) The Prices are the Time Charge.
- (33) The Programme means the development, design, procurement, construction, commissioning, integration and completion of a railway transport system that is capable of operating services from Maidenhead in the County of Berkshire and from Heathrow Airport in the London Borough of Hillingdon through central London to

Shenfield in the County of Essex and Abbey Wood in the London Borough of Greenwich in accordance with the Sponsors' Requirements.

- (34) A Prohibited Act means:
- (a) offering, giving or agreeing to give to any officer or agent of the *Employer*, any gift or consideration of any kind:
 - (i) as an inducement or reward; or
 - (ii) for doing or not doing (or for having done or not having done) any act in relation to the obtaining or performance of this contract or any other contract with the *Employer*; or
 - (iii) for showing or not showing favour or disfavour for any person in relation to this contract or any other contract with the *Employer*; or
 - (iv) entering into this contract in connection with which commission has been paid or has been agreed to be paid by him or on his behalf, or to his knowledge unless before this contract is made, particulars of any such commission and of the terms and conditions of any such agreement for the payment thereof have been disclosed in writing to the *Employer*; or
 - (b) the commission of an offence under the Prevention of Corruption Acts 1889 - 1916; or
 - (c) entering into any form of collusion with other suppliers of services similar to the services or with other actual or potential bidders for this contract.
- (35) The Project means the project for the development, design, procurement, construction, commissioning, integration and completion of a railway transport system that is capable of operating services from Maidenhead in the County of Berkshire and from Heathrow Airport in the London Borough of Hillingdon through central London to Shenfield in the County of Essex and Abbey Wood in the London Borough of Greenwich in accordance with the Sponsors' Requirements excluding:
- (a) On-Network Works;
 - (b) CWG Works;
 - (c) BH Works; and

(d) Depot Works.

- (36) *Project Delivery Partner Information* means information provided or made available to the *Employer* by the *Project Delivery Partner* and recorded in any form held by the *Employer* or held by the *Project Delivery Partner* on behalf of the *Employer*.
- (37) To Provide the Services means to do the work necessary to complete the *services* in accordance with this contract and all incidental work, services and actions which this contract requires.
- (38) The Resource Schedule is the schedule of staff resources within the Service Delivery Plan or any further resource schedule agreed by the *Employer*.
- (39) The Risk Register is a register of the risks which are listed in the Contract Data and the risks which the *Employer* or the *Project Delivery Partner* has notified as an early warning matter. It includes a description of the risk and a description of the actions which are to be taken to avoid or reduce the risk.
- (40) The Scope is information which either
- specifies and describes the *services* or
 - states any constraints on how the *Project Delivery Partner* Provides the Services
- and is either
- in the documents which the Contract Data states it is in or
 - in an instruction given in accordance with this contract.
- (41) The Service Delivery Plan is the further definition of the *services* and deliverables annexed (and includes the Resource Schedule) together with all future Service Delivery Plans that the *Employer* and the *Project Delivery Partner* may agree.
- (42) The Sponsors' Requirements are set out in the PDA.
- (43) Standards are UK railway standards and standards and codes of practice published from time to time by the International Organization for Standardization or other international standards and codes of practice, including

those published by the British Standards Institution.

- (44) A Subconsultant is a person or organisation who has a contract with the *Project Delivery Partner* to provide part of the *services*.
- (45) Third Party Agreements are such agreements notified to the *Project Delivery Partner* by or on behalf of the *Employer* from time to time as constituting Third Party Agreements for the purposes of this contract including those agreements referred to as such in the Contract Data.
- (46) Third Party Rights means all Intellectual Property rights which are not owned by the *Employer* or the *Project Delivery Partner* but required either (a) by the *Project Delivery Partner* to Provide the Services, or (b) by the *Employer* (or any successors) to use the Materials and/or to implement and/or operate the Programme whether during the term of this contract or thereafter.
- (47) The Time Charge is the sum of the products of each of the *staff rates* multiplied by the total staff time appropriate to that rate properly spent on work in this contract provided always that all staff time spent in excess of the maximum time commitment for each staff member set out in the Resources Schedule , or staff time incurred by staff not included in such Resource Schedule, shall not be included in the Time Charge and the *Project Delivery Partner* shall not be reimbursed in respect of such staff time incurred except where such staff time is reasonably and properly incurred as a consequence of a compensation event under this contract.
- (48) The TUPE Regulations are the Transfer of Undertakings (Protection of Employment) Regulations 2006.

Interpretation, the law and best value 12

- 12.1 In this contract, except where the context shows otherwise, words in the singular also mean in the plural and the other way round and words in the masculine also mean in the feminine and neuter. Words denoting persons include individuals, partnerships, firms and corporations and their successors and permitted assignees or transferees.
- 12.2 This contract is governed by the *law of the contract*.

- 12.3 No change to this contract, unless provided for by the *conditions of contract*, has effect unless it has been agreed, confirmed in writing and signed by the Parties.
- 12.4 This contract is the entire agreement between the Parties and supersedes all previous agreements between the Parties relating to the subject matter of this contract and each Party acknowledges that in entering into this contract it has not relied on any representation or undertaking, whether oral or in writing, save such as are expressly incorporated in this contract.
- 12.5 If any clause or part of this contract is found by any court, tribunal, administrative body or authority of competent jurisdiction to be illegal, invalid or unenforceable then that provision will, to the extent required, be severed from this contract and will be ineffective without, as far as is possible, modifying any other clause or part of this contract and this will not affect any other provisions of this contract which will remain in full force and effect.
- 12.6.1 The *Employer* is a wholly owned subsidiary of *TfL*. For the avoidance of doubt the *Consultant* shall not be entitled to bring any claim in tort or in contract under or relating to this contract against *TfL* or *DfT*.
- 12.6.2 The *Project Delivery Partner* acknowledges that *TfL* is a best value authority for the purposes of the Local Government Act 1999 and as such the *Employer* is required to make arrangements to secure continuous improvement in the way it exercises its functions having regard to a combination of economy, efficiency and effectiveness. The *Project Delivery Partner* assists the *Employer* to discharge the *Employer's* duty where possible, and in doing so, inter alia carries out any reviews of the Project or the Programme reasonably requested by the *Employer* from time to time.
- 12.7 In this contract any reference to:
- any enactment, order, regulation or other similar instrument references the enactment, order, regulation or instrument (including any EU instrument) as amended, replaced, consolidated or re-enacted;
 - a public organisation references any successor (statutory or otherwise) public organisation which has taken over the functions and duties of such public organisation;
 - laws includes any applicable legislation, judgments of a relevant court of law changing a binding precedent,

standards and codes of practice published from time to time by the International Organisation for Standardisation or other international standards and codes of practice;

- words preceding "include", "includes", "including", and "included" are construed without limitation to the words which follow those words; and
- this contract includes any permitted variation, amendment, or supplement to this contract.

Communications 13

- 13.1 Each instruction, certificate, submission, proposal, record acceptance, notification, reply and other communication which this contract requires is communicated in a form which can be read, copied and recorded or is available for access on a nominated hosted web server (save in the case of the notification of a Dispute which shall be notified in hard copy only). Writing is in the *language of this contract*.
- 13.2 A communication has effect when it is received at the last address notified by the recipient for receiving communications or, if none is notified, at the address of the recipient stated in the Contract Data. Alternatively, an electronic communication has effect when it is posted on a nominated hosted web service. Communications relating to the notification of a Dispute shall have no effect under this contract unless served in hard copy.
- 13.3 If this contract requires the *Employer* or the *Project Delivery Partner* to reply to a communication, unless otherwise stated in this contract, he replies within the *period for reply*.
- 13.4 The *Employer* replies to a communication submitted or resubmitted to him by the *Project Delivery Partner* for acceptance. If his reply is not acceptance, the *Employer* states his reasons and the *Project Delivery Partner* resubmits the communication within the *period for reply* taking account of these reasons. A reason for withholding acceptance is that more information is needed in order to assess the *Project Delivery Partner's* submission fully.
- 13.5 The *Employer* may extend the *period for reply* to a communication if the *Employer* and the *Project Delivery Partner* (acting reasonably) agree to the extension before the reply is due. The *Employer* notifies the *Project Delivery Partner* of the extension which has been agreed.

- 13.6 The *Project Delivery Partner* retains copies of drawings, specifications, reports and other documents which record the *services* for the *period for retention*. The copies are retained in the form stated in the Scope.
- 13.7 A notification which this contract requires is communicated separately from other communications.
- 13.8 The *Employer* may withhold acceptance of a submission by the *Project Delivery Partner*. Withholding acceptance for a reason stated in this contract or for any other reasonable grounds is not a compensation event.

Acceptance 14

- 14.1 No acceptance, approvals, comments, instructions, consents or advice or indication of satisfaction given by or from the *Employer*, nor any enquiry or inspection which the *Employer* makes or has carried out for its benefit or on its behalf at any time, operates to reduce, extinguish, exclude, limit or modify the *Project Delivery Partner's* liabilities, duties and obligations under this contract unless it is in writing from the *Employer*, refers to this contract and clearly identifies the liability, duty or obligation and the extent to which such liability, duty or obligation is to be reduced, extinguished, excluded, limited or modified.

Early warning 15

- 15.1 The *Employer* and the *Project Delivery Partner* give an early warning by notifying the other as soon as either becomes aware of any matter which could
- increase the total of the Prices,
 - delay Completion,
 - change the Accepted Programme,
 - delay meeting a Key Date,
 - impair the usefulness of the *services* to the *Employer* or
 - affect the work of the *Employer*, an *Employer's* contractor or another consultant.

The *Project Delivery Partner* may give an early warning by notifying the *Employer* of any other matter which could increase his total cost. The *Project Delivery Partner* enters early warning matters in the Risk Register. Early warning of a matter for which a compensation event has previously been notified is not required.

15.2 Either the *Employer* or the *Project Delivery Partner* may instruct the other to attend a risk reduction meeting. Each may instruct other people to attend if the other Party agrees.

15.3 At a risk reduction meeting, those who attend will, having regard to and subject to any provisions in this contract relating to which Party (if any) is to be responsible for each registered risk, co-operate in

- making and considering proposals for how the effect of the registered risks can be avoided or reduced,
- seeking solutions that will bring advantage to all those who will be affected,
- deciding on the actions which will be taken and who, in accordance with this contract, will take them and
- deciding which risks have now been avoided or have passed and can be removed from the Risk Register.

15.4 The *Project Delivery Partner* revises the Risk Register to record the decisions made at each risk reduction meeting and issues the revised Risk Register to the *Employer*. If a decision needs a change to the *Scope*, the *Employer* instructs the change following issue of the revised Risk Register. For the avoidance of doubt the *Project Delivery Partner's* only entitlement to a change in the *Prices*, the *Completion Date* or a *Key Date* as a result of any revision to the Risk Register is in accordance with clauses 60 and 65.

Ambiguities and inconsistencies 16

16.1 The *Employer* or the *Project Delivery Partner* notifies the other as soon as either becomes aware of an ambiguity or inconsistency in or between the documents which are part of this contract. If the ambiguity or inconsistency is between the *Scope* and the *Service Delivery Plan*, the provisions of the *Scope* shall take precedence. In the case of other ambiguities or discrepancies the *Employer* gives an instruction resolving the ambiguity or inconsistency.

Illegal and impossible requirements 17

- 17.1 The *Project Delivery Partner* notifies the *Employer* as soon as he considers that the Scope requires him to do anything which is illegal or impossible. If the *Employer* agrees, he gives an instruction to change the Scope appropriately.

2 The Parties' main responsibilities

The *Employer's* obligations 20

- 20.1 The *Employer* provides information and things which this contract requires him to provide in accordance with the Accepted Programme.
- 20.2 The *Employer* may give an instruction to the *Project Delivery Partner* which changes the Scope, a Key Date or the Service Delivery Plan. After Completion, an instruction is given only if it is necessary to Provide the Services.
- 20.3 The *Employer* does not give an instruction to the *Project Delivery Partner* which would require him to act in a way that was outside his professional code of conduct.
- 20.4 The *Employer* may give an instruction to the *Project Delivery Partner* omitting *services* from the Scope or obligations from the contract and may procure that such omitted *services* or obligations be provided by Others or a Subconsultant.

The *Project Delivery Partner's* obligations 21

- 21.1 The *Project Delivery Partner* Provides the Services:
- in compliance with all Legislation;
- and, using the standard of skill, care and diligence referred to in Clause 21.2
- in accordance with Standards;
 - in accordance with the Scope and Service Delivery Plan;
 - so that any obligation under this contract that the *Project Delivery Partner* is required to comply with by a particular date is complied with by that date;
 - so as not to cause or contribute to any breach by the *Employer* of any of its duties and obligations under any Third Party Agreements;

- in accordance with the Policies; and
- such that there is only specified or approved for use materials which at the time of specification, approval or use are not deleterious to health and safety or to durability and which accord with the guidelines contained in the publication Good Practice in Selection of Construction Materials (Ove Arup & Partners) current at the date and specification, approval or use.

21.2 The *Project Delivery Partner's* obligation in respect of the performance of the *services* is to use the standard of skill, care and diligence to carry out and complete the *services* to be reasonably expected from a properly qualified professional consultant experienced in providing services similar in size, scope and complexity to the *services* and for projects similar in size, scope and complexity to the Programme.

21.3 The *Project Delivery Partner* shall undertake the statutory role of CDM Coordinator and shall cooperate with and coordinate his Provision of the Services with the services to be provided by the designers, the principal contractor and the client under the Construction (Design and Management) Regulations 2007.

21.4 The *Project Delivery Partner* shall prepare and agree with the *Employer* revisions of Service Delivery Plans in a format and covering the periods of time to be agreed with the *Employer*. Each Service Delivery Plan shall identify the *services* to be provided during the agreed period, a programme for the same, and a Resource Schedule identifying the staff resources to be used in relation to the provision of such *services*.

Equality and diversity

21.5 Without limiting the generality of any other provision of the contract, the *Project Delivery Partner*:

- does not unlawfully discriminate;
- procures that its personnel do not unlawfully discriminate; and
- uses reasonable endeavours to procure that its Subconsultants do not unlawfully discriminate in relation to the *services*

within the meaning and scope of:

- the Sex Discrimination Act 1975;
- the Race Relations Act 1976 (including the Race Relations (Amendment) Act 2000);
- the Disability Discrimination Act 1995 (as amended by

the Disability Discrimination Act 2005);

- the Employment Equality (Sexual Orientation) Regulations 2003;
- the Employment Equality (Religion or Belief) Regulations 2003;
- the Equality Act 2006;
- and any other relevant enactments in force from time to time relation to discrimination in employment.

21.6 The *Project Delivery Partner* acknowledges that the *Employer* is under a duty under Section 71 of the Race Relations Act 1976 to have due regard to the need to eliminate unlawful racial discrimination and to promote equality of opportunity and good relations between persons of different racial groups. In the performance of the contract, the *Project Delivery Partner* assists and co-operates and uses reasonable endeavours to procure that its Subconsultants and co-operate with the *Employer* where possible in satisfying this duty.

21.7 The *Project Delivery Partner* acknowledges that *TfL* is under a duty by virtue of a Mayor of London's direction under Section 155 of the Greater London Authority Act 1999 (in respect of the Greater London Authority's duty under section 404(2) of the Greater London Authority Act 1999) to have due regard to the need to:

- promote equality of opportunity for all persons irrespective of their race, gender, disability, age, sexual orientation or religion;
- eliminate unlawful discrimination; and
- promote good relations between persons of different racial groups, religious beliefs and sexual orientation,

and in the performance of the contract, the *Project Delivery Partner* assists and co-operates and uses reasonable endeavours to procure that its Subconsultants assist and co-operate with the *Employer* where possible to enable *TfL* to satisfy its duty.

21.8 The *Employer's* Harassment, Bullying and Discrimination Policy ("Harassment Policy") requires the *Employer's* own staff and those of its consultants to comply fully with the Harassment Policy to eradicate harassment in the workplace. The *Project Delivery Partner*:

- ensures that its staff, and those of its Subconsultants who are engaged in the performance of the contract are fully conversant with the requirements of the

Harassment Policy;

- fully investigate allegations of workplace harassment in accordance with the Harassment Policy; and
- ensures that appropriate effective action is taken where harassment is found to have occurred.

21.9 The *Project Delivery Partner* acknowledges that the *Employer* is under a duty under Section 49A of the Disability Discrimination Act 1995 (as amended by the Disability Discrimination Act 2005) to have due regard to the need to

- eliminate discrimination that is unlawful under the Disability Discrimination Acts;
- eliminate harassment of disabled persons related to their disabilities and promote equality of opportunity between disabled persons and other persons;
- take steps to take account of disabled persons' disabilities (even when that involves treating disabled persons more favourably than other persons); and
- promote positive attitudes towards disabled persons and encourage participation by disabled persons in public life

and in the performance of the contract, the *Project Delivery Partner*, assists and co-operates, and uses reasonable endeavours to procure that its Subconsultants assist and co-operate, with the *Employer* where possible to enable the *Employer* to satisfy its duty.

People 22

22.1 The *Project Delivery Partner* either employs each *key person* named to do the job for him stated in the Contract Data or Service Delivery Plan or employs a replacement person who has been accepted by the *Employer*. The *Project Delivery Partner* submits the name, relevant qualifications and experience of a proposed replacement person to the *Employer* for acceptance. A reason for not accepting the person is the *Employer* believes (in his absolute discretion) he is a security risk or that his relevant qualifications and experience are not as good as those of the person who is to be replaced.

22.2 The *Employer* may instruct the *Project Delivery Partner* to remove a person employed by the *Project Delivery Partner* or a Subconsultant of the *Project Delivery Partner*. The *Project Delivery Partner* then arranges that, after one day, the person has no further connection with the work included in this contract.

- 22.3 The *Project Delivery Partner* ensures that *key persons* carry out the responsibilities required of them and listed in the Contract Data or Service Delivery Plan in respect of the *services*. The *Project Delivery Partner* does not reallocate the duties of any *key person* (or their accepted replacement) nor assign any *key person* (or their accepted replacement) to any other project or contract without the prior written consent of the *Employer*.
- 22.4 If any *key person* (or their accepted replacement) dies, resigns, retires, is dismissed, or is otherwise prevented from carrying out its responsibilities as listed in the Contract Data or Service Delivery Plan during the term of this contract then if the *Employer* so requires, the *Project Delivery Partner* procures the replacement of such *key person* (or their accepted replacement) with a suitably qualified and competent replacement, such replacement to be accepted by the *Employer*.
- 22.5 The *Project Delivery Partner* employs only the *key persons* and other persons referred to in the Contract Data or Service Delivery Plan to Provide the Services. Other persons may only be employed to Provide the Services with the written consent (in his absolute discretion) of the *Employer*.

London Living Wage 22A

- 22A.1 In this clause 22A, the following expressions shall have the following meanings:
- "London Living Wage" the basic hourly wage of £7.45 (before tax, other deductions and any increase for overtime) as may be updated from time to time and notified to the *Project Delivery Partner*;
- 22A.2 Without prejudice to any other provision of this contract, the *Project Delivery Partner* shall:
- 22A.2.1 ensure that none of its employees engaged in connection with the Programme under this contract is paid an hourly wage (or equivalent of an hourly wage) less than the London Living Wage;
- 22A.2.2 ensure that none of its employees engaged in connection with the Programme under this contract is paid less than the amount to which they are entitled in their respective contracts of employment;

22A.2.3 provide to the *Employer* such information concerning the London Living Wage and as the *Employer* or its nominees may reasonably require from time to time;

22A.2.4 disseminate on behalf of the *Employer* to its employees engaged in connection with the Programme under this contract such perception questionnaires as the *Employer* may reasonably require from time to time and promptly collate and return to the *Employer* responses to such questionnaires; and

22A.2.5 co-operate and provide all reasonable assistance in monitoring the effect of the London Living Wage.

Working with the Employer and Others 23

23.1 The *Project Delivery Partner* co-operates with Others in obtaining and providing information which they need in connection with the *services*.

23.2 Where necessary to Provide the *Services*, the *Project Delivery Partner* holds or attends meetings with Others. The *Project Delivery Partner* informs the *Employer* of these meetings beforehand and the *Employer* may attend them.

23.3 If the *Employer* decides that the work does not meet the Condition stated for a Key Date by the date stated and, as a result, the *Employer* incurs any loss and expense or additional cost either

- in carrying out work or
- by paying an additional amount to Others in carrying out work,

the additional cost the *Employer* has paid or will incur is paid by the *Project Delivery Partner*. The *Employer* assesses the additional cost within four weeks of the date when the Condition stated for that Key Date is met.

Employer provides Premises 23.4

(1) The *Employer* provides the right of access for the *Project Delivery Partner* to any Premises provided by the *Employer* as necessary for the *services* subject to any constraints stated in the Scope or Service Delivery Plan.

- (2) The *Employer* provides things which it is to provide for any Premises provided by the *Employer* as stated in the Scope or the Service Delivery Plan.
- (3) The *Project Delivery Partner* acknowledges that the *Employer* may engage or need to work with Others who will require use of or access to any Premises provided by the *Employer* in which event the *Project Delivery Partner* shares any Premises provided by the *Employer* with Others as instructed by the *Employer*.

Subconsulting 24

- 24.1 If the *Project Delivery Partner* subcontracts work, he is responsible for Providing the Services as if he had not subcontracted. This contract applies as if a Subconsultant's employees were the *Project Delivery Partner's*.
- 24.2 The *Project Delivery Partner* submits the name of each proposed Subconsultant to the *Employer* for acceptance. A reason for not accepting the Subconsultant is that the *Employer* believes, in his absolute discretion, that his appointment will not allow the *Project Delivery Partner* to Provide the Services. The *Project Delivery Partner* does not appoint a proposed Subconsultant until the *Employer* has accepted him.
- 24.3 The *Project Delivery Partner* submits the proposed conditions of contract and the Contract Data for each subcontract to the *Employer* for acceptance unless the *Employer* has agreed that no submission is required.

The *Project Delivery Partner* does not appoint a Subconsultant on the proposed subcontract conditions and the Contract Data submitted until the *Employer* has accepted them. A reason for not accepting them is that

- they will not allow the *Project Delivery Partner* to Provide the Services; or
- they do not include a statement that the parties to the subcontract shall act in a spirit of mutual trust and co-operation; or
- they are not consistent with the terms of this contract.

Once the sub-contract conditions have been accepted by the *Employer* the *Project Delivery Partner* shall not agree to vary or amend the same or terminate the engagement of the Subconsultant unless such variation, amendments or

termination has been accepted by the *Employer* (at his absolute discretion).

- 24.4 The *Project Delivery Partner* shall procure that it (where appropriate) and each Subconsultant shall enter into collateral warranties in the form set out in Appendix 7 in favour of the *Employer* within 14 days of the *Employer's* request to do so.

Other responsibilities 25

- 25.1 The *Project Delivery Partner* obtains approval from Others where necessary or desirable to Provide the Services.

- 25.2 The *Employer* provides access to a person, place or thing to the *Project Delivery Partner* as stated in the Contract Data or Service Delivery Plan on or before the later of its *access date* and the access date for it shown on the Accepted Programme.

- 25.3 The *Project Delivery Partner* obeys an instruction which is in accordance with this contract and is given to him by the *Employer*.

- 25.4 The *Project Delivery Partner* acts in accordance with the health and safety requirements stated in the Scope.

- 25.5 The *Project Delivery Partner* co-operates with Others To Provide the Services and in complying with its other obligations under this contract so as not to cause the *Employer* or Others delay, loss, expense or additional cost.

Assignment and Novation 26

- 26.1 The *Project Delivery Partner* does not assign the contract or any part thereof or any benefit or interest therein or thereunder without the prior written consent of the *Employer*. The *Employer* may assign the contract or any part thereof or any benefit or interest therein or thereunder.

- 26.2 The *Project Delivery Partner* and *Guarantor* execute and deliver to the *Employer* a deed of novation in the form annexed at Appendix 6 with the *Employer* and any New *Employer* within fourteen days of the *Employer's* request.

- 26.3 If the *Project Delivery Partner* and the *Guarantor* do not execute and deliver such deed of novation to the *Employer*

within such time period then no further payment is due to the *Project Delivery Partner* until the *Project Delivery Partner* and *Guarantor* have executed and delivered such deed of novation to the *Employer*.

Transfer of 27 Undertakings

- 27.1 The parties acknowledge that there may be a "relevant transfer" of an undertaking or part of one as defined in the TUPE Regulations ("**Relevant Transfer**") on the *starting date* or on any omission or termination of the *services* or any or all of the *Project Delivery Partner's* obligations under this contract and agree to deal with the risks and/or consequences thereof as follows.
- 27.2 If there is a Relevant Transfer on the *starting date*, the parties agree, as between themselves, that the *Project Delivery Partner* shall be wholly responsible for and liable accordingly for continuing any contracts of employment, collective agreements and/or trade union recognition agreements which transfer under the TUPE Regulations and discharging all the obligations of a transferee under the TUPE Regulations.
- 27.3 If there is or may (in the reasonable opinion of the *Employer*) be a Relevant Transfer as a result of any omission or termination of the *services* or any or all of the *Project Delivery Partner's* obligations under this contract, the parties agree as between themselves that the *Project Delivery Partner* will be wholly responsible for and liable accordingly for discharging all the obligations of a transferor under the TUPE Regulations.
- 27.4 The *Project Delivery Partner* agrees that within 14 days of a written request from the *Employer* (such request not to be made earlier than 6 months before the termination of this contract whether by effluxion of time or otherwise) it shall provide to the *Employer* in writing the following information:
- (1) the number and description of the employees engaged in Providing the Services;
 - (2) for each employee (or where they are employed on common terms and conditions of employment each such group of employees) the particulars, as at a specified date not more than 7 days before the information is given, of the matters specified in Section 1(4) of the Employment Rights Act 1996.

The *Employer* shall be entitled to use and/or disclose the said information in confidence in connection with engaging a replacement delivery partner to Provide the Services or to provide any *services* or perform any obligations of the *Project Delivery Partner* omitted pursuant to clause 20.4.

- 27.5 The *Project Delivery Partner* shall not agree with or otherwise promise any employees or trade union any terms or conditions of employment which are outside the ordinary and normal custom and practice for the industry or relevant trade or which are conditional upon or triggered by a Relevant Transfer or are intended to frustrate a re-tendering exercise or deter potential tenderers from tendering.

Conflict of Interest 28

- 28.1 The *Project Delivery Partner* confirms that as at the date of this contract it does not have any interest in any matter and does not act and has not acted for any party in respect of any matter which would (in either case) create a conflict of interest in Providing the Services. The *Project Delivery Partner* will undertake ongoing conflict of interest checks and will notify the *Employer* immediately if any conflict or potential conflict of interest arises (including notification of any instructions from a party with whom the *Employer* has or has had any dealings with respect to the Programme).
- 28.2 To the extent that an actual or potential conflict may arise involving the *Employer*, the *Project Delivery Partner* shall continue to act for and advise the *Employer* and if reasonably required will cease to act for any other party where to act so would constitute a conflict of interest.

Performance reviews 29

At 6 monthly intervals, or at such other intervals as the Parties may agree to from time to time, the *Employer* and the *Project Delivery Partner* shall undertake a formal review of the performance of the *Project Delivery Partner*, including its performance against the Interim KPIs and Programme KPIs pursuant to (and as defined under) clause X20. The *Project Delivery Partner* and the *Employer* shall discuss any ways in which the performance of the *Project Delivery Partner* may be improved.

3 Time

Starting, Completion and Key Dates 30

- 30.1 The *Project Delivery Partner* starts work on the *starting date* (not before) and proceeds with the work diligently so that Completion is on or before the Completion Date.
- 30.2 The *Employer* decides the date of Completion and certifies it within 30 days of the date.
- 30.3 The *Project Delivery Partner* does the work so that the Condition stated for each Key Date is met by the Key Date.

The programme 31

- 31.1 If a programme is not identified in the Contract Data, the *Project Delivery Partner* submits a first programme to the *Employer* for acceptance within the period stated in the Contract Data.
- 31.2 The *Project Delivery Partner* shows on each programme which he submits for acceptance
- the *starting date*, *access dates*, Key Dates and Completion Date,
 - planned Completion,
 - the order and timing of the operations which the *Project Delivery Partner* plans to do in order to Provide the Services,
 - the order and timing of the work of the *Employer* and Others as last agreed with them by the *Project Delivery Partner* or, if not so agreed, as stated in the Scope,
 - the dates when the *Project Delivery Partner* plans to meet each Condition stated for the Key Dates and to complete other work needed to allow the *Employer* and Others to do their work,
 - provisions for
 - float,

- time risk allowances,
 - health and safety requirements and
 - the procedures set out in this contract,
- the dates when, in order to Provide the Services in accordance with his programme, the *Project Delivery Partner* will need
 - access to a person, place or thing if later than its *access date*,
 - information and things to be provided by the *Employer* and
 - information and approval from Others,
 - for each operation, a statement of how the *Project Delivery Partner* plans to do the work identifying the resources which he plans to use and
 - other information which the Scope requires the *Project Delivery Partner* to show on a programme submitted for acceptance.

31.3 Within two weeks of the *Project Delivery Partner* submitting a programme to him for acceptance, the *Employer* either accepts the programme or notifies the *Project Delivery Partner* of his reasons for not accepting it. A reason for not accepting a programme is that

- the *Project Delivery Partner's* plans which it shows are not practicable,
- it does not show the information which this contract requires,
- it does not represent the *Project Delivery Partner's* plans realistically or
- it does not comply with the Scope.

Revising the programme 32

32.1 The *Project Delivery Partner* shows on each revised programme

- the actual progress achieved on each operation and its effect upon the timing of the remaining work,
- the effects of implemented compensation events and of notified early warning matters,
- how the *Project Delivery Partner* plans to deal with any delays and to correct notified Defects and
- any other changes which the *Project Delivery Partner* proposes to make to the Accepted Programme.

32.2 The *Project Delivery Partner* submits a revised programme to the *Employer* for acceptance

- within the *period for reply* after the *Employer* has instructed him to,
- when the *Project Delivery Partner* chooses to and, in any case,
- at no longer interval than the interval stated in the Contract Data from the *starting date* until Completion of the whole of the *services*.

Instructions to stop or not to start work 33

33.1 The *Employer* may instruct the *Project Delivery Partner* to stop or not to start any work and may later instruct him that he may re-start or start it.

Acceleration 34

34.1 The *Employer* may instruct the *Project Delivery Partner* to submit a quotation for acceleration to achieve Completion before the Completion Date. The *Employer* states changes to the Key Dates to be included in the quotation. A quotation for an acceleration comprises proposed changes to the Prices and a revised programme showing the earlier Completion Date and the changed Key Dates. The *Project Delivery Partner* submits details of his assessment with each quotation.

34.2 The *Project Delivery Partner* submits a quotation or gives his reasons for not doing so within the *period for reply*.

34.3 When the *Employer* accepts a quotation for acceleration, the *Project Delivery Partner* submits changes to the Completion Date, the Key Dates and the forecast of the total Time Charge

for the whole of the *services* to the *Employer* for acceptance.

4 Quality

Quality management system 40

- 40.1 The *Project Delivery Partner* operates a quality management system for Providing the Services as stated in the Scope. The quality management system complies with the requirements stated in the Scope.
- 40.2 The *Project Delivery Partner* provides the *Employer*, within the period stated in the Contract Data, with a quality policy statement and a quality plan for acceptance. The quality policy statement and quality plan comply with the requirements stated in the Scope.
- 40.3 The *Project Delivery Partner* complies with an instruction from the *Employer* to the *Project Delivery Partner* to correct a failure to comply with the quality plan.

Correcting Defects 41

- 41.1 Until the *defects date*, the *Employer* notifies the *Project Delivery Partner* of each Defect as soon as he finds it and the *Project Delivery Partner* notifies the *Employer* of each Defect as soon as he finds it. After Completion and until the *defects date*, the *Project Delivery Partner* notifies the *Employer* of each Defect as soon as he finds it. The *Employer's* rights in respect of a Defect which the *Employer* has not found or notified by the *defects date* are not affected.
- 41.2 The *Project Delivery Partner* corrects a Defect whether or not the *Employer* notifies him of it. The *Project Delivery Partner* corrects Defects within a time which minimises the adverse effect on the *Employer* or Others. If the *Project Delivery Partner* does not correct a Defect within a reasonable time having regard to the nature of the Defect, the *Employer* assesses the cost to him of having the Defect corrected by other people and the *Project Delivery Partner* pays this amount.
- 41.3 For the avoidance of doubt, the *Project Delivery Partner* continues to be liable for Defects after:
- the *defects date*;
 - the operation of this clause 41;
 - the termination of this contract for any reason

(including breach by the *Employer*);
in accordance with the *law of the contract*.

5 Payment

Assessing the amount due 50

50.1 The *Project Delivery Partner* assesses the amount due and submits an invoice at each assessment date. The first assessment date is decided by the *Project Delivery Partner* to suit the procedures of the Parties and is not later than the *assessment interval* after the *starting date*. Later assessment dates occur

- at the end of each *assessment interval* until eight weeks after the *defects date* and
- at Completion of the whole of the *services*.

50.2 Invoices submitted by the *Project Delivery Partner* include the details stated in the Scope to show how the amount due has been assessed. The first invoice is for the amount due. Other invoices are for the change in the amount due since the previous invoice.

50.3 The amount due is

- the Price for Services Provided to Date,
- the amount of the *expenses* properly spent by the *Project Delivery Partner* in Providing the Services and
- other amounts to be paid to the *Project Delivery Partner*,

less amounts to be paid by or retained from the *Project Delivery Partner*.

Any tax which the law requires the *Employer* to pay to the *Project Delivery Partner* is included in the amount due.

Payment 51

51.1 The date on which a payment becomes due is seven days after the date of the *Project Delivery Partner's* invoice.

The final date for payment is twenty three days after the date on which payment becomes due.

Not later than five days after the date on which a payment becomes due, the *Employer* issues a notice to the *Project Delivery Partner* stating the amount of payment made or proposed to be made, and the basis on which the amount was calculated.

- 51.2 If either Party intends to withhold payment of an amount due under this contract, he notifies the other Party not later than five days (the prescribed period) before the final date for payment by stating the amount proposed to be withheld and the reason for withholding payment. If there is more than one reason, the amount for each reason is stated.

A Party does not withhold payment of an amount due under this contract unless he has notified his intention to withhold payment as required by this contract.

- 51.3 (1) If:

- any payment has not been paid in full by the final date for payment; and
- notification of intention to withhold payment has not been given in accordance with clause 51.2

the *Project Delivery Partner* may suspend his performance under this contract.

- (2) The *Project Delivery Partner* does not exercise his right to suspend his performance under this contract unless he has notified the Employer of:

- his intention to suspend his performance under this contract and
- the grounds for suspending his performance under this contract.

- (3) The right of the *Project Delivery Partner* to suspend his performance ends when the amount that should be paid to the *Project Delivery Partner* is paid to him in full.

- 51.4 If the *Project Delivery Partner* exercises his right under the Act to suspend his performance, it is a compensation event.
- 51.5 Payments are in the *currency of this contract* unless otherwise stated in this contract.
- 51.6 If the *Employer* does not accept the *Project Delivery Partner's* assessment of the amount due, he notifies the *Project Delivery Partner* of his reasons and the amount which he assesses is due before the payment becomes due. He pays the amount of his assessment. The agreed part of the invoice is paid. The *Project Delivery Partner* either
- corrects the invoice to a sum agreed by the *Employer* or
 - provides further information to justify the invoice.
- 51.7 If a payment is late or has been delayed because of a disagreement, interest is paid. Interest is assessed from the date by which the late payment should have been made until the date when the late payment is made, and is included in the first assessment after the late payment is made.
- 51.8 Interest is calculated on a daily basis at the *interest rate* and is compounded annually.

**Accounts and 52
records**

- 52.2 Without prejudice to clause 73, the *Project Delivery Partner* keeps accounts and records of his Time Charge and *expenses* and allows the *Employer* to inspect them at any time within working hours.

6 Compensation events

Compensation 60 events

60.1 The following are compensation events.

- (1) The *Employer* gives an instruction changing the Scope or a Service Delivery Plan.
- (2) The *Employer* does not provide access to any Premises provided by the *Employer* for the *Project Delivery Partner* as stated in this contract.
- (3) The *Employer* does not provide something which he is to provide by the date for providing it shown on the Accepted Programme.
- (4) The *Employer* gives an instruction to stop or not to start any work or to change a Key Date.
- (5) The *Employer* or Others do not work within the times shown on the Accepted Programme or within the conditions stated in the Scope.
- (6) The *Employer* does not reply to a communication from the *Project Delivery Partner* within the period required by this contract.
- (7) The *Employer* changes a decision which he has previously communicated to the *Project Delivery Partner*.
- (8) The *Employer* withholds an acceptance (other than acceptance of a quotation for acceleration) for a reason not stated in this contract.
- (9) The *Employer* notifies a correction to an assumption which he has stated about a compensation event.
- (10) A breach of contract or act of prevention by the *Employer* which is not one of the other compensation events in this contract.
- (11) The *Employer* notifies the *Project Delivery Partner* of a Policy with which he is to comply that is not listed in the

**Notifying 61
compensation
events**

61.1 For compensation events which arise from the *Employer* giving an instruction or changing an earlier decision, the *Project Delivery Partner* notifies the *Employer* of the compensation event at the time of receiving the instruction or the change to the earlier decision. The *Employer* then instructs the *Project Delivery Partner* to submit quotations, unless the event arises from a fault of the *Project Delivery Partner* or quotations have already been submitted. The *Project Delivery Partner* puts the instruction or changed decision into effect.

61.2 The *Employer* may instruct the *Project Delivery Partner* to submit quotations for a proposed instruction or a proposed changed decision. The *Project Delivery Partner* does not put a proposed instruction or a proposed changed decision into effect.

61.3 Subject to clause 61.8, the *Project Delivery Partner* notifies the *Employer* of an event which has happened or which he expects to happen as a compensation event if the *Project Delivery Partner* believes that the event is a compensation event.

If the *Project Delivery Partner* does not notify a compensation event within eight weeks of becoming aware of the event, he is not entitled to a change in Prices, the Completion Date or a Key Date.

61.4 If and to the extent the *Employer* decides that an event notified by the *Project Delivery Partner*

- arises from or is contributed to by a fault of the *Project Delivery Partner*,
- has not happened and is not expected to happen,
- has no effect upon the *Project Delivery Partner's* costs, Completion or meeting a Key Date or
- is not one of the compensation events stated in this contract

he notifies the *Project Delivery Partner* of his decision that the

Prices, the Completion Date and the Key Date are not to be changed.

If the *Employer* decides otherwise, he notifies the *Project Delivery Partner* accordingly and instructs him to submit quotations.

61.5 If the *Employer* decides that the *Project Delivery Partner* did not give an early warning of the event which an experienced consultant could have given, he notifies this decision to the *Project Delivery Partner* when he instructs him to submit quotations.

61.6 If the *Employer* decides that the effects of a compensation event are too uncertain to be forecast reasonably, he states assumptions about the event in his instruction to the *Project Delivery Partner* to submit quotations. Assessment of the event is based on these assumptions. If any of them is later found to have been wrong, the *Employer* notifies a correction.

61.7 A compensation event is not notified after the *defects date*. No change in Prices is made in respect of any matter notified after the *defects date*.

61.8 The *Project Delivery Partner* and the *Employer* agree to implement a procedure for bundling together and submitting every 4 weeks notifications of and for assessing and implementing compensation events. Such procedure will not apply in respect of any compensation events of such value or nature which require that they should be brought to the attention of the other Party before the next notification date.

Quotations for compensation events 62

62.1 After discussing with the *Project Delivery Partner* different ways of dealing with the compensation event which are practicable, the *Employer* may instruct the *Project Delivery Partner* to submit alternative quotations. The *Project Delivery Partner* submits the required quotations to the *Employer* and may submit quotations for other methods of dealing with the compensation event which he considers practicable.

62.2 Quotations for compensation events comprise proposed changes to the Prices and any delay to the Completion Date and Key Dates assessed by the *Project Delivery Partner*. The *Project Delivery Partner* submits details of his assessment with each quotation. If the programme for remaining work is altered by the compensation event, the *Project Delivery*

Partner includes the alterations to the Accepted Programme in his quotation.

62.3 The *Project Delivery Partner* submits quotations within two weeks of being instructed to do so by the *Employer*. The *Employer* replies within two weeks of the submission. His reply is

- an instruction to submit a revised quotation,
- an acceptance of a quotation,
- a notification that a proposed instruction will not be given or a proposed changed decision will not be made or
- a notification that he will be making his own assessment.

62.4 The *Employer* instructs the *Project Delivery Partner* to submit a revised quotation only after explaining his reasons for doing so to the *Project Delivery Partner*. The *Project Delivery Partner* submits the revised quotation within three weeks of being instructed to do so.

62.5 The *Employer* extends the time allowed for

- the *Project Delivery Partner* to submit quotations for a compensation event and
- the *Employer* to reply to a quotation

if the *Employer* and the *Project Delivery Partner* agree to the extension before the submission or reply is due. The *Employer* notifies the extension that has been agreed to the *Project Delivery Partner*.

Assessing 63 compensation events

63.1 The changes to the Prices are assessed as the effect of the compensation event upon

- the actual Time Charge for the work already done and

- the forecast Time Charge for the work not yet done.

The date when the *Employer* instructed or should have instructed the *Project Delivery Partner* to submit quotations divides the work already done from the work not yet done.

- 63.2 If the effect of a compensation event is to reduce the total Time Charge, the Prices are proportionately reduced and the *Project Delivery Partner* shall not be entitled to any payment in respect of loss of profit or loss of opportunity in respect of the same.
- 63.3 A delay to the Completion Date is assessed as the length of time that, due to the compensation event, Completion is later than the Completion Date and a delay to a Key Date is assessed as the length of time that, due to the compensation event, the date when the Condition stated for a Key Date is met is later than the relevant Key Date.
- 63.4 The rights of the *Employer* and the *Project Delivery Partner* to changes to the Prices, the Completion Date and the Key Dates are their only rights in respect of a compensation event.
- 63.5 If the *Employer* has notified the *Project Delivery Partner* of his decision that the *Project Delivery Partner* did not give an early warning of a compensation event which an experienced consultant could have given, the event is assessed as if the *Project Delivery Partner* had given early warning, thereby enabling the *Employer* to have taken action to minimise or avoid the effects of such compensation event.
- 63.6 Assessment of the effect of a compensation event includes risk allowances for cost and time for matters which have a significant chance of occurring and are at the *Project Delivery Partner's* risk under this contract.
- 63.7 Assessments for work not yet done are based upon the assumptions that the *Project Delivery Partner* will react competently and promptly to the compensation event and that the Accepted Programme can be changed. Assessments for work already done include only cost and time which were reasonably incurred.
- 63.8 A compensation event which is an instruction to change the Scope in order to resolve an ambiguity or inconsistency is assessed as if the Prices, the Completion Date and the Key Dates were for the interpretation most favourable to the Party which did not provide the Scope.

63.9 If a change to the Scope makes the description of the Condition for a Key Date incorrect, the *Employer* corrects the description. This correction is taken into account in assessing the compensation event for the change to the Scope.

63.10 If the work included in a quotation for a compensation event includes work by staff for which there is no *staff rate*, a proposed rate is included in the quotation.

63.11 The following are deducted from the assessment of compensation events

- the cost of events for which this contract requires the *Project Delivery Partner* to insure and
- other costs paid to the *Project Delivery Partner* by insurers.

The Employer's 64 assessments

64.1 The *Employer* assesses a compensation event

- if the *Project Delivery Partner* has not submitted a required quotation and details of his assessment within the time allowed,
- if the *Employer* decides that the *Project Delivery Partner* has not assessed the compensation event correctly in a quotation and he does not instruct the *Project Delivery Partner* to submit a revised quotation,
- if, when the *Project Delivery Partner* submits quotations for a compensation event, he has not submitted a programme or alterations to a programme which this contract requires him to submit or
- if, when the *Project Delivery Partner* submits quotations for a compensation event, the *Employer* has not accepted the *Project Delivery Partner's* latest programme for one of the reasons stated in this contract.

64.2 The *Employer* assesses a compensation event using his own assessment of the programme for the remaining work if

- there is no Accepted Programme or
- the *Project Delivery Partner* has not submitted a programme or alterations to a programme for acceptance as required by this contract.

64.3 The *Employer* notifies the *Project Delivery Partner* of his assessment of a compensation event and gives him details of it within the period allowed for the *Project Delivery Partner's* submission of his quotation for the same event. This period starts when the need for the *Employer's* assessment becomes apparent.

**Implementing
compensation
events 65**

65.1 A compensation event is implemented when

- the *Employer* notifies his acceptance of the *Project Delivery Partner's* quotation,
- the *Employer* notifies the *Project Delivery Partner* of his own assessment.

65.2 The assessment of a compensation event is not revised if a forecast upon which it is based is shown by later recorded information to have been wrong.

65.3 The changes to the forecast amount of the Prices, the Completion Date and the Key Dates are included in the notification implementing a compensation event and the Service Delivery Plan is modified accordingly.

**Reviewing staff
resourcing levels
included in Service
Delivery Plans 66**

Where the *Project Delivery Partner* considers that staff resource levels set out in the Service Delivery Plan are not sufficient to Provide the Services and such lack of sufficiency is not due to a compensation event, the *Employer* and the *Project Delivery Partner* shall discuss whether or not to agree a change to the Service Delivery Plan. If no agreement can be reached the *Employer* will, in its absolute discretion, decide whether the Service Delivery Plan should be changed and if so in what regard.

7 Rights to material

The Parties' use of material 70

Background Rights 70A

70A.1 The Background Rights shall remain the absolute unencumbered property of the owner of such rights at the date of this contract. No party will make any representation or do any act which may be taken to indicate that it has any right, title or interest in or to the ownership or use of any of the Background Rights of the other party except under the terms of this contract, and each party acknowledges that nothing contained in this contract shall give it any right, title or interest in or to the Background Rights of the other party save as granted in this contract.

70A.2 (a) The *Project Delivery Partner* confirms that it will be able to Provide the Services without using or incorporating its Background Rights therein and that the *Employer* will be able to use the *services* to develop, implement and operate the Programme both during the term of this contract and thereafter without needing a right to use any such Background Rights.

(b) In the event that the *Employer* consents to the use or incorporation of the *Project Delivery Partner's* Background Rights to Provide the Services, the *Project Delivery Partner* grants the *Employer* and its appointee a non-exclusive and royalty free licence to copy and use the Background Rights of the *Project Delivery Partner* for the purposes of the Programme. The licence shall include the right to grant sub-licences without the consent of the *Project Delivery Partner*. The *Project Delivery Partner* shall not be liable for any use of the Background Rights other than for their originally intended purpose.

Foreground Rights and Materials 70B

70B.1 All Foreground Rights and Materials shall vest in and be the property of the *Employer* on their creation. To the extent that any such Foreground Rights or Materials vest in the *Project Delivery Partner* or any Subconsultant or other third party engaged by the *Project Delivery Partner* in performing this contract, the *Project Delivery Partner* hereby:

(a) assigns to the *Employer* (or shall procure that the *Employer* is granted an assignment of) all such present

and future Foreground Rights immediately upon creation; and

- (b) transfers to the *Employer* (or shall procure that the relevant owner transfers) ownership in such present or future Materials immediately upon creation.

70B.2 The *Project Delivery Partner* shall in engaging or employing any Subconsultant enter into an enforceable written contract with such party which provides that:

- (a) all Foreground Rights and Materials created by the Subcontractor pursuant to such contract shall vest in and become the property of the *Employer* immediately upon creation;
- (b) upon such vesting, the *Employer* shall become entitled to exclusive perpetual and unrestricted rights of use and ownership of such Foreground Rights and Materials; and
- (c) the *Employer* or its nominee shall be able to enforce the rights of the *Project Delivery Partner* against such Subconsultant pursuant to the terms of the Contracts (Rights of Third Parties) Act 1999;

70B.3 The *Project Delivery Partner* shall provide a copy of any contract proposed pursuant to clause 70B.2 to the *Employer* for approval and authorisation prior to entry into or execution of the same.

70B.4 The *Project Delivery Partner* agrees to provide to the *Employer* or any person nominated by the *Employer* immediate access to all Materials in whatever form reasonably requested by the *Employer* (including without limitation the source code of any software that is not commercially available or, where the source code is not available to the *Project Delivery Partner*, the compiled code) at any time but at the latest on termination or expiry of this contract. The *Project Delivery Partner* shall upon the written request of the *Employer* enter into a deposit and/or source code escrow contract with the *Employer* and a third party nominated by the *Employer* in respect of such Materials in such form as the *Employer* may require.

Third Party Rights 70C

70C.1 The *Project Delivery Partner* shall be responsible for obtaining all necessary consents, authorities or approvals required to use any Third Party Rights necessary for performing its obligations under this contract.

- 70C.2 The *Project Delivery Partner* shall ensure that the *Employer* has all Third Party Rights necessary to enable the *Employer* to develop, implement and operate the Programme and/or use Materials during the term of this contract and thereafter.
- 70C.3 The *Project Delivery Partner* shall use its best endeavours to ensure that it is a condition of any licence into which the *Project Delivery Partner* or any Subconsultant enters with a third party that the *Employer* shall be entitled to a royalty free, irrevocable copyright licence in respect of such Third Party Rights, such licence to be capable of assignment and sub-licence and to allow use of the Third Party Rights for any purpose connected with the Programme.
- 70C.4 All licenses in respect of Third Party Rights used by the *Project Delivery Partner* in connection with the *services* shall continue for a period of 24 months from expiry or termination of this contract. The *Project Delivery Partner* shall use its best endeavours to ensure that all licences for Third Party Rights that are not commercially available may be extended at the request of the *Employer* thereafter on the same terms. Where the *Employer* requires an extended right of use of any Third Party Rights used by the *Project Delivery Partner* in connection with the *services* (or any part thereof) that is not commercially available, the *Employer* shall pay or procure the payment of, in accordance with terms agreed between the parties, a reasonable licence fee for any such use for the extended period. In determining whether or not any licence fee is reasonable regard shall be had to the nature and use made of the Third Party Rights, licence fees charged to the *Project Delivery Partner* or Subconsultant by their licensors for such Third Party Rights, industry practice and the licence fees for the Third Party Rights normally charged by the *Project Delivery Partner* or Subconsultant in similar circumstances.

Licence from the 70D Employer

The *Employer* hereby grants to the *Project Delivery Partner* for the term of this contract and free of charge a non-exclusive, royalty-free licence to use such of the *Employer's* data, reports, drawings, specifications, plans, software, designs, inventions and/or other material of the *Employer* as are required by the *Project Delivery Partner* to Provide the *Services* and to fulfil its other obligations pursuant to this contract and which relate to the *services*. This licence is limited to use of such materials for the purpose of, and solely as necessary for, the *services* during the term of this contract. To the extent that any modifications or enhancements to materials licensed by the *Employer* to the *Project Delivery Partner* under this clause 70D are carried out by or on behalf of the *Project Delivery Partner* in Providing the *Services*, the *Project Delivery Partner* hereby assigns (or shall procure that the *Employer* is

granted an assignment of) all present and future Intellectual Property in those modifications and enhancements. By virtue of this clause 70D all such Intellectual Property rights shall vest in the *Employer* on their creation.

Warranties and Indemnity 70E

70E.1 The *Project Delivery Partner* warrants that:

- (a) it is the beneficial owner of its Background Rights; and
- (b) the *Employer's* use of the *Project Delivery Partner's* Background Rights or any Foreground Rights developed or supplied by the *Project Delivery Partner* pursuant to this contract will not infringe Intellectual Property owned by any third party.

70E.2 The *Project Delivery Partner* will indemnify and hold harmless the *Employer* against any and all liability, loss, damages, costs, legal costs, professional and other expenses of any nature whatsoever incurred or suffered by the *Employer* (whether direct or consequential) in respect of any claim or action that the *Employer's* use of:

- (a) Intellectual Property rights licensed by the *Project Delivery Partner* to the *Employer* under this clause 70; or
- (b) the Foreground Rights developed or supplied by the *Project Delivery Partner* under this contract;

infringes the Intellectual Property rights of any third party.

Infringements 70F

The *Project Delivery Partner* shall exercise good commercial discretion in watching for Intellectual Property rights and the publication of any applications for the registration of Intellectual Property rights owned or controlled by third parties which may be relevant to the intentions of the *Employer* and the *Project Delivery Partner* as expressed in this contract. Should any such Intellectual Property rights of a third party come to the notice of the *Project Delivery Partner*, then the *Project Delivery Partner* shall inform the *Employer* promptly and the parties shall decide jointly what action is to be taken. In the event of an agreement not being reached by the *Employer* and the *Project Delivery Partner*, the *Employer* shall make the final decision. The *Employer* and the *Project Delivery Partner* shall at all times have regard when making their decision to the Patents Act 1977 and any subsequent

amendment or enactment of such legislation and any other applicable law.

Copyright and Publication 70G

70G.1 The *Employer* shall be the proprietor of the copyright in this contract and any data relating to this contract. The *Employer* reserves the right to determine whether the results of the services shall be published and if so on what conditions. The *Project Delivery Partner* shall provide any reports that the *Employer* shall request and shall enclose with the report the following disclaimer:

"The authors of this report are employed by []. The work reported herein was carried out under a deed placed on [date of letter of acceptance] by Crossrail Limited and should not be relied upon as authoritative by any third party.

This report shall not be copied or reproduced in whole or in part except with the express consent of Crossrail Limited."

70G.2 The following copyright statement shall be included by the *Project Delivery Partner* on all copyright items intended for reproduction including final reports:

"© Copyright Controller HMSO year. This material is published for Crossrail Limited with the permission of the Controller of Her Majesty's Stationery Office".

Further Assurances 70H

70H.1 The *Project Delivery Partner* shall (at its own cost) upon the request of the *Employer* promptly execute all documents and do all acts and things which may be necessary to bring into effect or confirm any assignment or the terms of any of the licences contained or referred to in this clause 70.

70H.2 The parties shall, when appropriate, execute a formal licence or licences for the purpose of registering any licences granted pursuant to this clause 70 in such form as may be necessary to give effect to this contract and to conform with the laws for the time being existing in respect of Intellectual Property rights. Such licence or licences shall be subject to all the terms and conditions of this contract.

General 70I

- 701.1 The *Project Delivery Partner* shall not sell, copy or use the Intellectual Property referred to in this clause 70 if this might compromise the services and/or Materials (or any part thereof) or the *Employer's* use of them.
- 701.2 The *Project Delivery Partner* shall notify any proposed assignee of this contract of the licences granted to the *Employer* under or in accordance with this contract.
- 701.3 The *Project Delivery Partner* shall ensure that any contracts between the *Project Delivery Partner* and any Subconsultant imposes obligations on the Sub-consultant which are identical in effect to the obligations imposed on the *Project Delivery Partner* under this clause 70.
- 701.4 The *Project Delivery Partner* agrees to provide all assistance reasonably requested by the *Employer* on termination or expiry of this contract to handover the Materials and/or the provision of the services to a third party nominated by the *Employer*.

Publicity 71

The *Project Delivery Partner* shall not, except with the consent of the *Employer*, make any press announcements or publicise this contract or the Programme in any way unless the purpose of such disclosure is to allow compliance with a requirement to disclose information concerning this contract as required by law or the requirement of the stock exchange. The provisions of this clause shall not apply to any information relating to this contract, which is or which pursuant to this clause 71 is public knowledge (otherwise than by breach of this clause) or which is limited to the fact of the *Project Delivery Partner* being a party to this contract.

Data Protection 72

- 72.1 (a) The *Project Delivery Partner* shall comply with all of its obligations under the Data Protection Act 1998 (the "DPA") and, where it is processing personal data (as defined in the DPA) on behalf of the *Employer* ("Employer Personal Data"), the *Project Delivery Partner* shall only act in accordance with instructions from the *Employer* in relation to the Employer Personal Data.
- (b) The *Project Delivery Partner* shall take appropriate technical and organisational measures to the satisfaction of the *Employer* to prevent unauthorised or unlawful processing of, accidental loss or destruction of, and

damage to, Employer Personal Data.

- 72.2 The *Project Delivery Partner* shall fully indemnify and hold the *Employer* harmless in respect of all losses, liabilities, claims, actions, proceedings, demands, costs, charges or expenses arising out of or in connection with: (i) any breach by the *Project Delivery Partner*, its employees, agents, Subconsultants, or any other third party to whom it has disclosed Employer Personal Data; and (ii) any third party claims made in respect of information subject to the DPA, which claims would not have arisen but for some act, omission or negligence on the part of the *Project Delivery Partner*, its employees, agents, Subconsultants, or any other third party to whom it has disclosed Employer Personal Data.

Access to 73 Information

- 73.1 The *Project Delivery Partner* shall free of charge disclose to the *Employer* and shall free of charge allow the *Employer* and/or those nominated by him to inspect and take away copies and all such information relating to the *services* (including without prejudice to the generality of the foregoing accounts and records) as the *Employer* shall reasonably require in order to satisfy itself that the provisions of this contract are being observed and performed, and/or in order to facilitate the operation of this contract, and the *Project Delivery Partner* shall ensure that such representatives have full and free access (including access to the *Project Delivery Partner's* premises) and licence to use such information in order to facilitate the operation of this clause but the *Project Delivery Partner* shall not be obliged to supply any information which would be treated as privileged in any proceedings.
- 73.2 Notwithstanding any other provision of this contract, the *Employer* is not entitled to access to or to receive any information that has not been produced as part of the Provision of the Services (including without limitation the build-up of its *staff rates*, internal memoranda and management reports) or information which would be treated as privileged in any proceedings. Notwithstanding the foregoing, if a new *staff rate* is required to be agreed in addition to those fixed at the Contract Date, the *Project Delivery Partner* provides the *Employer* with such information as is reasonably appropriate to allow the *Employer* to understand the build-up of that new *staff rate*. The provisions of clause 70B do not apply to any information referred to in this clause 73.2.

Freedom of 74 Information

- 74.1 The *Project Delivery Partner* acknowledges that the *Employer* is subject to the FOI Legislation and agrees to assist and co-operate with the *Employer* to enable the *Employer* to comply with its obligations under the FOI Legislation. The foregoing shall not preclude the *Project Delivery Partner* from objecting to a disclosure of *Project Delivery Partner* Information.
- 74.2 The *Employer* shall be responsible for determining whether *Project Delivery Partner* Information is exempt information under the FOI Legislation and for determining what *Project Delivery Partner* Information will be disclosed in that respect to an Information Request in accordance with the FOI Legislation. The *Project Delivery Partner* shall not itself respond to any person making an Information Request, save to acknowledge receipt, unless expressly authorised to do so by the *Employer*.
- 74.3 The *Project Delivery Partner* acknowledges that the *Employer* may be obliged under the FOI Legislation to disclose *Project Delivery Partner* Information.

**Confidential
Information 75**

- 75.1 Subject to the other provisions of and as expressly permitted by this clause 75, the *Project Delivery Partner*:
- (a) may not use any Confidential Information for any purpose other than the performance of its obligations under this contract;
 - (b) may not disclose any Confidential Information to any person except with the prior written consent of the *Employer*; and
 - (c) shall make every effort to prevent the use or disclosure of the Confidential Information.
- 75.2 Notwithstanding clause 75.1, the *Project Delivery Partner* may disclose any Confidential Information to the following parties in the following circumstances:
- (a) to any officer or servant of the *Project Delivery Partner* or any person engaged in the provision of goods or services to or for him if disclosure is necessary to enable the *Project Delivery Partner* to Provide the Services or to enforce its rights under this contract, upon obtaining an undertaking of strict confidentiality from such officer, servant or person;
 - (b) to the extent required by any applicable law, the rules of

any stock exchange or regulatory body or any written request of any taxation authority; and

- (c) pursuant to the order of any court or tribunal of competent jurisdiction.

75.3 The provisions of clause 75.1 above shall not apply to any Confidential Information which:

- (a) is at the date of this contract or any time thereafter becomes publicly known other than by breach of this contract or of an obligation of confidence;
- (b) can be shown by the *Project Delivery Partner* to the *Employer's* reasonable satisfaction to have been known by the *Project Delivery Partner* before disclosure by the *Employer*.

75.4 Before disclosure of any Confidential Information, the *Project Delivery Partner* shall ensure that the recipient is made aware of and complies with the *Project Delivery Partner's* obligations of confidentiality under this contract as if the recipient was a party to this contract.

75.5 Without prejudice to any other rights or remedies which the *Employer* may have, the *Project Delivery Partner* acknowledges and agrees that in the event of breach of this clause 75 the *Employer* shall, without proof of special damage, be entitled to an injunction or other equitable remedy for any threatened or actual breach of the provisions of this clause in addition to any damages or other remedies to which it may be entitled.

75.6 If this contract is terminated, the *Project Delivery Partner* shall, return to the *Employer* all of the Confidential Information then within its possession or control or destroy such Confidential Information using a secure and confidential method of destruction and furnish to the *Employer* sufficient evidence of such destruction, save that the *Project Delivery Partner* may retain one copy of the Confidential Information if required to do so by law.

8 Indemnity, insurance and liability

Indemnity 80

80.1 The *Project Delivery Partner* indemnifies the *Employer* against all losses, claims, proceedings, compensation and costs payable arising from:

- death and/or personal injury;
- damage or loss to property (other than to the works to which the *services* relate);
- third party claims (including an infringement of the rights of Others but except for an infringement which arose out of the use by the *Project Delivery Partner* of things provided by the *Employer*);

arising from any breach of contract, breach of statutory duty or negligence by the *Project Delivery Partner* in Providing the *Services*.

Insurance cover 81

81.1 The *Project Delivery Partner* provides the insurances stated in the Insurance Table except any insurance which the *Employer* is to provide as stated in the Contract Data. The insurances provide cover from the Contract Date until the end of the periods stated in the Contract Data provided such insurances are available at commercially reasonable rates and terms.

INSURANCE TABLE

Insurance against	Minimum amount of cover
Liability of the <i>Project Delivery Partner</i> for claims made against him arising out of his failure to use the skill care and diligence required by the contract	The amount stated in the Contract Data
Liability for death of or bodily injury to a person (not an employee of the <i>Project Delivery Partner</i>) or loss of or damage to property resulting from an action or failure to take action by the <i>Project</i>	The amount stated in the Contract Data for any one event

Delivery Partner

Liability for death of or bodily injury to employees of the <i>Project Delivery Partner</i> arising out of and in the course of their employment in connection with this contract	The greater of the amount required by the applicable law and the amount stated in the Contract Data for any one event
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81.2 When requested by a Party the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.

81.3 As soon as reasonably practicable after the date of signature of this contract, but in any event before the commencement of main construction works (excluding advance enabling works), the *Employer* provides the following insurances:

- third party liability insurance; and
- all risks insurance in respect of the works to which the *services* relate;

of a kind that is typical in Europe for major projects similar to the Programme and under each of which the *Project Delivery Partner* is a named insured and has the benefit of a waiver of any rights of subrogation against it.

81.4 In the event that the *Employer* notifies the *Project Delivery Partner* that it no longer requires the *Project Delivery Partner* to provide insurance against liability for death of or bodily injury to a person (not an employee of the *Project Delivery Partner*) or loss or damage to property resulting from an action or failure to take action by the *Project Delivery Partner*, the *Employer* shall be entitled to deduct the amount stated in the Contract Data from the next amount due under clause 50.3.

82 The aggregate liability of the *Project Delivery Partner* and its affiliates (including without limitation the Guarantor) and its Subconsultants to the *Employer*, *DfT* and *TfL* for all claims arising under or in connection with this contract, other than the excluded matters listed in this clause 82, is limited to the amount stated in the Contract Data and applies in contract, tort or delict and otherwise to the extent allowable under the *law of the contract* (the "Total Liability Cap").

The excluded matters under this clause 82 are:

- amounts payable by the *Project Delivery Partner* in respect of infringements of the Intellectual Property rights of Others under the indemnities referred to in

clauses 70E.2 and 80.1, except for any infringements that arose out of the use by the *Project Delivery Partner* of things provided by the *Employer*;

- amounts payable by the *Project Delivery Partner* under the indemnity referred to in clause 72.2;
- amounts payable by the *Project Delivery Partner* under the indemnity referred to in clause 80.1 in connection with third party claims for death of or bodily injury to a person or loss of or damage to property;
- the cost incurred by the *Project Delivery Partner* and its Subconsultants in re-performing any service which suffers from a Defect;
- amounts payable by the *Project Delivery Partner* pursuant to clause X20; and
- payments received by the *Project Delivery Partner* as referred to in clauses 83(1) and 84(1).

References in clauses 80, 82 and 85 to third party claims do not include claims of any kind by the *Employer*, *DfT* or *TfL*; and

83 The maximum aggregate liability of the *Project Delivery Partner* and its affiliates (including without limitation the *Guarantor*) and its Subconsultants to the *Employer*, *DfT* and *TfL* arising out of or relating in any manner to damage of any kind to any works to which the *services* relate (whether before or after completion) shall not exceed:

- (1) payments received by the *Project Delivery Partner* under the all risks insurance referred to in clause 81.3; and
- (2) any reasonable deductible or excess under such insurance, which shall not in any event exceed an amount per occurrence typical in Europe for major projects similar to the Programme.

Any amount paid pursuant to clause 83(2) is also taken into account in calculating whether the Total Liability Cap is exhausted.

84 The maximum aggregate liability of the *Project Delivery Partner* and its affiliates (including without limitation the *Guarantor*) and its Subconsultants to the *Employer*, *DfT* and *TfL* arising out of or relating in any manner to damage of any kind to any property owned by any of the *Employer*, *DfT* or *TfL* (other than works to which the *services* relate) shall not exceed:

- (1) payments received by the *Project Delivery Partner* under the property owner's property damage

insurance or the third party liability insurance referred to in clause 81.3; and

- (2) any reasonable deductible or excess under such insurance, which shall not in any event exceed an amount per occurrence typical in Europe for major projects similar to the Programme.

Any amount paid pursuant to clause 84(2) and any amount paid to any person exercising a right of subrogation against the *Project Delivery Partner* or its Subconsultants is also taken into account in calculating whether the Total Liability Cap is exhausted.

85 The *Employer* may, by notice served on the *Project Delivery Partner* within 30 days of the Contract Date, elect that the Total Liability Cap as defined in clause 82 be increased to [REDACTED]. If the *Employer* serves notice under this clause 85, the maximum aggregate liability of the *Project Delivery Partner* and its affiliates (including without limitation the Guarantor) and its Subconsultants to the *Employer*, *DfT* and *TfL* arising out of or relating to any *service* which suffers from a Defect, other than the excluded matters listed in this clause 85, shall nonetheless not exceed [REDACTED].

The excluded matters under this clause 85 are amounts payable by the *Project Delivery Partner* under the indemnity in clause 80.1 in connection with third party claims for death of or bodily injury to a person or loss of or damage to property.

Any amounts paid in relation to any *service* which suffers from a Defect are also taken into account in calculating whether the Total Liability Cap is exhausted.

9 Termination

Termination 90

90.1 Either Party may terminate the *Project Delivery Partner's* employment by notifying the other Party if the other Party has done one of the following or its equivalent.

- If the other Party is an individual and has
 - presented his petition for bankruptcy,
 - had a bankruptcy order made against him,
 - had a receiver appointed over his assets or
 - made an arrangement with his creditors.
- If the other Party is a company or partnership and has
 - had a winding-up order made against it,
 - had a provisional liquidator appointed to it,
 - passed a resolution for winding-up (other than in order to amalgamate or reconstruct),
 - had an administration order made against it,
 - had a receiver, receiver and manager, or administrative receiver appointed over the whole or a substantial part of its undertaking or assets or
 - made an arrangement with its creditors.

90.2 The *Project Delivery Partner* may terminate his employment by notifying the *Employer* if the *Employer* has not paid an amount due to the *Project Delivery Partner* within eight weeks of the issue of a notice by the *Project Delivery Partner* to the *Employer* confirming that the final date for payment of such amount has passed.

90.3 The *Employer* may terminate the *Project Delivery Partner's* employment by notifying the *Project Delivery Partner* if

- (a) the *Employer* no longer requires the *Project Delivery Partner* to Provide the Services or
- (b) the *Project Delivery Partner* has failed to comply with his obligations relating to health and safety or
- (c) without prejudice to (b) above the *Project Delivery Partner* has failed to comply with his obligations and has not put the default right within four weeks of a notification by the *Employer* or
- (d) the *Project Delivery Partner* commits a Prohibited Act

90.4 The *Employer* may terminate the *Project Delivery Partner's* employment by notifying the *Project Delivery Partner* if an event occurs which

- stops the *Project Delivery Partner* completing the *services* or
- stops the *Project Delivery Partner* completing the *services* by the date shown on the Accepted Programme and is forecast to delay Completion by more than 13 weeks,

and which

- neither Party could prevent and
- an experienced consultant would have judged at the Contract Date to have such a small chance of occurring that it would have been unreasonable for him to have allowed for it.

Procedures on 91 termination

91.1 On termination

- the *Project Delivery Partner* does no further work necessary to Provide the Services,

- the *Employer* may complete the *services* and may use any material to which he has title,
- the *Employer* may require the *Project Delivery Partner* to assign the benefit of any subconsultancy or other contract related to performance of this contract to the *Employer* and
- the *Project Delivery Partner* gives to the *Employer* or the *Employer's* nominee information resulting from work carried out to date and information the *Project Delivery Partner* has obtained which he has a responsibility to provide under this contract.
- the Parties continue to comply with the constraints and obligations in this contract on
 - the use of material prepared or obtained by the *Project Delivery Partner* and
 - publicising the services, confidentiality and the FOI Legislation

Termination shall be without prejudice to any accrued rights and obligations under this contract as at the date of such termination.

- 91.2 Following any termination of the *Project Delivery Partner's* employment or the omission of any of the *services* under this contract and upon the expiry of this contract, the *Project Delivery Partner* shall co-operate with the *Employer* and shall provide to him all reasonable assistance to facilitate the handover or transfer of any of the *Project Delivery Partner's* obligations or *services* to the *Employer* or the *Employer's* nominee including briefing and providing information to the *Employer* or the *Employer's* nominee.

**Payment on 92
termination**

- 92.1 A final payment is made as soon as possible after termination. The amount due on termination is
- an amount due assessed as for normal payments and
 - a fair and reasonable proportion of the Prices

commensurate with any partially complete activities as at the date of termination.

92.2 If the *Employer* terminates because of the

- insolvency of the *Project Delivery Partner* or
- failure of the *Project Delivery Partner* to comply with his obligations,

the amount due on termination includes a deduction of the forecast of the additional cost to the *Employer* of completing the whole of the *services* together with the amount of any loss or expense or additional cost incurred or suffered by the *Employer* and arising out of the termination or the event entitling the *Employer* to terminate. If such deduction exceeds the amount due on termination such excess shall be recoverable by the *Employer* from the *Project Delivery Partner* as a debt.

92.3 Subject to clause 92.4 if the *Employer* terminates because the *Employer* no longer requires the *Project Delivery Partner* to Provide the *Services* the amount due on termination shall include any demobilisation costs reasonably and properly incurred by the *Project Delivery Partner* but shall not include any payment in respect of loss of profit or loss of opportunity nor any other amounts in expectation of completing the *services* nor any Reserved Amounts.

Break clause 92.4 In the event of termination because the *Employer* no longer requires the *Project Delivery Partner* to Provide the *Services* by notice served on or before 31 March 2010 the *Project Delivery Partner* shall, notwithstanding clause 92.3, be entitled to payment of the Interim Earned Amount (as defined in Appendix 4) for the first contract year provided that the aggregate payments due under this contract including the amount due on termination shall not in any circumstances exceed the amount stated in the Contract Data.

100 Guarantee

- 100.1 The *Guarantor* is a party to this contract for the sole purpose of guaranteeing the performance of the obligations of the *Project Delivery Partner* hereunder.
- 100.2 In consideration of the *Employer* appointing the *Project Delivery Partner* in accordance with the terms of this contract, the *Guarantor*:
- (a) agrees that if the *Project Delivery Partner* shall in any respect fail to perform any of its obligations arising under this contract (as the same may be amended or varied from time to time) or shall commit any breach or fail to perform any warranty or indemnity set out in this contract (as the same may be amended or varied from time to time), then the *Guarantor* shall forthwith upon the *Employer's* demand perform and fulfil in the place of the *Project Delivery Partner* each and every obligation, warranty or indemnity in respect of which the *Project Delivery Partner* has defaulted or as may be unfulfilled by the *Project Delivery Partner* provided always (but subject to clauses 100.3 and 100.4) that the *Guarantor* shall have no greater or different liability to the *Employer* than it would have had if it had been named as joint *Project Delivery Partner* with the *Project Delivery Partner* under this contract;
 - (b) confirms that it has full power and capacity to enter into this contract and to give the guarantee set out herein, and that the guarantee shall not be revocable and shall be a continuing guarantee; and
 - (c) agrees that the *Employer* is entitled to assign any of its rights under this guarantee at any time to any person who takes an assignment, novation or other transfer of this contract or the benefit thereof.
- 100.3 If for any reason this contract shall be held to be void or voidable or if an administrator, administrative receiver, receiver or liquidator or other insolvency practitioner shall disclaim this contract or if a matter should occur which would result in any under recovery or non recovery by the *Employer* on the basis of the guarantee referred to in clause 100.2 (each a "Supervening Event"), the *Guarantor* shall nevertheless remain liable under this contract as if it were the sole principal obligor and not merely a guarantor and the *Guarantor* shall indemnify and save harmless the *Employer* from any and all losses, damages, expenses, claims, costs or proceedings which the *Employer* may suffer or incur which would have been recoverable by the *Employer* but for such Supervening Event.

100.4 The *Guarantor* shall not be discharged nor shall its liability be affected by anything which would not discharge it or affect its liability if it were the sole principal obligor including, but not limited to:

- (a) any amendment, modification, waiver, consent or variation, express or implied, to the Scope, the *services* or to this contract or any related documentation;
- (b) the granting of any extensions of time or forbearance, forgiveness or indulgences in relation to time to the *Project Delivery Partner*;
- (c) the enforcement, absence of enforcement or release of the contract or of any security, right of action or other guarantee or indemnity;
- (d) the dissolution, amalgamation, reconstruction, reorganisation of the *Project Delivery Partner* or any other person;
- (e) the illegality, invalidity or unenforceability of or any defect in any provision of the contract or any of the *Project Delivery Partner's* obligations under the contract;
- (f) any indulgence or additional or advanced payment, forbearance, payment or concession to the *Project Delivery Partner*;
- (g) any compromise of any dispute with the *Project Delivery Partner*;
- (h) any failure of supervision to detect or prevent any fault of the *Project Delivery Partner*;
- (i) any assignment of the benefit of the contract.

MAIN OPTION CLAUSES

W2

Dispute Resolution W.2.1 Any dispute or difference between the Parties as to the construction of this contract or any matter or thing of whatsoever nature arising under this contract or in connection therewith (a "Dispute") shall be resolved pursuant to the terms of this clause W.2.

Managerial Discussions W.2.2 Without prejudice to the Parties' rights at any time to refer Disputes to adjudication in accordance with this clause W.2 the Parties shall each use their reasonable endeavours to resolve any Dispute which may arise by means of prompt, bona fide discussion at a managerial level appropriate to the Dispute in question.

W.2.2A The *Employer*, so far as it considers reasonable appropriate and practicable consults the *Project Delivery Partner* before implementing a dispute board for the Programme. Unless and until the *Employer* notifies the *Project Delivery Partner* that it has implemented such dispute board, the Parties follow the procedure set out in W.2.2 for the avoidance and settlement of Disputes. After the *Employer* notifies the *Project Delivery Partner* that it has implemented a dispute board for the Programme, the Parties follow the procedure established by such dispute board for the resolution of Disputes.

Adjudication Procedure W.2.3 Either party may give notice at any time of its intention to refer to adjudication a Dispute arising out of or in connection with this contract and such adjudication shall be conducted in accordance with the Scheme for Construction Contracts (England and Wales) Regulations 1998. The adjudicator shall be agreed between the Parties or failing which, nominated by the London Court of International Arbitration provided always that following notification by the *Employer* that it has implemented the dispute board, the adjudicator shall be selected in accordance with the dispute board procedure.

Joinder W.2.4 (a) If a Dispute arising under this contract raises issues of fact or law which are the same as, or relate to issues raised in an unresolved dispute between the *Employer* and any Other (a "Related Dispute"):

(i) the *Employer* may require a representative of the parties in the Related Dispute to meet with the parties under this contract and endeavour to resolve both the Related Dispute and the Dispute; and

- (ii) the *Employer* may refer the Related Dispute to an adjudicator or court to which the Dispute has been referred under this contract or may refer the Dispute to an adjudicator or court to which the Related Dispute had been referred and the proceedings shall be consolidated, save where the adjudicator or court shall in its absolute discretion determine that it is not possible to consolidate the proceedings; and
 - (iii) any dispute as to whether the Dispute raises issues of fact or law which are the same as or related to issues of fact or law in the Related Dispute shall be resolved by the adjudicator or court to which the Dispute and the Related Dispute have been referred, provided that, if the adjudicator or court decides that such issues of fact or law do not arise in the Related Dispute this clause W.2.4 shall cease to apply; and
 - (iv) the adjudicator to whom the Dispute and the Related Dispute have been referred shall have power to make such decisions, directions and all necessary orders and awards in respect of the Dispute and the Related Dispute in the same way as if the procedure of the High Court as to joining one or more defendants or joining co-defendants or third parties was available to the parties and to him.
- (b) The *Employer* may only refer a Related Dispute to the adjudicator appointed in relation to a Dispute if the adjudicator receives particulars of the Related Dispute within seven days of the referral of the Dispute to the adjudicator under this contract and may only refer a Dispute to the adjudicator appointed in relation to a Related Dispute if the adjudicator receives particulars of the Dispute within seven days of the referral of the Related Dispute to the adjudicator.

Final and Binding Decision W.2.5

The Parties may agree that the adjudicator's decision shall be final and binding and shall finally determine any Dispute, or in the absence of such agreement may otherwise refer such Dispute to the courts of England and Wales for further determination

1.2 SECONDARY OPTION CLAUSES

1.3

Option X1: Price adjustment for inflation

Price adjustment X1 factor

X1.1 On 1 April 2010 and on each anniversary of 1 April thereafter, the *Project Delivery Partner* calculates a price adjustment factor equal to $(L - B)/B$, where L is the last published value of the *index* and B is the last value of the *index* published before 1 April 2010.

If the value of an *index* is changed after it has been used in calculating a price adjustment factor, the calculation is repeated and a correction included in the next assessment of the amount due.

The price adjustment factor calculated at the Completion Date for the whole of the *services* is used for calculating price adjustment after this date.

Price adjustment X1.2

Each amount due after 1 April 2010 includes an amount for price adjustment which is the sum of

- the change in the Price for Services Provided to Date since the last assessment of the amount due multiplied by the price adjustment factor calculated at the last anniversary and
- the amount for price adjustment included in the previous amount due.

Price adjustment X1.3 Option C

Each time the amount due is assessed after 1 April 2010, an amount for price adjustment is added to the total of the Prices which is the change in the Price for Services Provided to Date since the last assessment of the amount due multiplied by $(PAF/(1+PAF))$ where PAF is the price adjustment factor calculated at the last anniversary.

Expenses X1.6 adjustment

If payment rates for any of the *expenses* are fixed at the Contract Date and are not otherwise adjustable for inflation, each amount due after the 1 April 2010 includes an amount for *expenses* adjustment which is the sum of

- the change in fixed *expenses* since the last assessment of the amount due multiplied by the price adjustment

factor calculated at the last anniversary and

- the amount for *expenses* adjustment included in the previous amount due.

Changes in the law X2

- X2.1 A change in the *law of the project* is a compensation event if it occurs after the Contract Date. Either Party may notify the other of a compensation event for a change in the law. If the effect of a compensation event which is a change in the law is to reduce the total Time Charge, the Prices are reduced.

Option X20: Incentives

Incentives X20

- X20.1 Interim KPIs and Programme KPIs are aspects of performance by the *Project Delivery Partner* for which targets are stated in the Incentive Schedule. The Incentive Schedule is the *incentive schedule* unless later changed in accordance with this contract.
- X20.2 From the *starting date* until the *defects date*, the *Project Delivery Partner* reports to the *Employer* his performance against each of the Interim KPIs and Programme KPIs. Reports are provided at the intervals stated in the Contract Data or Service Delivery Plan and include the forecast final measurement against each indicator.
- X20.3 If the *Project Delivery Partner's* forecast final measurement against an Interim KPI or Programme KPI will not achieve an "Excellent" rating in the relevant Performance Band, he submits his proposals for improving performance.
- X20.4 The *Project Delivery Partner* or the *Employer* (as the case may be) is paid the relevant percentage of the Interim Earned Amount and is paid the Final Earned Amount in accordance with the Incentive Schedule.
- X20.5 Capitalised terms used in this clause X20 and not otherwise defined have the meaning ascribed to them in the Incentive Schedule.

Option Y(UK)3: The Contracts (Rights of Third Parties) Act 1999

Third party rights Y(UK)3

- Y3.1 A person or organisation who is not one of the Parties may enforce a term of this contract under the Contracts (Rights of Third Parties) Act 1999 only if the term and the person or organisation are stated in the Contract Data.

CONTRACT DATA

Part one – Data provided by the *Employer*

Statements given in all contracts

- 1 General
- The *conditions of contract* are the amended NEC Professional Services Contract Conditions to which this Contract Data is attached.
 - The *Employer* is
 - Name Crossrail Limited
 - Address 25 Canada Square, London E14 5LQ
 - The *services* are set out in the Scope as the same may be modified or augmented by the Service Delivery Plan.
 - The Scope is at Appendix 1.
 - The *language of this contract* is English
 - The *law of the contract* is the law of England and Wales
 - The *period for reply* is 14 days except in relation to the following:
 - Periods shown on the Schedule of Deliverables (in simple programme format) within the Service Delivery Plan as “Review and discuss”
 - The *period for retention* is 15 years following Completion or earlier termination.
 - The following matters will be included in the Risk Register:

None
 - The *Employer's Policies and Procedures* are all the policies and procedures on the *Employer's* Business Management System and those set out in Appendix 1
 - The Third Party Agreements are set out in Appendix 5.
 - *TfL* is Transport for London of Windsor House, 42-50 Victoria Street, London SW1H 0TL.

- *DfT* is Department for Transport of Great Minster House, 76 Marsham Street, London SW1P 4DR.
- 2 The Parties' main responsibilities
- The *Employer* provides access to the persons, places and things as set out in Appendix 2 and the Service Delivery Plan
- 3 Time
- The *starting date* is the Contract Date
 - The *Project Delivery Partner* is to submit a first programme for acceptance within 14 days of the *starting date*.
 - The *Project Delivery Partner* submits revised programmes at quarterly intervals, seven days prior to the date of each quarterly review meeting.
- 4 Quality
- The quality policy statement and quality plan are provided within 1 month of the *starting date*.
 - The *defects date* is the later of twelve months after the date that the railway transport system that is the subject of the Programme commences full operations and twelve months from Final Completion under the PDA
- 5 Payment
- The *assessment interval* is every four week accounting period of the *Employer*, such periods to be advised to the *Project Delivery Partner* annually.
 - The *currency of this contract* is pounds sterling (£).
 - The *interest rate* is 2% per annum (not less than 2) above the base rate of the Bank of England.
- 8 Indemnity, insurance and liability
- The amounts of insurance and the periods for which the *Project Delivery Partner* maintains insurance are

event	cover	period following Completion of the whole of the services or earlier termination
failure of the <i>Project Delivery Partner</i> to use the skill and care normally used by professionals	[REDACTED] in respect of each claim, without limit to the number of claims	Twelve years

providing services similar to the services

death of or bodily injury to a person (not an employee of the *Project Delivery Partner*) or loss of or damage to property resulting from an action or failure to take action by the *Project Delivery Partner*. [REDACTED] in Twelve years respect of each claim, without limit to the number of claims

death of or bodily injury to employees of the *Project Delivery Partner* arising out of and in the course of their employment in connection with this contract [REDACTED] in Twelve years respect of each claim, without limit to the number of claims.

If the *Employer* notifies the *Project Delivery Partner* in accordance with clause 81.4 on or before 20 October 2009, the amount deducted is [REDACTED]. If the *Employer* notifies the *Project Delivery Partner* in accordance with clause 81.4 after 20 October 2009, the parties shall agree any amount to be deducted.

The Total Liability Cap under clause 82 is [REDACTED].

9. Termination The amount referred to in clause 92.4 is [REDACTED]

Optional statements **If the *Employer* has decided the *completion date* for the whole of the *services***

- The *completion date* for the whole of the *services* is the Target Final Delivery Date under the PDA.

If the *Employer* has identified work which is to meet a stated *condition* by a *key date*

- The *key dates* and *conditions* to be met are set out in the Service Delivery Plan.

If the *Employer* states any *expenses*

- The *expenses* stated by the Employer are in Appendix 2

If Option C, E or G is used

The *Project Delivery Partner* prepares forecasts of the total Time Charge and *expenses* at each assessment interval

If Option X1 is used

The *index* is the Average Earnings Index Whole Economy excluding bonuses series jqdw.

If Option X20 is used

- The *incentive schedule* is in Appendix 4 and/or the Service Delivery Plan
- A report of performance against each Interim KPI and the Programme KPIs is provided by the *Project Delivery Partner* at each assessment interval for review by the *Employer*.

Y(UK)3

Term	Person or organisation
All	<i>TfL</i>
All	<i>DfT</i>

Part two – Data provided by the *Project Delivery Partner*

Statements given in all contracts

- The *Project Delivery Partner* is

Name Bechtel Limited

Address 11 Pilgrim Street, London EC4V 6RN

- The *key persons* are

- Siv Bhamra

- Mike Hann

- Mike Kelly

- Ailie MacAdam

- Aissa Medjber

- Cliff Mumm

- Tony Ryan

- Bill Tucker

- Chief Engineer position (*key person* to be agreed)

and any further *key persons* identified in the Service Delivery Plan.

- The *staff rates* are as set out in Appendix 3 and/or the Service Delivery Plan and are further explained in Appendix 2

- The following matters will be included in the Risk Register

None.

- The *Guarantor* is

Name Bechtel Corporation

Address 6100 Neil Road, Suite 500, Reno, Nevada 89511, USA

Appendix 1

Scope

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1.0 Introduction

- 1.1.1 This document sets out the scope of services for the *Project Delivery Partner* in managing the delivery of the design and construction of the Project to the functional, technical, time, cost, safety, quality and environmental requirements as set out in the Project Development Agreement (PDA) and the Crossrail Act 2008. Terms in capitals in this document have the same meaning as used in the PDA unless defined otherwise in the contract.
- 1.1.2 The overarching responsibility of the *Project Delivery Partner* is to ensure the successful delivery of the central section Project, including Delivery Contracts and Signalling Contracts as defined in the PDA. This will include responsibilities for the procurement and management of all necessary contracts and the management of interfaces between them and between the Project and all stakeholders including consent granting bodies.
- 1.1.3 The *Employer* has procured the services of a Programme Partner who will work with the *Employer* to form an integrated Programme delivery team. This Scope needs to be read in conjunction with the scope of services for the Programme Partner to ensure that the split of responsibilities is understood and that the interface between the two Partners is managed effectively and efficiently without duplication. The *Project Delivery Partner* will be required to work in a supportive and collaborative manner with the Programme Partner, as it will with the *Employer*.
- 1.1.4 The *Project Delivery Partner* shall provide the services, staff, knowledge, systems and leadership resource, together with the necessary corporate support, to deliver the required outcomes.
- 1.1.5 In developing Crossrail to the current position the *Employer* has established some organisational arrangements, strategies, systems, and processes to support the ongoing delivery of the Project and Programme. The *Employer* has also established effective working arrangements with a wide range of stakeholders and interested parties. Where the existing arrangements and relationships will be continuing, the *Project Delivery Partner* will be required to provide a fully supportive and committed approach in taking them forward. The *Project Delivery Partner* will also be required to identify any gaps in the current arrangements and systems and to set out proposals for ensuring the successful delivery of the Project.
- 1.1.6 The *Employer* is procuring Design Framework Consultants to provide the resource needed to develop the detailed design of the Project as necessary for the procurement of the works (the designers). It may be in the overall interests of the Project for critical design packages to be procured before the *Project Delivery Partner* is appointed. The *Project Delivery Partner* will be required to work with the *Employer* and any appointed designers to ensure that the design requirements are successfully delivered to schedule.
- 1.1.7 The resource requirements of the Project will vary over the Programme duration. The *Project Delivery Partner* will need to be flexible in its management of resources to ensure that the appropriate resources will be available at the right time.

2.0 Engineering

The *Project Delivery Partner* shall:

2.1 Assurance

- 2.1.1 Develop requirements from the PDA to define scope and allocate to specific Project contracts;
- 2.1.2 Implement and manage progressive assurance throughout the planning, management and implementation of the Project, in accordance with the *Employer's* systems assurance strategy and the provision of interfaces between the Compliance and Assurance Group (CAG), designers and contractors;

- 2.1.3 Manage designers and contractors to provide progressive assurance, including the preparation of technical cases providing assurance that the preliminary and detailed designs produced for the Project are consistent with the requirements of the Crossrail Project Functional Requirements (CPFR), as defined in the PDA, and that Crossrail is capable of being operated and maintained safely;
- 2.1.4 Project manage the process of achieving construction to standards, including acceptance, hand back and other approvals;
- 2.1.5 Develop and manage the obtaining of HMRI and similar acceptances and approvals for Project works;
- 2.1.6 Assist the Operators in obtaining all necessary Railways Act and ROGs consents for the Project and where applicable, the preparation and establishment of a Safety Management System and a Safety Verification Scheme for the Project, in accordance with the requirements of the PDA;
- 2.1.7 Ensure that the Conventional Interoperability Regulations, where applicable, are applied in the delivery of the Project.

2.2 Design Management

- 2.2.1 Determine the requirement for and the scope of design Package Orders to be let under the Design Framework Consultants' agreements; advising the *Employer* of such a requirement and providing a proposal to that effect, sufficiently in advance of the requirement arising in order to allow the *Employer* to properly consider and assess the proposal; providing such information as is required to enable the *Employer* to properly consider the proposal;
- 2.2.2 Certify that the design complies with the CPFR and any other *Employer's* requirements and is suitable for construction;
- 2.2.3 Secure all necessary approvals for designs whether required by Legislation or not;
- 2.2.4 Develop and manage the requirements for and production of asset condition surveys, registers and systems;
- 2.2.5 Where the *Employer* agrees with a proposal to let a design Package Order, produce all necessary documentation and manage the procurement process leading to award of such Package Order in accordance with the Design Framework Consultants' agreements
- 2.2.6 Following award of a design Package Order, to the extent and within the limits of authority agreed with the *Employer*, carry out the duties and responsibilities of the *Employer's* Agent under design Package Orders, to include such duties and responsibilities required for the day to day management of the Package Orders;
- 2.2.7 Manage design to schedule, cost, safety, quality and environmental standards and regulatory requirements;
- 2.2.8 Ensure that the design, construction and delivery of the infrastructure, components and systems comprised in the Project is undertaken on a basis that complies with the Sponsors' Requirements and the CPFR;
- 2.2.9 Monitor the progress of design activities and submissions across all elements of the Project, and arrange design reviews as necessary as part of this process;
- 2.2.10 Carry out performance modelling of the designed and specified requirements and outputs;
- 2.2.11 Adopt the *Employer's* approach to the integration of infrastructure, components and systems across the Project including all rolling stock/infrastructure interface issues, to ensure that the completed railway operates efficiently as a single working railway system;

- 2.2.12 Develop design and implement the Project works to ensure that the Project delivers the defined performance and maintenance strategy and requirements. Perform validation as required, including performance;
- 2.2.13 Manage the process for approving construction method statements, including buildability and access for the Project;
- 2.2.14 Manage value engineering systems to promote optimum value within the constraints and requirements of the Programme and the Project
- 2.2.15 Adopt and implement the *Employer's* systems engineering management approach to control and reduce the integration risk between different elements of the Project and the Programme;
- 2.2.16 Provide cooperation and assistance to the Project Representative, appointed in accordance with the PDA, and ensure that those undertaking works at a contract level do likewise;
- 2.2.17 Ensure that the various designers and contractors apply this systems engineering management approach to control the integration risk between various elements of the Project;
- 2.2.18 Assist the *Employer* in developing design guides, standards, assurance plans in so far as they impact on the implementation of the Project;
- 2.2.19 Develop and manage Project level processes for developing the Project design through to construction, manufacture and installation and for ensuring that it complies with the CPFRR;
- 2.2.20 Support the *Employer* in making decisions with regards to the balance of cost, schedule, quality, value for money, phasing and sustainability;
- 2.2.21 Provide constructability input into the requirements process;
- 2.2.22 Develop and manage the Project level processes for ensuring design is continually checked against technical standards, the CPFRR and the PDA;
- 2.2.23 Ensure that the Programme-wide requirements address all necessary interfaces and interdependencies from the Project;
- 2.2.24 Adopt and implement the Programme-wide management framework for documenting the strategic operational engineering requirements and standards for the Project;

2.3 Utilities

- 2.3.1 Manage Project and contract interfaces with all statutory undertakers, acting as the single point of contact for the Project;
- 2.3.2 Ensure that the Project works comply with Legislation, the undertakings and assurances, consents and property registers;
- 2.3.3 Comply with the *Employer's* processes and procedures for delivery of utility diversions and processes;
- 2.3.4 Comply with the *Employer's* operations manual for engagement with the utility companies;
- 2.3.5 Manage the utilities design such that it takes due account of statutory undertakers' requirements and ensure that the utility companies are part of the decision making process;
- 2.3.6 Obtain consents and approvals to the design/protection works from the utility companies;

- 2.3.7 Manage any designs undertaken by the utility companies, including cost of producing these designs;
- 2.3.8 Procure the detailed design of utility diversions where those designs are the responsibility of CLRL;
- 2.3.9 Produce a co-ordinated utility diversion scheme/design for all utility diversions whether design or constructed by the relevant utility company or through the *Employer*;
- 2.3.10 Produce and manage a utility programme; managing and reporting costs incurred by the statutory undertakers and other third parties; managing all risks (design and construction) associated with utility works;
- 2.3.11 Produce the combined diversion sequence and programme for the Project, including traffic management;
- 2.3.12 Ensure the objectives of the Project utilities function are met;
- 2.3.13 Be the day-to-day utility specialist interface with the statutory undertakers for water, sewage, gas, electric and telecoms;
- 2.3.14 Set technical standards and ensuring technical consistency across the Project;
- 2.3.15 Provide specialist technical support across the Project;
- 2.3.16 Input into Project schedules and managing schedule conflicts across the Project;
- 2.3.17 Manage all contracts, orders and notices with the statutory undertakers;
- 2.3.18 Perform site management of utility diversions, through the Enabling Works Managing Agent, as part of the *Employer's* enabling works contract(s);

2.4 Planning, Environment and Traffic & Highways Consents

- 2.4.1 Ensure that the Project design complies with the Environmental Management System (EMS) requirements;
- 2.4.2 Ensure that the designers and contractors identify PET Consents required and update the PET Consents registers;
- 2.4.3 Comply with the procedure for consultation with Consent granting bodies;
- 2.4.4 Ensure that designers and contractors prepare PET Consents materials;
- 2.4.5 Ensure that designers and contractors package PET Consents correctly and submit them to the *Employer* or directly to consent granting bodies as specified in the PET Consents strategies and/or design and construction contracts;
- 2.4.6 Procure all necessary Consents;
- 2.4.7 Ensure that designers identify PET Consents to be obtained by contractors;
- 2.4.8 Ensure that PET Consents requirements are included in contractor contract/tender documents;
- 2.4.9 Ensure that designers provide any other PET Consent-related deliverables;
- 2.4.10 Comply with training on PET Consents;
- 2.4.11 Manage highways/traffic interfaces across the Project;

- 2.4.12 Ensure designers and contractors discharge any PET Consent conditions and that they comply with all Consents requirements;
- 2.4.13 Ensure Framework Design Consultants and contractors undertake environmental surveys as required before the commencement of works on site;

2.5 Undertakings and Assurances and third party agreements

- 2.5.1 Ensure compliance with the Crossrail Act and ensure performance of all undertakings and assurances concerning the Project in accordance with the requirements of the PDA;
- 2.5.2 Build appropriate undertakings and assurances activities into the Project schedule;
- 2.5.3 Ensure that designers and contractors comply with the undertakings and assurances;
- 2.5.4 Assist the *Employer* with the fulfilment of its duties and obligations under any third party agreements;
- 2.5.5 Provide liaison and interface management with Network Rail, Rail for London, London Underground, the passenger services operator, the Depot Contractor, the Rolling Stock Contractor and other third party stakeholders such as the Canary Wharf Group and Berkeley Homes, in so far as their works impact on the Project or vice versa.

3.0 Project Controls

The *Project Delivery Partner* shall:

3.1 Project Controls

- 3.1.1 Implement and manage project control systems and procedures on the Project, in complete compliance with the Programme Controls systems and procedures for the Programme developed and managed by the *Employer*;
- 3.1.2 Implement all necessary supporting physical management systems; the *Employer* shall provide the IT systems;
- 3.1.3 Ensure that the *Employer* retains ownership of these electronic and physical management systems and the stored data within them;
- 3.1.4 Integrate any physical management system into that of the *Employer* and others as required for the purposes of managing the project controls function within the Project. The *Employer* shall provide the IT systems and this shall include internally and externally accessible systems;
- 3.1.5 Produce a number of key project management documents and reports to satisfy the objectives of the *Employer* requirements, including the Project and contract execution plans;
- 3.1.6 Specify requirements and manage the administration of payments and purchasing systems;

3.2 Planning

- 3.2.1 Develop and document the Project execution plan, incorporating all Delivery Contracts, Signalling Contracts, and all third party activities that interface with the Project and this shall be submitted for approval and become binding on the *Project Delivery Partner* for implementation;
- 3.2.2 The Project execution plan shall include, but not be limited to, the following:

- a. Scope of work

- b. Project management plan
- c. Sustainable development plan
- d. CDM health and safety management plan
- e. Quality management system
- f. Project administration plan
- g. Utility plan
- h. Planning consents plan
- i. Environmental management plan
- j. Engineering plan
- k. Contracting plan
- l. Procurement plan
- m. Construction plan
- n. Systems integration, testing and commissioning plan
- o. Project controls plan
- p. Risk management plan
- q. Completion and handover plan

3.2.3 Validate the sequencing of design, procurement and construction of the Delivery Contracts and the Signalling Contracts including interfaces with other projects in the Programme;

3.3 Cost, Schedule and Estimating

Project Cost Management

3.3.1 Carry out all aspects of cost planning, budgeting, estimating, forecasting, reporting, managing and controlling of all the costs, assets and liabilities associated with and arising from the planning, design, procurement, construction and commissioning process of the Project;

3.3.2 Be responsible for cost management of the Project including checking estimates, produced by the designers, of the cost of the works and any actual or prospective change. Estimates to include whole life impacts where appropriate;

3.3.3 Manage the Project design and contract costs to ensure that they do not exceed the authorised individual contract control total;

3.3.4 Verify and validate resource plans for the Project;

3.3.5 Provide timely and accurate information to the *Employer* on cost, based on sound cost management and control, including the management of any contingency provision agreed by the *Employer*;

3.3.6 Provide regular forecasts and re-forecasts of cost as required by the *Employer*;

3.3.7 Provide monthly update reports for the *Employer's* cost management reviews, providing detailed analysis of expenditure to date and the latest cost forecasts;

Project Schedule

3.3.8 Input into the Sponsors' Crossrail Project Delivery Schedule, in accordance with the requirements of the PDA and as required by the *Employer*;

3.3.9 Develop and maintain an integrated schedule for the Project, as part of the *Employer's* integrated master schedule, including reports on schedule variances and corrective action as required;

3.3.10 Perform schedule analysis, planning and monitoring;

3.3.11 Develop and manage the establishment, maintenance and updating of time schedules for design, procurement, construction, manufacture, installation, testing and commissioning, including all necessary approvals and access requirements, railway possessions etc;

- 3.3.12 Develop and manage the establishment, maintenance and updating of a key milestone schedule for the Project and for each contract;
- 3.3.13 Adopt and manage the implementation of the *Employer's* work breakdown down structure throughout the Project;

Project Estimating

- 3.3.14 Implement Programme wide estimating methodology on the Project, including pre and parallel tender estimates, trend and value engineering estimates;
- 3.3.15 Prepare and manage Project level estimates where required;

3.4 Change Control

- 3.4.1 Adopt and manage the change control procedures developed by the *Employer*, and their further development as required, for scope change and emerging issues throughout design and implementation of the Project;
- 3.4.2 Develop and manage a Project wide trend process and for producing periodic reports for *Employer* review as required;
- 3.4.3 Submit to the *Employer* for approval all documents necessary to support proposed changes to the following:
 - a. Budgets for unawarded contracts;
 - b. The authorised individual contract control total (post-award);
 - c. Extensions of time for any works contract;

3.5 Risk Management

- 3.5.1 Implement a programme of continuous risk management including assessment of risks, analysis of risk budgets, mitigation planning and monitoring, draw down of contingency and residuals consistent with the *Employer's* risk management framework
- 3.5.2 Provide support to the *Employer's* insurance brokers;
- 3.5.3 Write, obtain the *Employer's* approval, issue and implement mitigation, management and control procedures;

3.6 Project Reporting

- 3.6.1 Support the *Employer* and provide timely and accurate information to enable the *Employer* to comply with the reporting requirements set out in the PDA;
- 3.6.2 Submit Project progress reports at four-weekly intervals that report on progress of the design, procurement and construction of the Project. The format and content of this report is to be agreed with the *Employer*;
- 3.6.3 Provide accurate and timely safety, technical, status, progress and options appraisal reports in accordance with good industry practice for all functions within the Project;
- 3.6.4 Produce progress, commercial and other reports on the status of the Project at regular intervals to fully inform the *Employer* of the progress of the Project, resolution of design and construction issues and commercial agreements and settlements;
- 3.6.5 Provide forecasts of future progress, costs and cashflow;
- 3.6.6 Collect all necessary data for the compilation of these reports and for developing and managing the associated project level reporting protocols;

- 3.6.7 Provide reports at intervals defined by the *Employer*;
- 3.6.8 Contribute, as required, to reports to be produced by the *Employer* and Others;

3.7 Information and Document Management

- 3.7.1 Comply with the document control procedures, standards and systems established by the *Employer* for issue and recording of correspondence, drawings, contract documents, change control documents;
- 3.7.2 Manage all programme documentation on the Project including plans, drawings, change control documents, specifications, calculations, subcontracts, and supplier documents;
- 3.7.3 Implement the *Employer's* procedures to meet the requirements of the Project, functional guidance and contractual pre-requisites, and developing additional procedures for use on the Project as required;
- 3.7.4 Guided by the *Employer* and its policies and procedures, co-ordinate and staff the document control team for the Project and site locations as necessary;
- 3.7.5 Guided by the *Employer* and its policies and procedures, develop arrangements for archival and retrieval.

4.0 Project Implementation

The *Project Delivery Partner* shall:

4.1 Delivery

- 4.1.1 Project and contract manage all aspects of the Project, through design, procurement, construction, implementation and manufacture through to hand over, including, but not limited to, enabling works, main works infrastructure and industry partner interface works;
- 4.1.2 Define organisation and communication lines for the Project and for each contract within the Project, including the development of RACI charts and other documents as required to fully define roles, responsibilities and management interfaces;
- 4.1.3 Comply with and manage all necessary rail related project notices and change notices, possessions, access and similar requirements;
- 4.1.4 Support the *Employer's* programme for test running and trial operations;
- 4.1.5 Project manage and assess of completion for all contract works and services within the Project;
- 4.1.6 Adopt and implement the Programme wide framework for managing, monitoring and reporting on designer, contractor and supplier performance, and for addressing any non performance or under achievement by the supply chain on the Project, including the application of incentives at a contract level;
- 4.1.7 Establish and implement testing and commissioning procedures, in conjunction with the *Employer* to confirm that the requirements of the CPFR and operational requirements have been satisfied for the Project, in accordance of the requirements of the PDA;

4.2 Stakeholder Management

- 4.2.1 Manage stakeholder and interface management issues flowing down to the Project from the Industry Partner and third party agreements;

- 4.2.2 Support the *Employer*, as required, with the planning and provision of the rolling stock;
- 4.2.3 Support the *Employer*, as required, with the planning and provision for the train operating company with Rail for London;
- 4.2.4 Plan and liaise on prospective service and other disruptions to existing services arising from the construction of the Project;
- 4.2.5 Incorporate and mitigate the impact of dependencies from related bodies and projects including planning and consents, conditions from stakeholders and other third party agreements;
- 4.2.6 Support, as required, the *Employer* with the management of public media and community relations interfaces, including procedures for communication and escalation issues;
- 4.2.7 Liaise with third party developers on associated projects;
- 4.2.8 Co-operate with the Sponsor's Project Representative (as described in the PDA) with respect to the Project and as directed by the Employer;

4.3 Procurement

Strategic Supplier Management

- 4.3.1 Maintain detailed supplier performance records, working closely with the *Employer* to avoid duplication of data;
- 4.3.2 Administer periodic supplier performance reviews;
- 4.3.3 Support the *Employer* in its role of liaising with Others and responding to requests for information on procurement;

Responsible Procurement

- 4.3.4 Ensure that the *Employer's* responsible procurement policies and processes are fully implemented to comply with the GLA Group Responsible Procurement Policy.

Procurement Operations

- 4.3.5 Perform all Project procurement activities. This work will be supported by and authorised (in accordance with a framework of delegations) by the *Employer*. Key responsibilities include:
 - a. Liaison with the *Employer's* procurement team to plan procurement resource needs including the management of contractual interfaces;
 - b. Development of work package procurement strategies in line with the Delivery Strategy in accordance with the PDA;
 - c. Establishing appropriate procedures for low-value purchases;
 - d. Development of opportunities to work collaboratively at Project interfaces with industry partners;
 - e. Preparing and submitting documents for authorisation by the *Employer* including the following:
 - Work package procurement strategy;
 - OJEU Notice;
 - Tender list;

- Invitation to Tender;
- Award Recommendations;
- Award Letters;
- Contract Documents;

4.3.6 Lead the evaluation of expressions of interest, including vendor appraisals, and the assessment of tenders;

4.3.7 Provide feedback to the *Employer* on the effectiveness of the Crossrail procurement strategy, policy and processes and work with the *Employer* to continually improve Crossrail procurement operations;

4.4 Construction Management

4.4.1 Carry out the duties and responsibilities of the NEC3 Engineering and Construction Project Manager and Supervisor (or equivalent under other forms of contract) for all Project works and/or supply contracts (excluding enabling works save as set out below) including all necessary testing and commissioning. The duties and responsibilities to include any additional requirements of the *Employer* including certifying the contractor's compliance with contract requirements and reviewing and signing off as-built records and other deliverables;

4.4.2 Manage all contractual interfaces and the co-ordination of handover procedures between contractors;

4.4.3 Develop and manage the hand back strategy at a Project level including spares, training and maintenance and operational data provision;

4.4.4 Following expiry or earlier termination of the Agreement relating to Procurement of Professional Services for the Design and Delivery of Enabling Works (Agreement No.1169), carry out the duties and responsibilities of the NEC3 Engineering and Construction Contract Project Manager and the Supervisor (or equivalent under other forms of contract) for all Project enabling works contracts; The *Project Delivery Partner* submits details of proposed changes to the first Service Delivery Plan in relation to the services in this clause 4.4.4 to the *Employer* within 3 months of the *starting date* for agreement;

4.4.5 Carry out the duties and responsibilities of the Development Manager under (and as defined in) the Agreement relating to Procurement and Professional Services for the Design and Delivery of Enabling Works (Agreement No.1169);

4.4.6 Provide sufficient resources to ensure that quality is controlled. Review and sign-off of as-built records and other deliverables;

4.5 Testing and Commissioning

4.5.1 Develop a detailed testing and commissioning strategy and plan based on the principles set out in the testing and commissioning process described in the PDA and the Delivery Strategy. This testing and commissioning strategy shall:

- i) include the testing and commissioning of all interfaces between the Project and other parts of the Programme;
- ii) be consistent with the CLRL Verification and Validation Plan and ensure that all necessary tests are carried out to demonstrate compliance with the CPFR and its subsidiary documents;
- iii) be agreed with the *Employer* before commencement of any testing activities;

4.5.2 Be responsible for the management and delivery of the testing and commissioning of the Project and its interfaces through to the end of Trial Operations and the achievement of

Substantial Completion. This shall include, without limitation, obtaining all the necessary approvals and consents;

- 4.5.3 The *Project Delivery Partner* shall provide support as required to the *Employer*, the Infrastructure Managers and the Train Operator during Trial Operations and manage the closing out of snags through to Final Completion;

4.6 Property

- 4.6.1 Assist the *Employer* with the identification of the property rights required for Project delivery and provide the information and plans needed to exercise the powers provided in the Crossrail Act;
- 4.6.2 Develop a site release programme and assist the *Employer* in identifying land surplus to the operation of the railway and preparing it for disposal in accordance with the Department for Transport land disposal policy;
- 4.6.3 Assist the *Employer* in making provisions for Over Site Development following completion of the railway works and will detail how the over site developer occupies the site;
- 4.6.4 Ensure that contractors understand and comply with the land and property rights relating to the land they occupy;

5.0 Logistics

The *Project Delivery Partner* shall:

5.1 Logistics

- 5.1.1 Manage Project logistics and Project wide site planning and coordination of transport, labour movements, material disposal, material requirements, storage and all related matters;
- 5.1.2 Develop strategies for procuring and managing any common user services between contracts and work packages;
- 5.1.3 In conjunction with the *Employer*, develop strategies for procuring and managing any common user services between Programme projects and Project contracts;
- 5.1.4 Provide a detailed logistic plan for the construction stage of the Project, to implement the *Employer's* developing logistics strategy;
- 5.1.5 Develop detailed transport plans to cover excavated material being removed from the Project and all inward material, plant and labour requirements. This will cover road, rail and water transport;
- 5.1.6 Plan and monitor railway and highway access, service diversions and rail and road plant movements;
- 5.1.7 Provide a 'control tower' function to manage all transport arrangements across the various Project contracts. This will include delivery and transport arrangements in contracts not directly placed by the *Employer*;
- 5.1.8 Assist the *Employer* with the planning, set-up and operation of all off-site logistic facilities. This may include pre-casting facilities for concrete tunnel lining rings and support facilities located at Old Oak Common;
- 5.1.9 Provide material supply chain management using a consolidation centre approach;
- 5.1.10 Manage the implementation of the *Employer's* developing materials efficiency and waste management strategy;

5.1.11 Promote off-site manufacturing and assembly philosophies through the design and construction process;

5.2 Supply Chain

5.2.1 Investigate the economic feasibility of purchasing materials in advance or in bulk;

5.2.2 Develop strategies for avoiding or overcoming shortages of materials, equipment and staff resources for delivering the Project;

5.2.3 Forecast and monitor workforce requirements necessary to meet the Project master schedule and the key milestone dates within it and for making proposals for addressing any identified shortfalls;

5.2.4 Advise the *Employer* in the decision making process leading up to supplier selection and sources of supply, including the tracking of material availability and pricing trends;

5.3 Security

5.3.1 Develop and implement the Project wide security function, in accordance with the *Employer's* Programme level strategy, processes and procedures. This will include consideration of physical security systems;

5.3.2 Liaise with the *Employer* and the police service, together with other emergency services as agreed with the *Employer*;

5.3.3 Develop, manage and implement the Project security strategy.

6.0 Health, Safety, Quality and Environment

The *Project Delivery Partner* shall:

6.1 HSQE Policy and Management Systems

6.1.1 Assist the *Employer* in developing and implementing HSQE management system processes and procedures to support the effective, efficient and safe delivery of the Project;

6.1.2 Ensure that the HSQE management system for Project delivery aligns with the *Employer's* corporate arrangements for managing the business and is designed to continually improve performance;

6.1.3 Establish, own, authorise and maintain HSQE management system documentation that relates to its areas of responsibility. All such documentation shall be approved by the *Employer* for suitability and adequacy, prior to issue and implementation;

6.1.4 Provide training on HSQE requirements to its own employees and the employees of the *Employer* and of Others as required;

6.1.5 Provide assurance on HSQE matters to the *Employer* and shall co-operate with the Programme Partner in establishing and maintaining assurance reporting arrangements.

6.2 Health and Safety

6.2.1 Be responsible for the following in relation to health and safety policy, procedures and forms:

- i) Implementing the *Employer's* health and safety policy and strategies for the Project and developing safety management system procedures and arrangements that

achieve effective coordination of health and safety, and management of health and safety compliance throughout the Project;

- ii) Developing and implementing a safety programme to proactively manage health and safety in design, construction and commissioning, and to ensure compliance with the *Employer's* safety management strategies and procedures and their management at Project and contract level;
- iii) Ensuring the requirements laid down within the *Employer's* policies, procedures and forms are followed and that all organisations under their management or control, or processes they approve, also meet the requirements of these policies, procedures and forms;
- iv) Ensuring, through the *Project Delivery Partner's* own processes and compliance verifications, that:
 - a. The observance of health and safety legislation by itself and its employees involved in providing the services is assured at all times;
 - b. Employees comply with all applicable rules, regulations and requirements of statutory or regulatory authorities;
- v) All health, safety and environmental accidents and incidents to the *Project Delivery Partner's* employees or agents, which ordinarily require the reporting in accordance with the Health and Safety at Work Act 1974, shall also be reported as soon as reasonably practicable in accordance with the *Employer's* accident incident and reporting procedures;
- vi) Obtaining approval from the *Employer* before any change is made to any aspect of the *Employer's* procedures or processes or before additional processes are created;

6.2.2 Assist the *Employer* in providing effective safety leadership and in promoting a positive health and safety culture across the Project. This assistance shall include developing a construction health and safety strategy for the Project jointly with the *Employer*. The *Employer* will have a directing role in providing safety leadership and the construction health and safety strategy and will provide health and safety resources in particular areas. The *Project Delivery Partner* will be responsible for implementation generally and for provision of resources for all areas other than provided by the *Employer*. In relation to health and safety obligations, the interfaces between the *Employer* and *Project Delivery Partner* are expected to operate as follows:

- i) CDM and duties of the CDM Co-ordinator. The *Project Delivery Partner* will undertake the statutory role of CDM Coordinator;
- ii) Property management. A strategy has been produced for the control of property and estates, which places the initial controls of purchasing property with TfL. The responsibility for the management and access of properties, including health and safety, rests with the *Employer*, with the *Employer* also providing the personnel resource required;
- iii) Health and safety in the procurement and control of contractors. The *Employer* will discharge the health and safety duties of the Client in procurement and control of Contractors, and will determine policy and strategy for the procurement process. The *Project Delivery Partner* will provide the resource for implementation;
- iv) Site security. The *Employer* will develop a common strategy for site security across the Project. The *Project Delivery Partner* will provide the resource for implementation;
- v) Accident and incident reporting and investigation. The *Employer* is in the process of developing a central incident management system that all companies working or representing the *Employer* will have to utilise. The *Employer* will determine policy

and strategy for the incident management process. The *Project Delivery Partner* will provide the resource for implementation;

- vi) Emergency management. The *Employer* will develop a common strategy for emergency management across the Programme and Project that ensures central controls are implemented in the event of a major incident. The *Project Delivery Partner* will provide the resource for implementation;
- vii) Occupational health. The *Employer* will produce the occupational health strategy for the project, and will consider the most effective option for delivery. The *Project Delivery Partner* will assist implementation but the occupational health resource will be provided either through a central *Employer* team or through construction contractors;
- viii) Auditing and monitoring. Auditing and monitoring will be carried out on an integrated basis, using resources from the *Employer* and its consultants and contractors;

6.2.3 Be responsible for the following in relation to Health and Safety communication:

- i) Ensuring that their H&S communication procedures meet the *Employer's* requirements and that of the safety management system;
- ii) Ensuring staff have full access and utilise the *Employer's* central system for H&S information management;
- iii) Implementing this system through a partnership with the *Employer's* leadership team;
- iv) Utilising their expertise and systems to create an integrated approach to health and safety communication with the *Employer*;

6.2.4 Be responsible for the following in relation to competence, awareness and training:

- i) Ensuring that all *Project Delivery Partner* employees undertake the *Employer's* induction course;
- ii) Ensuring that all inductions under their control are of the *Employer's* format and content and measures are taken to ensure all employees understand the inductions fully; with regard to content the leadership team will define a common induction for staff within all organisations at CLRL;
- iii) Ensuring sufficient resource and commitment is put forward to meet all of the *Employer's* training requirements, including the *Employer's* behavioural management of safety training process;

6.2.5 Ensure that designers and contractors comply with the Construction (Design and Management) Regulations 1997 and assist the *Employer* to fulfil its duties as Client;

6.2.6 Be responsible for working in partnership with the *Employer* and with the specialist property contractor the *Employer* will appoint to manage properties acquired as part of Crossrail, until handover to the relevant works contractor.

6.2.7 Be responsible for the following in relation to the safety management system audit programme:

- i) Allowing the *Employer* to examine and take copies of all such documents as they may reasonably require for the purposes of examining and certifying the *Employer's* accounts and/or any statutory provision with which the *Employer* must comply, and/or the *Employer's* quality management requirements, which are owned, held or

otherwise, in the control of the *Project Delivery Partner* and to produce such oral or written explanation as the *Employer* reasonably considers necessary;

- ii) Nominating sufficient resource to take part in the *Employer's* audit programme and respective audits on the organisation and safety management system as part of the integrated audit team;
- iii) The integrated audits will also include assessing the effectiveness of the arrangements of the *Project Delivery Partner* in auditing site activities;
- iv) Implementing an audit programme that monitors the effectiveness of site safety through inspection and management tours;

6.2.8 Be responsible for the following in relation to non-conformance management:

- i) Ensuring the *Employer's* processes for the control of Non Conformances, including the use of the *Employer's* central incident management system are fully implemented;

6.2.9 Be responsible for utilising the *Employer's* incident management system, as their performance monitoring, trend analysis and reporting system;

6.2.10 Be responsible for following and implementing all procedures and requirements of the *Employer's* construction security procedures;

6.2.11 Be responsible for implementing the *Employer's* behavioural management of safety strategy by taking an active role within the *Employer's* behavioural safety programme; including ensuring support and resource is made available by the *Project Delivery Partner* and all other organisations under their control to drive this initiative;

6.2.12 Be responsible for the following in relation to accident and incident reporting and investigation:

- i) Utilising the *Employer's* central incident management system for logging, reporting and managing all the accidents and incidents within the *Employer's* programme;
- ii) Undertaking regular analysis of the incident management system specified by the *Employer* as part of their management tools in promoting best practice and as part of the antecedents utilised by the behavioural management of safety programme;
- iii) In the event of an incident, accident or complaint, the providing full access to the *Employer* to *Project Delivery Partner* employees, documentation and any site under the control of the *Project Delivery Partner*;
- iv) Allowing unrestricted access to all sites and documentation at any time to any member of the *Employer* or consultants or agents acting on their behalf to allow the *Employer* to verify compliance with health and safety procedures and/or law during the investigation of any incident, accident or complaint;
- v) Arranging appropriate inductions and escorts to allow for any access to those parties mentioned above to be done in a safe and secure manner;
- vi) Allowing appropriate access to any member of the *Project Delivery Partner's* team or any third party under the *Project Delivery Partner's* control to the *Employer* or party mentioned below;
- vii) Allowing unrestricted access to any member of the Health and Safety Executive, Rail Accident Investigation Branch, member of the Police (both civil and Transport) or any other official representative of Her Majesty's Government in possession of a warrant card;

- 6.2.13 Be responsible for developing and implementing safe system of work processes and procedures across the Project, and undertaking verification ensure that all parties under its control utilise these core processes and templates
- 6.2.14 Be responsible for ensuring that any systems utilised by the *Project Delivery Partner* meet the *Employer's* requirements for emergency management
- 6.2.15 Be responsible for ensuring that training and competence analysis is undertaken (and providing evidence to the *Employer* thereof) and that all health and safety posts are approved by the *Employer*;
- 6.2.16 Be responsible for developing and implementing standards and arrangements for plant and equipment across the Project and undertaking verification ensure that all parties under its control utilise these core processes and templates;

6.3 Quality Management

Quality Plan

- 6.3.1 The *Project Delivery Partner* provides a quality plan based on the best practice guidelines document BS ISO 10005, 'Quality management systems - Guidelines for quality plans'. The quality plan includes, but is not limited to, the following elements:
 - a. The scope of the quality plan
 - b. A list or description of inputs to the quality plan
 - c. The quality policy
 - d. The quality objectives and how they will be achieved, including how performance is measured and reported
 - e. Evidence of senior management commitment to the development, implementation and improvement of the quality management system
 - f. The principal point of contact for quality management issues
 - g. Management responsibilities and particular competencies required for defined roles or activities
 - h. Descriptions of the processes required for managing quality
 - i. Criteria and methods to monitor and measure the effectiveness and efficiency of these processes
 - j. The arrangements for internal audit
 - k. The type and quantity of resources needed for the successful implementation of the quality plan
 - l. Continual improvement activities.
- 6.3.2 The *Project Delivery Partner's* quality plan is aligned with the *Employer's Policy*, Quality Management Principles, Policies & Requirements, CR/QMS/QA/P/1240 and the Business Management System operated by the *Employer*.

Quality Management System

- 6.3.3 Operate an approved Quality Management System (QMS) based on the 'best-practice' model BS EN ISO 9001, or equivalent, which is certified by a UKAS accredited certification body;
- 6.3.4 The QMS shall align with the *Employer's* management systems and shall include all elements necessary to enable the delivery of quality including development of quality initiatives, performance indicators, acceptance criteria, etc;

- 6.3.5 Ensure that the designers and contractors operate in accordance with their contractual quality requirements and that they establish an approved QMS, which meets the requirements of ISO 9001, 'Quality management systems – Requirements;

Management System Audits

- 6.3.6 Establish an audit schedule for its activities, including the monitoring of supply chain organisations. The schedule shall be planned to ensure that all key activities are audited at a time and frequency appropriate to the significance of the activity under review. The schedule shall be approved by the *Employer* and integrated into the *Employer's* internal audit programme once deemed acceptable by the *Employer*;
- 6.3.7 Ensure that the designers, contractors and suppliers record and manage the timely close out of any audit non-conformities;
- 6.3.8 Analyse audit findings and communicating the results to interested parties to enable system and process improvements and where appropriate management actions;
- 6.3.9 Ensure that audits are carried out by appropriately trained and qualified staff, in accordance with the requirements of BS EN ISO 19011;

Inspection, Testing & Certification

- 6.3.10 Ensure that items of work are carried out and controlled in accordance with inspection and tests plans agreed with the *Employer* to achieve compliance with contract requirements;

6.4 Environmental Management

- 6.4.1 Develop and comply with the Environmental Management System (EMS);
- 6.4.2 Develop and comply with the integrated auditing programme for the Project;
- 6.4.3 Carry out environmental audits of the Design Framework Consultants and the contractors as required by the integrated auditing programme;
- 6.4.4 Provide training on environmental requirements to its own employees and to Framework Design Consultants and contractors as necessary;
- 6.4.5 Gather information on environmental performance of the Design Framework Consultants and contractors;
- 6.4.6 Ensure compliance with the environmental requirements and provide information on environmental performance of the Design Framework Consultants and contractors and submit to the *Employer*;
- 6.4.7 Deliver compliance with all the Environmental Minimum Requirements.

7.0 Corporate Affairs

The *Project Delivery Partner* shall:

7.1 Communications Strategy

- 7.1.1 Work closely with the *Employer* to co-ordinate the communications needs and resources across the various stages of the procurement and construction phases, in order to ensure that there is conformity in the messages that are communicated to staff, stakeholders and the wider public audience;

7.2 Media Relations

- 7.2.1 Attend briefings as required by the *Employer* on detailed 'PR Lines to Take' in preparation for responses to media enquiries;
- 7.2.2 Provide spokespersons as required by the *Employer* and make them available for training where necessary;

7.3 Public Relations

- 7.3.1 Attend regular briefings with existing external groups and individual stakeholders, professional institutions, railway industry, engineering consultants and contractors, and over-site developers, as required by the *Employer*;
- 7.3.2 Support the *Employer* with identifying and establishing new stakeholder groups across the route, including local authorities, and residents associations;
- 7.3.3 Support the *Employer* with the establishment of a programme of regular public and other meetings in cooperation with contractors as appropriate with the aim of cascading up to date and positive messages about the Programme;
- 7.3.4 Support the *Employer* with the maintenance of close working relationships with equivalent staff of DfT, TfL, NR, LUL, GLA, and the Mayor's office, through the medium of the Crossrail Communications Group;

7.4 Community Relations

- 7.4.1 Attend regular fora and other public meetings with local liaison groups and residents associations and community groups, as required by the *Employer*;
- 7.4.2 Attend regular briefings with key influencers and community leaders, as required by the *Employer*;
- 7.4.3 Work closely with the *Employer* to ensure the collation and speedy delivery, of fully informed responses through the *Employer's* public helpdesk;
- 7.4.4 Support the *Employer* with the review and strengthening of existing incident response procedures to reflect the requirements of the construction phase;

8.0 Integration

The *Project Delivery Partner* shall:

- 8.1 Manage the integration of functional, physical and environmental interfaces between systems and the integration of the computer-based systems with the other asset disciplines (e.g. civil, architecture, M&E, rail systems) to achieve the specified requirements;
- 8.2 Manage the integration and testing of (a) Project computer-based systems and (b) the interfaces of the Project computer-based systems with other Programme computer-based systems;
- 8.3 Manage the design, procurement, establishment and application of an interface test facility for the off-site testing of electronic and computer-based systems, and their integration, in order to achieve the successful testing or any subsequent rework of these systems prior to installation on site.

9.0 Human Resources

The *Project Delivery Partner* shall:

9.1 Human Resources

- 9.1.1 Comply with the *Employer's* HR strategy where this may have an effect on their employees working on the Programme and develop and implement policies and procedures that support that strategy including:
- a. Policies that cover the employment of individual members of staff;
 - b. The terms and conditions that apply to those staff;
 - c. The development of the organisation to ensure that it meets the changing needs of the Programme;
 - d. The integration of third parties into the overall Programme.
 - e. In particular, the *Project Delivery Partner* must have policies that apply to their staff that are no less stringent than those of the *Employer* in the areas of health and safety, training and development, business ethics, code of conduct, drug and illegal substances, equal opportunities, harassment and bullying, conduct of staff in the run up to elections/local elections, gifts and hospitality, and alcohol and drugs;
- 9.1.2 Deliver a training programme that will ensure that their employees have the skills and capabilities to deliver the Project in an effective and professional way;
- 9.1.3 Have their staff trained in the *Employer's* bespoke systems and processes on the formal training courses that the *Employer* offers for their own staff;
- 9.1.4 Nominating their own staff for whatever training they require and for monitoring their own staff's compliance with any standards, processes and procedures that the *Employer* requires members of the Project to hold.
- 9.1.5 Assist the *Employer* in the establishment of a series of skills related initiatives that will equip communities along the line of Crossrail with the skills required to deliver the Crossrail infrastructure, including:
- a. Providing secondment opportunities, experiential learning placements and opportunities for community representatives to attend the *Employer's* skills academies;
 - b. Attending schools and colleges along the route to publicise the *Employer's* programme and to encourage young people in a career in engineering or construction;
- 9.1.6 Attend career fairs and universities to explain the Project and the benefits of a career in construction;
- 9.1.7 Implement of the *Employer's* Programme wide industrial relations strategy and policy on the Project to ensure a consistent approach across all contracts;
- 9.1.8 Ensure that those employed have access to a programme of occupational health and welfare;
- 9.1.9 Ensure that all diversity and fairness of opportunity legal requirements are implemented for all staff during employment and in all stages of recruitment;

- 9.1.10 Cooperate fully with the *Employer* in office accommodation and facilities arrangements and ensure compliance with all relevant health, safety and place of work legal requirements and the *Employer's* company standards;
- 9.1.11 Where the *Project Delivery Partner* is identified as being responsible for providing their own project related accommodation, arrange any office moves and changes to facilities that are required through the lifetime of the Project;
- 9.1.12 Where the *Project Delivery Partner* is responsible for providing their own project related accommodation, make its own arrangements for the movement of all employees working on the Project and documents and facilities belonging to the *Project Delivery Partner*, after consultation and planning with the *Employer*.

10.0 Operations

The *Project Delivery Partner* shall:

- 10.1.1 Contribute as required to the specification steering group and respective operational working groups, representing the required timeliness and granularity of the emerging operational functional requirements and associated specifications, providing a feedback loop regarding cost and other impacts on the Project;
- 10.1.2 Assist the *Employer*, when required, to ensure that any changes to functionality and specification processed through the change control process have been adequately assessed with respect to schedule and cost implications;
- 10.1.3 Ensure that any agreed changes to operational documentation, requirements and specification are passed through to the designers;
- 10.1.4 Ensure, through continual liaison with the *Employer* that adequate timescales are provided for the review of emergent designs emanating from the Project;
- 10.1.5 Work closely with the *Employer* and Others to ensure the timely, managed handover of assets and associated information for testing and trial running and other associated activities, ensuring that a proactive culture of openness exists regarding any risk to the Project;

11.0 General Obligations

The *Project Delivery Partner* shall:

11.1 Compliance with the *Employer's* Procedures

- 11.1.1 Comply with all relevant and appropriate *Employer's* policies, processes and procedures for the delivery of the Programme including the maintenance of thorough records to provide a comprehensive audit trail;
- 11.1.2 Ensure that staff are registered with the Construction Skills Certification Scheme (CSCS) as required by the *Employer's* CSCS policy.
- 11.1.3 Liaise and co-operate with the *Employer's* procurement expert panel;
- 11.1.4 Produce a Project record comprising a directory of all records, certificates, drawings, reports and manuals required to operate and maintain the railway;
- 11.1.5 The *Employer's* policies at the *starting date* are on the Employer's Business Management System and those listed in the Annexure to this Scope.

11.2 Contract Reporting

11.2.1 Submit contract reports covering its contract activities, at intervals to be agreed with the *Employer*, that include but are not limited to the following:

- i) Progress review of the *Project Delivery Partner's* activities detailing achievements during the reporting period including progress against the Accepted Programme and Interim KPIs up to the date of submission;
- ii) Measurement of the *Project Delivery Partner's* performance against the Accepted Programme and Interim KPIs including a summary of delays and any proposals for recovery that may be required by the *Employer*;
- iii) *Project Delivery Partner's* programme update showing the critical path activities and any variances that exist;
- iv) Variations to this contract, both existing and proposed, that may impact on the progress of *Project Delivery Partner's* services;
- v) Price for services provided to date by the *Project Delivery Partner* and forecasts of the price to completion of the *Project Delivery Partner's* services;
- vi) *Project Delivery Partner's* cost summary including variation costs both agreed and proposed;
- vii) *Project Delivery Partner* staff matters including any changes to staff that are proposed and a summary of staff records;
- viii) Any other commercial issues;
- ix) Demographic information on staffing, training provided, and other human resources information as required by the *Employer* to fulfil the *Employer's* reporting requirements; and
- x) Any other progress or management issues.

11.2.2 Number copies of the Project progress reports and contract reports in accordance with the *Employer's* document management procedures and deliver the same to the *Employer* no later than the fifth day of the period following the period of the last report or as otherwise agreed by the *Employer*;

11.3 Meetings

Progress Meetings

11.3.1 Attend progress meetings at four-weekly intervals, which shall be convened and chaired by the *Employer*. The meetings will include a review of the Project progress report and the contract report for the previous period. The *Project Delivery Partner* shall be responsible for writing the minutes of the meetings, which shall be submitted to the *Employer* for approval;

Quarterly Review Meetings

11.3.2 Attend quarterly meetings convened by the *Employer* to be held in London at approximately three monthly intervals. The *Employer* shall notify the *Project Delivery Partner* of the date of such meetings not less than 28 days before they are to be held;

11.3.3 Quarterly meetings shall be held over a period of up to 3 days in order to review the overall progress of the Project in the context of the Programme as a whole, and to address and resolve any issues relevant to the execution and progress of the Project. Such meetings shall be chaired by either the Chief Executive Officer or Implementation Director

of the *Employer*, and the *Project Delivery Partner* shall have in attendance one senior representative of director level from each of the companies comprising the *Project Delivery Partner*, together with the managing director of the company acting as leader or sponsor of the *Project Delivery Partner* if it is a joint venture, consortium or partnership.

11.4 Project Delivery Partner's Employees

- 11.4.1 Maintain a register of its employees from commencement until completion of the Programme. The register shall contain details of the *Project Delivery Partner's* employees assigned to the Project and shall be updated daily or as necessary;
- 11.4.2 The register shall contain the following minimum information – name; *Employer*; position and grade; any local/site specific safety/competency certification; track safety certificate; qualifications or licences held; medical certificate of fitness; principal duties under this contract;
- 11.4.3 The register is subject to initial acceptance by the *Employer* and subsequent acceptance of changes thereto. An up to date copy of the register shall be maintained in the Programme office which shall be available for inspection at any time by the *Employer*;

11.5 Communications and Correspondence

- 11.5.1 The *Project Delivery Partner's* communications, correspondence and any associated submissions in connection with the services shall be in conformity with the *Employer's* document control system;
- 11.5.2 The *Project Delivery Partner* shall comply with the *Employer's* quality control procedures in the production of all documents provided by the *Project Delivery Partner* to the *Employer*.

11.6 Resource Schedule

- 11.6.1 The *Project Delivery Partner* shall provide a Resource Schedule to accord with each Service Delivery Plan for the *services* that he provides in the format required by the *Employer*. They shall also provide a three-year look ahead to support the advance plans required as part of the Service Delivery Plans.
- 11.6.2 The Resource Schedule shall be a detailed schedule of the resource analysis of the *Project Delivery Partner's* activities detailing all of the staff resources required to complete each activity. The *Project Delivery Partner's* activities shall represent all the activities required to carry out and complete the services for the relevant period.
- 11.6.3 The *Employer* may require proposed changes to the services to be supported by detailed resource projections in the manner described above. The *Project Delivery Partner* shall submit such projections to, and in the form and at the times required by the *Employer*.

11.7 Contract Close Out

- 11.7.1 Fifteen months prior to the scheduled date for handover of the Project, the *Project Delivery Partner* shall review with the *Employer* the administrative procedures to be adopted for close out and handover.
- 11.7.2 The following will form the basis of discussions to enable a close out plan with supporting procedures to be agreed no later than 9 months before handover of the Project:
 - i) Submission of proposals by the *Project Delivery Partner*, including options if applicable, for the run down, demobilisation and close out of the *Project Delivery Partner* contract. This will take account of advice provided by the *Employer* as to the transition of the *Employer* staff structure from Project delivery to operational state, post handover of the Project;

- ii) Handover and archiving of all Project record documentation, not only of hard copy records, but specifically taking account of the transfer of electronic records in formats compatible with the *Employer's* ongoing operations.

11.7.3 During the 9 months prior to handover of the Project, meetings will be held monthly to review and adjust the close out plan as appropriate:

- i) Clear definition of work outstanding, how and when it will be completed and by whom;
- ii) Clear understanding of financial position: commitment, expenditure to date, expenditure to complete; reconciliation between the *Employer* and the *Project Delivery Partner* of paid values for all contracts and purchase orders including identification of outstanding invoices and claims;
- iii) Clear definition of warranties, guarantees etc for all work, material and equipment, their commencement dates and durations.

12.0 Service Delivery Plans

12.1 General

12.1.1 The *Project Delivery Partner* performs the *services* set out in this Scope. Further definition of the *services* and of deliverables for a period is set out in the Service Delivery Plan for that period. Service Delivery Plans are agreed between the *Employer* and the *Project Delivery Partner* at intervals required by the *Employer*.

12.1.2 Service Delivery Plans shall include the following information:

- i) Further definition of services;
- ii) Deliverables;
- iii) Programme for services;
- iv) Resource Schedule;
- v) Key Dates and conditions;
- vi) Key persons and other employees, identifying responsibilities;
- vii) Incentive schedule (Interim Incentive Schedule); and
- viii) Any further information required by the *Employer* or proposed by the *Project Delivery Partner* and agreed by the *Employer*.

12.2 First Service Delivery Plan

12.2.1 The First Service Delivery Plan has been agreed between the Parties during the tender process for this contract and is at Appendix 8 to this contract. The First Service Delivery Plan is the Service Delivery Plan under the contract until it is replaced with a new agreed plan.

12.3 Advance plans

12.3.1 The Service Delivery Plan under the contract shall be the plan for the relevant year as agreed from time to time between the Parties. In addition, the *Project Delivery Partner* shall prepare and agree with the *Employer* draft plans for the two years following the expiry of the year covered by the current Service Delivery Plan so that plans are being considered between the Parties on a rolling 3 year basis.

12.3.2 These draft plans do not constitute the Service Delivery Plan for the purpose of this contract, until such time as they are agreed as such.

Annexure to Appendix 1

Employer's Policies and Procedures

Appendix 2

Commercial information

Staff rates

The *staff rates* applicable to all grades and types of staff are shown in appendix 3.

The *staff rates* shall be deemed to include all costs required or incurred by the *Project Delivery Partner* to Provide the Services in accordance with the contract but excluding *expenses*.

The *staff rates* are daily rates for a minimum eight working hour day. No further payment shall be made for hours worked in excess of any eight hour working day within any 24 hour period. Where staff work less than an eight working hour day then the *staff rates* shall be proportionally reduced.

Indexation: Option X1 applies.

Expenses

The *expenses* are:

- Reasonable transport costs required and approved in advance by the *Employer* but excluding any transport costs to any office of the *Project Delivery Partner* or any office or construction site of the *Employer* or any contractor of the *Employer*.

Persons, places and things provided by the Employer

The *Employer* shall provide the following things for use by the *Project Delivery Partner's* staff:

- Central office and construction site office accommodation including all normal office furniture and stationery.
- Computer workstations and use of the information technology listed below, telephone (but excluding mobile telephone), printing and fax facilities.
 - Microsoft Excel, Word, Powerpoint, Visio
 - Primavera P6
 - Lotus Notes
 - Documentum
- Crossrail specific safety training (the *Employer* shall not however provide any industry standard safety training required for the role being undertaken by the *Project Delivery Partner's* staff nor Network Rail, London Underground or Docklands Light Railway safety training or infrastructure access qualifications or the like).
- Crossrail unique software systems training (the *Employer* shall not however provide any industry standard software training required for the role being undertaken by the *Project Delivery Partner's* staff).

Service Delivery Plan: Resource Schedule

The initial Resource Schedule is contained within the Service Delivery Plan.

The Time Charge for staff used by the *Project Delivery Partner* in any Contract Year shall not exceed the maximum Time Charge for the Contract Year shown within the Resource Schedule. In addition, the Time Charge in any one 4-weekly period will not exceed the 4-weekly cap. However, any under-run of the 4-weekly cap which is a direct consequence of vacation, statutory holiday

taken or sickness will be rolled forward to the next 4-weekly period through the year. This way, on a cumulative basis, the annual *Project Delivery Partner* expenditure on time charge does not exceed the cumulative cap.

Before the *Project Delivery Partner* allows any *key persons* or any other persons to commence Providing the Services it shall propose to the *Employer* an appropriate *staff rate* that is consistent with the *staff rates* in Appendix 3 and shall obtain the *Employer's* acceptance of that person and the proposed *staff rate*. The *Employer's* acceptance of any person and their applicable *staff rate* is required irrespective of the *staff rates* set out in Appendix 3.

Requests for the acceptance of *staff rates* shall include detailed curriculum vitae of each person together with details of the proposed role and responsibilities, position within the *Project Delivery Partner's* team and reporting lines, anticipated duration and any other information requested by the *Employer*.

The Resource Schedule shall only be applicable for the period of time covered by the Resource Schedule.

At least three *assessment interval* periods prior to the end of the time period covered by any Resource Schedule, the *Project Delivery Partner* shall propose a new resource schedule for Providing the Services for the next period of time which shall normally be a year commencing 1 April but may be any other period of time notified by the *Employer*.

At least one *assessment interval* period before the end of the time covered by any Resource Schedule, the *Project Delivery Partner* and the *Employer* shall agree the new resource schedule for Providing the Services for the next period of time. Following notification by the *Employer* that the new resource schedule has been agreed, this shall become the Resource Schedule for the period of time covered.

Where the *Employer* notifies the *Project Delivery Partner* under clause 65.1 of the contract then the *Employer* shall also provide the *Project Delivery Partner* with a revised Resource Schedule indicating the changes from the previous Resource Schedule.

Invoicing

Prior to the submission of each invoice the *Project Delivery Partner* and the *Employer* should, as far as possible, discuss and agree the amount due and to be invoiced by the *Project Delivery Partner*.

Details to be included within invoices:

The *Project Delivery Partner* shall include information within each invoice to demonstrate to the *Employer* how the amount has been assessed including details of:

- The name of each person being invoiced for.
- The grade, position and/or role being undertaken by each person.
- In the case of Subconsultants' staff, the name of the Subconsultant company.
- The days, or part days, properly worked for each individual member of staff.
- The staff rate applicable to each person.
- The Time Charge for each person and the total Time Charge.

For the purposes of the above the *Project Delivery Partner* must use a template spreadsheet issued by the *Employer*. This must be submitted in hard copy with the invoice and also electronically to the *Employer*.

For expenses:

- Evidence and details of the prior approval of the *Employer*.
- Copies of invoices and Subconsultant accounts to demonstrate that the amounts have been properly incurred.

Appendix 3

Staff rates

Appendix 4

Incentive Schedule

1. Definitions

In this schedule, the following defined terms have the following meanings:

Contract Year	A twelve month period, commencing 1 April, save that the first Contract Year shall be the period from the Contract Date to and including 31 March 2010.
Final Earned Amount	Has the meaning set out in section 3.3 below.
Final Incentive Schedule	The final incentive schedule attached.
Final Maximum Amount	The greater of the sum of the Reserved Amounts or [REDACTED]
Interim Actual Amount	Such amount of the Interim Maximum Amount as is allocated within the Interim Incentive Schedule to the achievement of a particular Performance Band for an Interim KPI.
Interim Earned Amount	Has the meaning set out in section 2.2 below.
Interim Incentive Schedule	The interim incentive schedule attached and subsequent interim incentive schedules agreed in accordance with this Appendix.
Interim KPI	A key performance indicator set out in the Interim Incentive Schedule.
Interim Maximum Amount	An amount expressed in pounds sterling being the product of the anticipated Price for Services Provided to Date for the next Contract Year multiplied by the Interim Performance Incentive Percentage.
Interim Performance Incentive Percentage	15%
Omission Value	An amount equal to the Interim Performance Incentive Percentage applied to the anticipated Price for Services Provided to Date for omitted <i>services</i> as at the date of such omission.
Performance Band	A performance band set out in the Interim or Final Incentive Schedule.
Programme Completion	The <i>defects date</i> .
Programme KPI	A key performance indicator set out in the Final Incentive Schedule.
Reserved Amount	75% of the Interim Earned Amount in any Contract Year.

2. Interim Incentive Scheme

The *Employer* has chosen, in the first Contract Year, not to set an Interim KPI associated with expenditure against the Resource Schedule. In future years, the *Employer* will set an Interim KPI which measures efficiency, measuring forecast spend (Resource Schedule) against actual.

Target Final Delivery Date is defined in the PDA as follows:

"Target Final Delivery Date means 10 September 2017, as may be amended in accordance with this Agreement;"

2.1 Fixing Interim KPIs

The Interim KPIs and associated Performance Bands and Interim Actual Amounts are to be aligned with the short-term aims for this contract and the Project.

The Interim KPIs for the first Contract Year are attached.

No later than 3 assessment intervals prior to the commencement of each subsequent Contract Year, the *Project Delivery Partner* submits a draft Interim Incentive Schedule to the *Employer* for review as part of its proposed Service Delivery Plan. The *Employer* reviews this and the Parties use all reasonable endeavours to agree the same before the final assessment date prior to commencement of such Contract Year. In the event of any failure to agree the Interim Incentive Schedule by such date, the *Employer* shall be entitled at its absolute discretion to determine the Interim Incentive Schedule for the Contract Year in question.

Subject to the remainder of this paragraph, once the Interim Incentive Schedule for a Contract Year (including without limitation the Interim Maximum Amount) has been agreed by the Parties or determined by the *Employer* as relevant, it may not be changed whether in consequence of a compensation event or otherwise. If the *Employer* omits *services* whose Omission Value exceeds 15% of the Interim Maximum Amount and such omission arises out of any failure by the *Project Delivery Partner*, the *Employer* may in its absolute discretion deduct such Omission Value from the current Interim Maximum Amount.

2.2 Ascertaining the applicable Interim Actual Amount

At the end of a Contract Year, the *Project Delivery Partner* reports his performance against the Interim KPIs to the *Employer*, stating which Performance Band he believes he has achieved in respect of each Interim KPI. The *Employer* reviews the *Project Delivery Partner's* report and either accepts or rejects the *Project Delivery Partner's* statements in respect of each Interim KPI. If the *Employer* rejects the *Project Delivery Partner's* statements in whole or in part then the *Employer* shall make his own assessment of the *Project Delivery Partner's* performance against those Interim KPIs where the *Employer* has rejected the *Project Delivery Partner's* statement and such assessment shall, subject to the *Project Delivery Partner's* rights under clause W.2, be used in the assessment of the Interim Earned Amount.

The "Interim Earned Amount" is the sum of the Interim Actual Amounts associated with the Performance Band achieved against each Interim KPI and:

If the Interim Earned Amount is a positive number:

- 25% of the Interim Earned Amount is an amount due to the *Project Delivery Partner* pursuant to clause 50.3. Invoices submitted by the *Project Delivery Partner* shall clearly identify the Interim Earned Amount and the calculation thereof; and

- The Reserved Amount is not an amount due but is included within the Final Maximum Amount.

Or, if the Interim Earned Amount is a negative number:

- the Interim Earned Amount is an amount due to the *Employer* as a debt and may be deducted from sums otherwise payable to the *Project Delivery Partner*; provided that the aggregate of such deductions in any Contract Year shall not exceed 10% of the anticipated Price for services Provided to Date for that Contract Year; and
- no amount is added to or deducted from the Final Maximum Amount.

3. Final Incentive Scheme

3.1 Definitions

Programme KPI 2.1

Project Cost (PC) means Actual Final CRL Direct Costs less:

- (a) the cost of purchase (net of any recovered VAT) of the CWG Works for the then current forecast Asset Price (as defined in the CWG Agreement), as shown in the Financial Models;
- (b) the amounts (net of any recovered VAT) payable to Berkeley Homes for the BH Works, as shown in the Financial Models;
- (c) Land and Property Costs;
- (d) Programme level indirect costs;
- (e) NR Financing Costs;
- (f) any amount paid out (net of any recovered VAT) by *TfL* or *SoS* in respect of a liability of CRL pursuant to any guarantee or other credit support provided in respect of CRL's obligations to deliver the Crossrail Project relating to a liability for Costs falling within paragraphs (a) to (e) above;
- (g) Tax Costs.

Actual Final CRL Direct Costs are defined in the PDA as follows:

"Actual Final CRL Direct Costs means the aggregate of all Costs incurred by CRL or accrued for payment by CRL in respect of the Project Period (net of any recovered VAT) plus, to the extent not already included:

- (a) the cost of purchase (net of any recovered VAT) of the CWG Works for the then current forecast Asset Price (as defined in the CWG Agreement), as shown in the Financial Models;
- (b) the amounts (net of any recovered VAT) payable to Berkeley Homes for the BH Works, as shown in the Financial Models; and
- (c) any amount paid out (net of any recovered VAT) by *TfL* or *SoS* in respect of a liability of CRL pursuant to any guarantee or other credit support provided in respect of CRL's obligations to deliver the Crossrail Project,

less the aggregate of any such Costs which have been recovered by CRL (other than pursuant to Clauses 17.3 or 17.5) and any claims which have been recovered by CRL;”

Financial Models are defined in the PDA as follows:

“**Financial Models** means the Crossrail Investment Model, Project Financial Model and the QRA;”

Land and Property Costs are the costs of the acquisition of any Land.

Land is defined in the PDA as follows:

“**Land** means land of any tenure and mines and minerals and buildings or parts of buildings and includes any easement, right, privilege or benefit in, over or derived from land;”

Programme level indirect costs are the indirect costs controlled by CRL and the Programme Partner that include the cost of the CRL organisation, corporate overheads and the Programme Partner’s costs.

NR Financing Costs are defined in the PDA as follows:

“**NR Financing Costs** means the Costs paid and forecast to be paid (net of any recovered or recoverable VAT) by CRL in relation to Network Rail’s financing Costs in respect of the On-Network Works;”

Tax Costs are defined in the PDA as follows:

“**Tax Costs** means any Costs by way of corporation tax or irrecoverable VAT paid or forecast to be paid by CRL in respect of the Project Period;”

Costs are defined in the PDA as follows:

“**Costs** means, in relation to any costs referred to in this Agreement:

- (a) the nominal amount of such costs incurred up to the relevant calculation date; and
- (b) the nominal amount of such costs forecast to be incurred after the relevant calculation date (including risk contingency) determined on a P50 (unless stated otherwise) basis pursuant to Part 1 of Schedule 7 and assuming an inflation rate equal to the then current Mid Case Indices;”

Final Completion is defined in the PDA as follows:

“**Final Completion** means the satisfaction of the Final Completion Criteria;”

“**Final Completion Criteria** has the meaning given to such term in Clause 16.5(a);”

“16.5 Final Completion

- (a) Final Completion in respect of the Railway, shall occur once the following criteria (the “**Final Completion Criteria**”) have been met:
 - (i) all then current manufacturer or design/construction warranties in respect of the Railway have been novated or assigned to the relevant Operator; and
 - (ii) all obligations of CRL pursuant to this Agreement have been fully and finally discharged.”

Target Project Cost (TPC) is the nominal amount of [REDACTED].

This figure is the estimate of the elements of cost falling within the definition of Project Cost appearing in the current Financial Model. No allowance has been made for any of the items which have been identified as the source of potential savings in the course of ongoing design development.

The TPC will only be adjusted by the *Employer* as follows:

1. In the event of a Sponsor Change or Material Event under the PDA and may be adjusted (as a matter of discretion) by the *Employer* on the occurrence of an Adverse Event, if and to the extent that:

- (a) it gives rise to an adjustment to the Sponsors' committed funding; or
- (b) its estimated effect causes the PC to exceed the TPC.

Any such adjustment to the TPC will be determined by the *Employer* as the effect of the Sponsor Change, Adverse Event or Material Event measured as an increase or decrease to PC as estimated at the time of instruction of the Sponsor Change or at the time of service of the Adverse Event Notice or Material Event Notice.

2. The *Employer* will prior to 31 March 2010 review the TPC and may adjust the TPC as follows:

If, at the time of such review, the estimated Project Cost resulting from the application of the latest available Mid Case Indices to the costs included in the Baseline Crossrail Investment Model and Baseline Project Financial Model:

- (a) is less than the TPC that would have resulted from the application of the Baseline Indices to such costs, the TPC may, to that extent, be adjusted downwards;
- (b) is greater than the TPC that would have resulted from the application of the Baseline Indices to such costs, the TPC may, to that extent and subject to paragraph 1 above, be adjusted upwards.

3. The *Employer* intends to omit eight shafts from the Project. In the event of such omission, the *Employer* shall notify the *Project Delivery Partner* of its estimate of the net effect of such change on the TPC being the reduction for the construction cost of these shafts and the relevant allowance for inflation and taking account of any additional construction costs as a result of the omission. This amount shall be deducted from the Target Project Cost.

Sponsor Change means a Change (as defined in the PDA) initiated by the Sponsors which is the subject of a Change Confirmation Notice (issued under Schedule 4 of the PDA).

Adverse Event and **Adverse Event Notice** are defined in the PDA as follows:

"**Adverse Event** has the meaning given to such term in Clause 22.1;"

"22.1 If any:

- (a) risk;
- (b) event or series of events; or
- (c) behaviour by an Industry Partner,

(each an "**Adverse Event**") has, or is likely to have, a material adverse impact on the Crossrail Project (and/or its implementation), then without prejudice to:

- (a) CRL's obligation to implement the Crossrail Project in accordance with Clause 3.2; and
- (b) CRL's reporting obligations in any other provision of this Agreement,

CRL shall promptly notify the Sponsors of the Adverse Event (an "**Adverse Event Notice**") giving full details of the nature of the event and its potential consequences and impact on the Crossrail Project."

Material Event is defined in the PDA as follows:

"**Material Event** has the meaning given to such term in Clause 24.2;"

"24.2 Material Events – Identification

Each of the following shall be a "**Material Event**":

- (a) any Change in Law; or
- (b) if, at the time of any Financial Models update, the Anticipated Final CRL Direct Cost resulting from the application of the latest available Mid Case Indices to the real Costs included in the Baseline Crossrail Investment Model and the Baseline Project Financial Model is greater than the Anticipated Final CRL Direct Cost that would have resulted from the application of the Baseline Indices to such real Costs."

Material Event Notice is defined in clause 24.3(b) of the PDA as follows:

"CRL shall provide notice to each of the other Parties and to the Project Representative as soon as practicable after it considers that a Material Event has occurred (a "**Material Event Notice**"). The notice shall include a short description of the Material Event."

Programme KPI 2.2

A breach of IPO is deemed to have occurred upon notification to the *Project Delivery Partner* of receipt by the *Employer* of notice from the Sponsors that a TfL Remedy Trigger Event (defined in the PDA) has occurred pursuant to clause 23.1 of the PDA.

A breach of IP1 is deemed to have occurred upon notification to the *Project Delivery Partner* of receipt by the *Employer* of notice from the Sponsors that a TfL Significant Remedy Trigger Event (defined in the PDA) has occurred pursuant to clause 23.1 of the PDA.

Programme KPI 3.1

Substantial Completion is defined in the PDA as follows:

"**Substantial Completion** means, in respect of an Element, or group of Elements, the satisfaction of the Substantial Completion Criteria;"

"**Substantial Completion Criteria** has the meaning given to such term in Clause 16.3(a);"

"16.3 Substantial Completion

- (a) Substantial Completion in respect of an Element, or group of Elements of the Crossrail Project, shall occur once the Sponsors have endorsed CRL's certification that the following criteria (the "**Substantial Completion Criteria**") have been met:
- (i) CRL has provided to the Sponsors the relevant certificates of Handover (and associated snagging lists) jointly signed by CRL and the relevant Operators evidencing that CRL has handed over each such Element in full to the relevant Operators (in accordance with Clause 16.2) for use in Trial Operations;
 - (ii) CRL has complied in full with the Assurance Process, including satisfactory completion of Trial Running, and has provided to the Sponsors all relevant certificates of assurance and the associated snagging lists in relation to each such Element;
 - (iii) CRL has provided the Sponsors with sufficient evidence of confirmation from each relevant Operator that:
 - (A) CRL has provided such Operator with sufficient documentation to enable it to develop its Safety Management System to enable the operation and maintenance of the Element or group of Elements;
 - (B) CRL has complied, to the extent relevant to such Operator, with Clause 19 in respect of that Element or group of Elements;
 - (C) CRL has procured adequate specialist equipment, tools and plant (including specialist on-track plant), to the extent that it is particular to the Crossrail Project and not otherwise available to such Operator, as specified in the operations and maintenance manuals in respect of the Crossrail Project and has transferred to such Operator the benefit of any ongoing supply, support or maintenance arrangements provided by the supplier of the specialist equipment, tools or plant (including specialist on-track plant);
 - (D) such Operator has developed maintenance strategies and plans as required for the relevant Element, consistent with the overall programme for the development and opening of the Railway;
 - (E) provided that such Operator has advised CRL of its requirements for Maintenance & Support Services and Spares in relation to the Element in sufficient time for CRL to include those requirements in its planned procurement activities, then CRL has procured such Maintenance & Support Services and Spares necessary to support the Operators' operational activities; and
 - (F) provided that such Operator has advised CRL of its requirements for future provision of Maintenance & Support Services and Spares in relation to the Element in sufficient time for CRL to include those requirements in its planned procurement activities, then CRL has procured those commercial arrangements with CRL's Delivery Contractors and subcontractors (provided that it is acknowledged that the Operators are ultimately responsible for determining the appropriate type, quantity and availability of Maintenance & Support Services and Spares for their respective operations);
 - (iv) CRL has complied, to the extent relevant to each Sponsor, with Clause 19 in respect of that Element or group of Elements."

Element is defined in the PDA as follows:

“**Element** has the meaning given to such term in Clause 16.2(a);”

“16.2 Handover

- (a) Subject to Clause 16.2(c)(i), CRL shall procure the handover of groups of assets and/or systems (each such group constituting an “**Element**” of the Railway) to the relevant Operator after satisfactory completion of Dynamic Testing in respect of each such Element in accordance with the Assurance Process (a “**Handover**”).”

Target Final Delivery Date is defined in the PDA as follows:

“**Target Final Delivery Date** means 10 September 2017, as may be amended in accordance with this Agreement;”

Programme KPI 3.2

The “cost of outstanding work” will be the Costs incurred in carrying out all outstanding or remedial work in relation to each Element comprising the Project between Substantial Completion of each Element and Final Completion.

“works cost” means the construction cost of each such Element comprising the Project.

3.2 Fixed Programme KPIs

The Final Incentive Schedule is included within this Appendix. The *Employer* will only consider making changes to the Final Incentive Schedule where there is a major change to the Sponsor's Requirements that can be shown to materially affect the Programme KPIs and/or Performance Bands. In such circumstances the *Employer* shall propose changes to the Final Incentive Schedule in writing for agreement by the *Project Delivery Partner*. The *Project Delivery Partner* shall respond to any such proposal within a reasonable period and if the proposal is agreed such agreement shall be recorded in writing and the Final Incentive Schedule shall be amended accordingly.

3.3 Ascertaining the applicable Final Earned Amount

Upon Programme Completion the *Project Delivery Partner* reports his performance against the Programme KPIs to the *Employer*, stating which Performance Band he believes he has achieved in respect of each Programme KPI. The *Employer* reviews the *Project Delivery Partner's* report and either accepts or rejects the *Project Delivery Partner's* statements in respect of each Programme KPI. If the *Employer* rejects the *Project Delivery Partner's* statements in whole or in part then he shall make his own assessment of the *Project Delivery Partner's* performance against those Programme KPI's where the *Employer* has rejected the *Project Delivery Partner's* statement and such assessment shall, subject to the *Project Delivery Partner's* rights under clause W.2, be used in the assessment of the Final Earned Amount.

The “Final Earned Amount” is the sum of the percentages achieved in respect of each Programme KPI applied to the Final Maximum Amount.

The Final Earned Amount is an amount due to the *Project Delivery Partner* pursuant to clause 50.3. Invoices submitted by the *Project Delivery Partner* shall clearly identify the Final Earned Amount and the calculation thereof. If the Final Earned Amount is a negative amount, such amount is payable by the *Project Delivery Partner* to the *Employer* as a debt due and the *Employer* may deduct such amount from sums otherwise due to the *Project Delivery Partner*.

If the *Project Delivery Partner's* performance against a Programme KPI is capable of being determined prior to Programme Completion, the *Project Delivery Partner* may report his

performance against such Programme KPI to the *Employer*, stating which Performance Band he believes he has achieved and requesting that the *Employer* makes a provisional determination of the Final Earned Amount in respect of that KPI. If the *Employer* in its absolute discretion agrees to make such a provisional determination and accepts the *Project Delivery Partner's* statements in respect of such KPI, the amount of such provisional determination is an amount due and payable to the *Project Delivery Partner* in accordance with the preceding paragraph. The *Project Delivery Partner* acknowledges that any payment of such provisional determination is without prejudice to the *Employer's* right to open up and re-determine such provisional determination following Programme Completion. In the event any such re-determination reduces the Final Earned Amount for such KPI, the amount of such reduction is payable to the *Employer* as a debt due and may be deducted from sums otherwise payable to the *Project Delivery Partner*.

The *Project Delivery Partner* is only entitled to be paid any Reserved Amount or part thereof in accordance with this section 3 and without limiting the foregoing is not entitled to any such payment following termination of its employment or this contract prior to Programme Completion. In the event the *Project Delivery Partner* has been paid a provisional sum in respect of the Final Incentive Schedule and its employment or this contract is terminated, such amount is payable to the *Employer* as a debt due and may be deducted from sums otherwise payable to the *Project Delivery Partner*.

A [REDACTED] bonus will be paid to the *Project Delivery Partner* upon demonstration that the completed Project is 100% compliant with the performance requirements set out in the Crossrail Programme Functional Requirements current at Final Completion (which are currently set out in Section 2.3 of Version 4.0 of the Crossrail Project Functional Requirements) which shall be demonstrated through measuring the performance of the operational railway one year after commencement of full passenger service operation (subject to such date being no later than 10 September 2020). This bonus will not be subject to price escalation. No payment shall be made in the event that the completed Project is not demonstrated to be 100% compliant.

3.4 Safety Performance

The *Employer* may in its absolute discretion decide not to pay up to 50% of the Final Earned Amount in the event of an incident arising out of or in connection with the Project involving death or serious personal injury or substantial property damage or loss.

Interim Incentive Schedule

Interim Maximum Amount (aggregate of sums available for "Excellent" rating for all Interim KPIs) is: [REDACTED]

Interim Incentive Schedule							
CLRL recognises that for the Project Delivery Partner to be successful it is important that the objectives of the integrated Programme Delivery Team are aligned with these KPIs and will work with the Project Delivery Partner to achieve this.							
Aim	Interim KPI Description and Definition	Performance					Band
		B = Interim Actual Amount (£)					
		Excellent	Good	Acceptable	Unacceptable	Poor	
1	Safe Delivery						
1.1	Performance in delivery of the Project relative to health and safety targets as measured through a portfolio of measures such as percentage of people trained, Accident Incident Rate, compliance with Health and Safety Standards, and evidence of safe behaviors. (A set of agreed quantitative measures and percentage weightings to be developed with CRL within Q1 of Year 1). Note: No financial incentive is attached to safety performance in order to encourage open and transparent reporting of performance.	A	Weighted average scorecards in year 1. (Target TBA)	Weighted average scorecards in year 1. (Target TBA)	Weighted average scorecards in year 1. (Target TBA)	Weighted average scorecards in year 1. (Target TBA)	Weighted average scorecards in year 1. (Target TBA)
		B	n/a	n/a	n/a	n/a	n/a
2	Sponsor and HM Treasury Confidence						
2.1	Performance in achieving Review Point 3 (PDA Clause 27) measured by the date of the submission and the successful receipt of a Positive Project Review Notice (PPRN). (Note: A plan to Review Point 4 is to be incorporated in the RP3 submission)	A	Submission to Sponsors submitted prior to 10/7/09 and PPRN not delayed due to error, omission or action by PDP.	Submission to Sponsors submitted prior to 17/7/09 and PPRN not delayed due to error, omission or action by PDP.	Submission to Sponsors submitted prior to 30/7/09 and PPRN not delayed due to error, omission or action by PDP.	Submission to Sponsors submitted later than 30/7/09 or PPRN delayed due to error, omission or action by PDP.	Submission to Sponsors later than 5/8/09.
		B	10.00%	7.50%	5.00%	Nothing Earned	Nothing Earned
3	Cost Performance						
3.1	Performance in exerting downward pressure on cost and risk demonstrated through the success of Project wide value management and risk reduction plans measured through the change in the forecast Project Cost (PC) at each Semi-Annual Construction Report (SACR).	A	Reduction in PC between First and Third SACRs > 20%	Reduction in PC between First and Third SACRs > 15%	Reduction in PC between First and Third SACRs > 10%	Reduction in PC between First and Third SACRs < 10%	Any increase in PC between First and Third SACRs.
		B	25.00%	18.75%	12.50%	Nothing Earned	Nothing Earned
3.2	Performance in managing the Project relative to the	A	CPI > 1.1	CPI > 1.05	1.05 > CPI > 0.95	CPI < 0.95	CPI < 0.9

Interim Incentive Schedule							
CLRL recognises that for the Project Delivery Partner to be successful it is important that the objectives of the integrated Programme Delivery Team are aligned with these KPIs and will work with the Project Delivery Partner to achieve this.							
Aim	Interim KPI Description and Definition	Performance					Band
		B = Interim Actual Amount (£)					
		Excellent	Good	Acceptable	Unacceptable	Poor	
	budgeted cost measured through the Cost Performance Indicator (Earned Value/Actual Value) at the end of year 1.	B	25.00%	18.75%	12.50%	Nothing Earned	Nothing Earned
4 Time and Quality							
4.1	Performance in demonstrating the achievability of the Target Final Delivery Date for the Project through the production of a schedule for the Project that demonstrates confidence through a quantified analysis of schedule risk at each Semi-Annual Construction Report.	A	>95% Confident	>85% Confident	>80% Confident	>70% Confident	< 70% Confident
		B	13.33%	10.00%	6.67%	Nothing Earned	Nothing Earned
4.2	Performance in managing the Project relative to the Integrated Master Schedule, measured through the Schedule Performance Indicator (Earned Value/Planned Value) at the end of year 1	A	SPI > 1.1	SPI > 1.05	1.05> SPI > 0.95	SPI < 0.95	SPI < 0.9
		B	13.33%	10.00%	6.67%	Nothing Earned	Nothing Earned
4.3	Performance against external and internal quality benchmarks and audits inclusive of MPRG, OGC, NAO, Audit Commission, TFL and the Joint Sponsor Team. etc.	A	All non-conformances or issues relating to the Project, closed within 30 days.	All non-conformances or issues relating to the Project, closed within 60 days.	All non-conformances or issues relating to the Project, closed within 90 days.	<5% of non-conformances or issues relating to the Project not closed within 90 days.	>5% of non-conformances or issues relating to the Project not closed within 90 days.
		B	13.33%	10.00%	6.67%	Nothing Earned	Nothing Earned

Final Incentive Schedule

Final Incentive Schedule							
Aim	KPI Description and Definition	A = Performance Band B = Final Earned Amount (% of Final Maximum Amount)					
		Excellent	Good	Acceptable	Unacceptable	Poor	
1	Safe delivery						
1.1	CLRL will be taking all necessary measures to achieve its zero accident aspiration. Delivery of the Project relative to health and safety targets will be measured through a portfolio of measures such as percentage of people trained, Accident Incident Rate, compliance with Health and Safety Standards, and evidence of safe behaviours. (A set of agreed quantitative measures and percentage weightings to be developed with CRL within Q1 of Year 1). Note: No financial incentive is attached to safety performance in order to encourage open and transparent reporting of performance.	A	Weighted average of annual scorecards from years 1 to programme close. (Target TBA)	Weighted average of annual scorecards from years 1 to programme close. (Target TBA)	Weighted average of annual scorecards from years 1 to programme close. (Target TBA)	Weighted average of annual scorecards from years 1 to programme close. (Target TBA)	Weighted average of annual scorecards from years 1 to programme close. (Target TBA)
		B	-	-	-	-	-
2	Cost Performance						
2.1	Overall performance in managing the nominal cost of the Project measured by Project Cost (PC) at Final Completion relative to the Target Project Cost (TPC).	A	PC < 80% TPC	PC < 90% TPC	PC =< TPC	PC > TPC	PC >105% TPC
		B	45%	30%	20%	0%	-10%
2.2	Performance in managing cost certainty during the delivery of the Project measured by the extent of any breach of the Intervention Points (PDA Clause 23) or to the extent that a breach occurs, performance in recovering the situation prior to the next Semi-Annual Construction Report (SACR). A breach of Intervention Points will have occurred if notification to that effect is received from the Sponsors under clause 23 of the PDA.	A	No breach of IP1 and no instance of breach of IP0 on successive SACRs.	No breach of IP1 and one instance of breach of IP0 on successive SACRs	No breach of IP1 and two instances of breach of IP0 on successive SACRs	No breach of IP1 and three or more instances of breach of IP0 on successive SACRs	One or more breaches of IP1.
		B	20%	17%	10%	0%	-10%
3	Delivery on Time to Quality						
3.1	Performance in achieving Substantial Completion (PDA Clause 16.3) of all Elements comprising the Project by the Target Final Delivery Date (Defined in PDA).	A	Substantial Completion greater than 3 months in advance of the Target Final Delivery Date.	Substantial Completion greater than 1month in advance of the Target Final Delivery Date.	Substantial Completion on or in advance of the Target Final Delivery Date.	Substantial Completion after Target Final Delivery Date.	Substantial Completion after the Longstop Date (refer PDA).
		B	25%	20%	15%	0%	-10%

Final Incentive Schedule							
Aim	KPI Description and Definition		A = Performance Band B = Final Earned Amount (% of Final Maximum Amount)				
			Excellent	Good	Acceptable	Unacceptable	Poor
3.2	Performance in minimising the amount of work outstanding and requiring completion between Substantial and Final Completion of all Elements comprising the Project (refer Clause 16 of PDA), paid only subject to achieving Acceptable, or better, performance under KPI 3.1.	A	Cost of outstanding work on achieving Substantial Completion < 0.5% of the works cost.	Cost of outstanding work on achieving Substantial Completion < 0.6% of the works cost.	Cost of outstanding work on achieving Substantial Completion < 0.7% of the works cost.	Cost of outstanding work on achieving Substantial Completion < 0.8% of the works cost.	Cost of outstanding work on achieving Substantial Completion > 0.8% of the works cost.
		B	10%	8%	5%	0%	-5%
Total			100%	75%	50%	0%	-35%

Appendix 5

Third Party Agreements

Core Agreements

PDA

Sponsors Agreement

TfL Shareholders Agreement

Stakeholder and industry partner agreements

All agreements between CLRL and Programme stakeholders and industry partners, including Network Rail, London Underground, DLR, BAA, Berkeley Homes, Canary Wharf Group, Wood Wharf, City of London Corporation, utility companies and the ODA.

1.6 The New Employer undertakes to perform the Appointment and to be bound by its terms in every way as if the New Employer were, and had been from the inception, a party to the Appointment in lieu of the Employer.

2. Proper Law and Jurisdiction

This Agreement and the rights and obligations of the parties hereto shall be governed and construed according to English Law. Any dispute shall be subject to the jurisdiction of the English Courts.

3. Contracts (Rights of Third Parties) Act 1999

Notwithstanding any other provision in this Agreement, nothing in this Agreement is intended to confer on any person any right to enforce any of the provisions of this Agreement which such person would not have had, but for the Contracts (Rights of Third Parties) Act 1999.

IN WITNESS whereof the parties hereto have executed this Agreement as a Deed the day and year first before written.

Executed as a Deed by)
[])
acting by: -)

Director

Director/Secretary

Executed as a Deed by)
[])
acting by: -)

Director

Director/Secretary

Executed as a Deed by)
[])
acting by: -)

Director

Director/Secretary

- (d) no action or proceedings for any breach of clause 1 shall be commenced against the Sub-Consultant after the expiry of 12 years from the date of completion of the whole of the Services under the Appointment; and
- (e) the obligations and liabilities of the Sub-Consultant under this clause 1 shall not be released or diminished by any enquiry or inspection in to any matter which may be made or carried out by or on behalf of the Beneficiary or by the appointment of (or failure to appoint) any person, firm or company by the Beneficiary to make or carry out any enquiry or inspection and whether or not any independent liability of such person, firm or company to the Beneficiary arises in connection therewith.

1.3 It is the intention of the Beneficiary, the Project Delivery Partner and the Sub-Consultant that the aggregate liability of any and all of the Project Delivery Partner and its affiliates (including without limitation the Guarantor under the Main Appointment), the Sub-Consultant, other sub-consultants appointed by the Project Delivery Partner in accordance with the Main Appointment and each of their agents, officers, directors and employees, including the Sub-consultant's liability under or in connection with this Deed, to any and all of the Beneficiary, TfL and/or DfT arising out of or in connection with the Project is subject to the limitations and exclusions of liability contained in the Main Appointment.

1.4 Accordingly, the Beneficiary agrees that the maximum aggregate liability of:

- (i) the Project Delivery Partner and its affiliates (including without limitation the Guarantor) under or in connection with the Main Appointment;
- (ii) the Sub-Consultant under or in connection with this Deed;
- (iii) other sub-consultants appointed by the Project Delivery Partner in accordance with the Main Appointment; and
- (iv) each of their agents, officers, directors and employees

to the Beneficiary, DfT and TfL:

- (a) for all claims arising, other than the excluded matters listed in clause 82 of the Main Appointment, is limited to the Total Liability Cap defined and stated in the Main Appointment and that this limitation applies for all claims arising in contract, tort or delict and otherwise to the extent allowable under the law of the contract under the Main Appointment. The Sub-Consultant's liability to the Beneficiary under or in connection with this Deed therefore, shall not exceed the available amount of the Total Liability Cap after taking into account any and all sums payable by the Project Delivery Partner and its affiliates (including without limitation the Guarantor), other sub-consultants appointed by the Project Delivery Partner in accordance with the Main Appointment and each of their agents, officers, directors and employees to any and all of the Beneficiary, TfL and/or DfT;
- (b) arising out of or relating in any manner to damage of any kind to:
 - (i) any works to which the services under the Main Appointment relate (whether before or after completion) is as stated in clause 83 of the Main Appointment;
 - (ii) any of property owned by any of the Employer, DfT or TfL (other than works to which the services under the Main Appointment relate) is as stated in clause 84 of the Main Appointment;

each a "**Sub-Cap**". The Sub-Consultant's liability to the Beneficiary arising out of or relating in any manner to such damage therefore, shall not exceed the available amount of the relevant Sub-Cap after taking into account any and all amounts

payable in respect of any such damage by the Project Delivery Partner and its affiliates (including without limitation the Guarantor), other sub-consultants appointed by the Project Delivery Partner in accordance with the Main Appointment and each of their agents, officers, directors and employees to any and all of the Beneficiary, TfL and/or DfT.

1.5 The Beneficiary agrees that in determining whether any limit on liability under the Main Appointment has been reached or exceeded, any amount recovered from the Sub-Consultant under this Deed shall be taken into account as if such amount has been recovered by the Beneficiary from the Project Delivery Partner under the Main Appointment.

2. **COPYRIGHT LICENCE**

2.1 The Sub-Consultant as beneficial owner hereby grants (or shall procure that the beneficial owner who can grant the same shall grant) to the Beneficiary a royalty-free, irrevocable and non-exclusive licence or licences to use and copy the documents for any purposes connected with the Services and completed Services, including (without limitation) the execution, completion, repair, maintenance, modification, extension, mortgaging, advertisement, reinstatement, letting and sale thereof. Such licence or licences shall carry the right to grant sub-licences and shall be transferable to third parties. The Sub-Consultant shall have no liability for any mis-use of the documents (which shall be determined by reference to, inter alia, the purposes for which they were originally prepared).

2.2 The Sub-Consultant irrevocably waives, and shall procure that each of its sub-contractors or suppliers irrevocably waive, any rights he may have under Chapter IV (Moral Rights) Part 1 of the Copyright Design and Patents Act 1988 in relation to any documents and the Sub-Consultant shall obtain a written waiver from his employees, and from the respective employees of each of its sub-contractors or suppliers, of any such rights which they may have.

2.3 The Sub-Consultant shall provide the Beneficiary with copies of the documents as the Beneficiary may request from time to time, provided that the Beneficiary shall be responsible for the Sub-Consultant's reasonable copying charges.

2.4 For the purposes of this clause 2 "**Documents**" shall mean the drawings, models, specifications, schedules, reports, details, plans, calculations, software and other similar documents and information provided or to be provided by or on behalf of the Sub-Consultant in connection with the Services.

3. **INSURANCE**

Without prejudice to its obligations under this Deed or otherwise at law, the Sub-Consultant shall from the date hereof until the expiry of 12 years from the date of the completion of the whole of the Services under the Appointment, maintain professional indemnity insurance sufficient to cover the Sub-Consultant's obligations and liabilities under or in connection with this Deed with a limit of indemnity of not less than £¹ for each and every claim, provided such insurance continues to be available generally in the insurance market at commercially reasonable rates. The Sub-Consultant shall as and when it is reasonably required so to do by the Beneficiary make available for inspection by the Beneficiary documentary evidence that such insurance is being maintained properly. The Sub-Consultant shall immediately inform the Beneficiary if such insurance ceases to be maintained and/or available in the insurance market at commercially reasonable rates. The Sub-Consultant shall immediately upon receipt thereof notify each such insurer or

¹ Such amount being the same amount referred to in the Appointment.

underwriter of its professional indemnity insurance of any claim made against it under this Deed.

4. **ASSIGNMENT**

The benefit of this Deed and the rights arising hereunder (whether or not accrued) shall be assignable twice by the Beneficiary without the Sub-Consultant's prior written consent.

5. **CONTRACTS (RIGHTS OF THIRD PARTIES) ACT 1999**

5.1 Subject to clause 5.2 nothing in this Deed confers any rights on any third party pursuant to the Contracts (Rights of Third Parties) Act 1999 (or any re-enactment or re-making thereof).

5.2 The Project Delivery Partner, Transport for London and the Department for Transport and their successors shall be entitled to enforce the terms of this Deed.

6. **INSTRUCTIONS**

The Beneficiary has no authority to issue any direction or instruction to the Sub-Consultant in relation to the performance of its obligations under the Appointment unless and until the Beneficiary has given notice under clauses 8.1 or 8.2.

7. **BENEFICIARY'S LIABILITY FOR SUMS DUE**

The Beneficiary has no liability to the Sub-Consultant in respect of sums due under the Appointment unless and until the Beneficiary has given notice under clauses 8.1 or 8.2.

8. **NOTICES**

8.1 All notices required to be delivered by this Deed shall be in writing and shall only be duly given if delivered by hand or sent by prepaid recorded delivery to the registered office or principal place of business of the intended recipient or to the relevant facsimile number which, for the Sub-Consultant is [], and the Beneficiary is [] and for the Project Delivery Partner is [], or to such other address or facsimile number as a party may have notified in writing to the other parties to this Deed. In the case of such notices the same shall be deemed to have been received:

- (a) at the time of delivery in the case of delivery by hand;
- (b) 48 hours after being posted in the case of registered post; and
- (c) upon completion of the transmission in the case of a facsimile transmission.

9. **GOVERNING LAW AND JURISDICTION**

This Deed shall be governed by English law and the parties hereby irrevocably submit to the non-exclusive jurisdiction of the English courts.

IN WITNESS WHEREOF the parties hereto have executed and delivered this Deed on the day and year first above written.

Executed as a deed by **CROSSRAIL**)
LIMITED)
acting by a director and its)
secretary/two directors:)

Director

Director/Secretary

Executed as a deed by [***insert name in
bold and upper case***])
acting by [a director and its)
secretary/two directors]:)

Director

Director/Secretary

Executed as a deed by [***insert name in
bold and upper case***])
acting by [a director and its)
secretary/two directors]:)

Director

Director/Secretary

Appendix 8

First Service Delivery Plan

[CONTENTS]

First Service Delivery Plan

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i) Further definition of services

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List of acronyms and abbreviations

In this further definition of services the following acronyms and abbreviations have been used:

CDM	Construction (Design and Management) Regulations 2007
CIAR	Critical items action report
The <i>Employer</i>	Cross London Rail Links
CPFR	Crossrail project functional requirements
CPI	Cost performance index
DOORS	Dynamic object-oriented requirements system
EMC	Electromagnetic compatibility
EMI	Electromagnetic interference
EMR	Environmental minimum requirements
EMS	Environmental management system
EOI	Expression of interest
EWMA	Enabling works managing agent
FSDP	First Service Delivery Plan
GLA	Greater London Authority
HSQE	Health, safety, quality and environment
ITT	Invitation to tender
KPI	Key performance indicators
M&E	Mechanical and electrical
MDC	Multi-disciplinary consultant
OBS	Organisational breakdown structure
PDA	Project Development Agreement
PET	Planning, environment and traffic
QRA	Quantified risk assessment
RACI	Responsible, accountable, consulted, informed
RAMS	Reliability, availability, maintainability, safety
SCL	Sprayed concrete lining
SPI	Schedule performance index
TBM	Tunnel boring machine
U&A	Undertakings and Assurances
VAP	Validation and acceptance process
WBS	Work breakdown structure

Introduction

This First Service Delivery Plan (FSDP) outlines those of the specific deliverables and activities described in the Scope (as read and interpreted in conjunction with PCS03) that the Project Delivery Partner (PDP) will perform as *services* in the first contract “year” (commencing on the *starting date* and expiring on 31st March 2010) to support the milestones to be achieved by CRL and Others in connection with the Project as identified in the contract documents and Project Control Schedule (PCS03).

This FSDP needs to be read together with the Resource Schedule and the resource loaded programme for delivering the *services*.

The *services* to be performed by the Project Delivery Partner in the first contract year also includes *services* that are specifically identified in the Scope and which, taking account of PCS03, the PDP ought reasonably to have anticipated would be required to perform during the first contract year. Where there is an ambiguity or inconsistency between the description of the *services* in the Scope (as read and interpreted in conjunction with PCS03) and this FSDP the provisions of the Scope (as read and interpreted in conjunction with PCS03) shall take precedence.

For the purposes of this FSDP clause 16.1 shall be construed accordingly. The Employer and the Project Delivery Partner will review the FSDP (and the Resource Schedule) against the needs of the Employer and actual progress on the Project. It is anticipated that this FSDP will be reviewed regularly during the year, jointly by the Employer and the Project Delivery Partner, and revised where appropriate, by agreement.

Plan overview and objectives

The first year of the contract will not be the peak year for Project resource inputs but we believe it is the most important in establishing a foundation for successful delivery of the Project. This requires a considered approach to planning, mobilisation of an experienced delivery team and establishment of the right project delivery structure and governance.

Our planning approach recognises that the project is moving from the development to implementation phase. We appreciate that the *Employer* has established organisation, strategies, processes and stakeholder relationships, but these will need to evolve to meet the Project implementation needs. Our focus in this First Service Delivery Plan is thus to:

- validate existing strategies for delivery, developing these to recognise implementation issues as required whilst retaining a clear link to project objectives
- develop plans to support strategy delivery, recognising key interfaces, constraints, resource requirements in an integrated team environment
- develop and implement control processes to manage delivery, provide transparency of decision making and clarity of accountability
- support consultation and buy in from project stakeholders
- drive completion of key tasks necessary to deliver the overall programme

In the following sections we provide a general summary of the main activities to be completed in the FSDP under the functional headings of mobilisation; engineering, procurement, project controls and project implementation. This is followed by a detailed description of each deliverable:

- describing the required deliverable
- outlining the proposed methodology for delivery
- specifying the key inputs required

Mobilisation

During the first service year our Project Delivery Partner team, under the leadership of Cliff Mumm, and delivery directors Ailie MacAdam (stations), Bill Tucker (tunnels, portals and shafts), and Siv Bhamra (systems and engineering), will mobilise personnel to transition with the *Employer's* personnel currently planning and managing ongoing project activities. This team will also provide guidance and input into processes, systems and procedures that are to be developed in the first service year. The team, comprising construction, health and safety, logistics and field engineering personnel, will assume responsibility to manage a number of very critical activities on Crossrail sites. The first priority of this team, however, will be to understand the current safety environment of any ongoing work and begin to instil a 'Target Zero' safety culture into every individual and activity on site.

In the first year, our Project Delivery Partner team will be responsible to take a leading role in a number of key Project areas:

- awarding and managing the design framework contracts for detailed design in accordance with the Employer's current plans
- managing the EWMA contractor and developing a strategy for delivering future advance and enabling works upon end of the EWMA's contract term
- preparing a Project execution plan, health and safety plan and other related documents and procedures that will establish how the delivery partner will implement the *Employer's* management systems
- conducting site reviews/inspections and providing input into developing key Project decisions and documents (technical and procurement) regarding site security, materials handling, logistics planning, transportation and site acquisition
- performing constructability reviews of ongoing design (enabling works, demolition, utilities, tunnelling/TBM and final scheme civils and system-wide designs)
- providing input into ongoing level III programme development and associated cost estimating towards Review Point 3
- providing input into the tender documents for the early works packages that will be procured
- holding meetings with Network Rail, London Underground and other stakeholders to determine interfaces, possession requirements and to begin booking of required access within the operators' standard planning cycles
- participating in strategy development and planning for the National Tunnelling Academy and other industrial relations initiatives

Within the first 30 days, our Project Delivery Partner team will take over the role as the *Employer's* client representative for the Enabling Works Managing Agent (EWMA) as well as management and oversight of any other site activities that are underway within the Project. We will also liaise with the Programme team, Network Rail and London Underground as appropriate to understand the status of their ongoing and planned 2009 interface and preparatory works which must be accomplished for the Project to commence.

Engineering

The first year for the Project Delivery Partner team will be focused on progressing key tasks to support the overall programme delivery, validation of technical requirements

and assumptions, and developing the necessary delivery plans, procedures and processes in recognition of the programme's technical requirements.

An early task will be to establish the status of award and managing the framework design consultants in accordance with PCS-03. We will achieve this through an integrated engineering schedule that includes the required outputs.

This will require a rapid ramp-up of activity in the first two quarters so that the full strength of the framework design consultants can be mobilised. Our Project Delivery Partner team will establish a management structure and environment that encourages the design teams to produce safe, cost effective and timely outputs that meet the Sponsors' requirements.

Our engineering team will provide technical input to the procurement team so that the Design Framework contracts are well scoped and planned with the appropriate level of reporting. The engineering team will generate the package scope of works as proposed by the *Employer* to be incorporated in the Design Framework ITTs. This will stimulate and facilitate the competitive tendering process that the *Employer* requires. The engineering team will also provide input to the *Employer* in the assessment and evaluation process to address the technical merits of the bids from the Design Framework Consultants.

Underpinning our management of the design scope development and delivery, will be a number of detailed processes and tasks that will be developed during the first year as we develop our Project Execution Plan. During the first two quarters we will undertake a review of the existing design management processes and procedures. We will identify any gaps and develop tools to fill those gaps. By the third quarter we will have established standard processes for managing designs for the Project. We expect this to include the following:

- our team will also establish a robust requirements capture process. This process will take input from all sources of Project requirements including the Crossrail Project functional requirements (CPFR), the undertakings and assurance register and operational requirements. We will establish both configuration control and interface management. By combining this with the requirements capture process we will be able to evidence compliance to the Sponsors' requirements through a rigorous validation and verification process
- we will establish a set of systems integration processes designed to deliver the railway system to the Sponsors' requirements, avoid late changes to design and achieve timely approval to put the railway into passenger service
- we will implement value engineering processes to support the framework designers in their goal to deliver best value designs while balancing the requirements of safety, quality and schedule. The value engineering processes will support the 'design to cost' culture on the Project and focus on the outturn cost and the intervention mechanism described in the briefing materials
- we will set up the necessary processes and guidance documents that will enable a consistent approach to the production of quantities by the framework designers
- we will undertake inter-disciplinary design reviews incorporating input from potential contractors and the *Employer's* operations team
- as the designs mature through the course of the first year we will manage the required performance modelling to be carried out to support the design by the framework designers. We recognise the work that has already been done by the *Employer* and will seek to enhance this through additional checking and integration with RAMS (reliability, availability, maintainability and safety) information. The focus will be to demonstrate that overall performance of the assets in service will achieve the Sponsors' requirements

- successful delivery of the first year designs by the framework designers will be subject to accurate and timely information produced from site surveys. We will produce and maintain an accurate integrated survey schedule with linkages back to the design output schedules. We will manage the interfaces with contractors, statutory undertakers and third parties
- we will develop an approved products database to avoid duplication in design and speed up the acceptance procedure

The first year of the PCS-03 programme shows a significant amount of enabling works. Both early works and utility diversions which involve third parties such as Docklands Light Railway and Thames Water will be managed by providing clear instructions on scope, schedule and integration. Engineering will also work in close conjunction with the construction team to deliver a process of constructability reviews and method statement approvals.

Similarly, it is recognised that the technical specification and procurement for the design and manufacture of the tunnel boring machines will be required to support PCS-03. The engineering team will work within the programme requirements to provide the required specification inputs to enable this procurement.

We will establish a strong basis for the assurance regime through the validation of the proposed process for the Project. This will include clarity of the assurance plan structure, engineering safety management procedures and a competency management system to validate the skills basis of the designers.

It is our intention in the first year to develop an integrated planning, environmental and traffic team with the *Employer's* existing team. We recognise and will deliver our responsibilities under the contract but it is our preference to integrate the resources with the *Employer* to ensure this work stream operates efficiently for the benefit of the Project as a whole.

Procurement

Our team will be responsible for the procurement activities for the Project, subject to specific delegations from, and authorisations by, the *Employer*.

We will consult with the *Employer* and its stakeholders to obtain a detailed description of their requirements, including the requirements of Responsible Procurement. We will prepare and issue procurement procedures to achieve these requirements. This will contain detailed prequalification, tendering, award, contract administration, payment plans, expediting and control processes and systems. Contract documentation will be prepared which reflects the commercial strategy and insurance arrangements determined by the *Employer*. This will be suitable for various procurement types and value levels. In the first year the procurement contracts to be advanced include:

- completion of the award of the design packages and administration of the full suite of awarded design contracts
- advanced works packages and commencement of the tendering process for approximately four main civils packages
- finalisation of the tendering and award for the design and manufacture of the tunnel boring machines

Construction will be supported with the commercial management of all awarded works contracts, including the Enabling Works Managing Agent. We will undertake such other procurement initiatives that we think are necessary to support the Project in its first year.

Project controls

The project controls services in the first contract year can be divided into two elements:

- project control set-up – involving the production, review and approval of the project controls plan for inclusion in the Project execution plan, as well as the production and approval of all associated processes and procedures as detailed in the schedule of deliverables and key dates
- project control of the works – the core project controls team will oversee the effective implementation of the set-up to provide an accurate breakdown of the budget, scope and schedule, monitoring and reporting of cost and schedule performance for the ongoing design, procurement and construction activities, and management of the trend programme, change control and estimating. We will work with the Employer to identify and schedule a schedule of meetings and reports to accomplish the requirements of the Scope and our Project Execution Plan.

In developing and implementing project controls we recognise that reporting requirements will involve many parties both directly involved in the Project delivery and to a varying extent for the overall Programme delivery. We will work with these parties, through the *Employer* and the Programme Partner, to develop controls that support effective decision making and control. In particular we will seek to develop systems that encourage accuracy and timeliness of reporting, transparency of delivery performance and are easy to implement and validate.

Project implementation

The Project Delivery Partner will be responsible for accomplishing the Scope of services defined in the contract documents to deliver the Project as defined in PCS 03 and accompanying scheme design documents which define the physical scope of the Project works. Early in the first service year, our team will conduct due diligence with the Employer to establish, confirm and document the Project baseline upon which our controls will be established and we will assume responsibility for all ongoing Project activities currently shown in PCS 03. As part of our baselining activity we will establish the progress and status of activities against the dates and logic shown in PCS 03 and advise the Employer of any discrepancies to establish mutually agreeable solutions.

This FSDP outlines the activities and milestone dates for developing and gaining approval of the Project Execution Plan. The Project Execution Plan will identify and prioritise the development of detailed implementing procedures and systems that will be used to manage the work. Development and issuance of implementing procedures will be scheduled to support the first activities defined.

As described above, a key activity within the first service year will be the award and management of detailed design by the framework design contractors in support of the PCS 03 programme. We will identify the current status of the ongoing tenders and our Project Delivery Partner team will develop a transition for our taking responsibility for these works as defined in the Scope. Where required, we will recommend revision to PCS 03 where needed to reflect the current status of the work.

The Project Delivery Partner team will assume responsibility for managing the current EWMA contractor and for assuming responsibility for ongoing advance works planning, design, and contracts for public utility diversions, enabling works, surveys and site investigations, street furniture and other advance works. We will confirm the current scope of works that have been authorised under the EWMA's 2009/10 Service Delivery Plan and the status of those works against the PCS 03 programme.

Where required, we will recommend revision to PCS 03 where needed to reflect the current status of the work. We will assume responsibility for ongoing EWMA works upon the termination of the current EWMA contract on 11 November, 2009 and factor work identified in PCS 03 beyond the current service year in our next service delivery plan for Year 2.

Mobilisation

1 Mobilisation plan

Status at award: first draft completed by Project Delivery Partner during tender process

Requirement of Project Delivery Partner: produce, manage

1.1 Description of deliverable

In order to encourage a rapid, efficient and effective mobilisation, forward planning will be essential. A first draft mobilisation plan has been prepared as part of our bidding process, and this will be implemented partly within the pre-contract award period and substantially completed within the first two weeks of the contract start.

1.2 Method

It is essential that appropriate forward planning is undertaken to provide the quick and efficient transfer of the project organisation to the new Project Delivery Partner responsibilities. Such forward planning will facilitate the earliest possible transfer of responsibilities and the effective commencement of Project Delivery Partner activities. This plan sets out the approach to mobilisation for *Project Delivery Partner* and its sub-consultants, and will be developed as the contract negotiations progress and full mobilisation is initiated.

Our mobilisation planning is already in a developed stage. This commenced with a workshop on 16 January 2009 involving the Project Delivery Partner bid team and the proposed Project Delivery Partner key persons. The workshop has identified mobilisation objectives, supporting activities required for their realisation, organisational requirements and an indicative programme for delivery.

The following mobilisation objectives were captured:

- Project Delivery Partner staff will be released from current assignments and be available to match the resource plan in the FSDP
- Induction and project briefing processes to be jointly agreed with the *Employer*. Project Delivery Plan staff will be inducted promptly and effectively into the Project environment
- Project Delivery Partner staff will have the resources to promptly commence their new roles
- a programme of team building initiatives will be planned both internally within Project Delivery Partner teams and with the *Employer*, Programme Partner and other programme parties – to support clarity of roles and the rapid development of 'high performing teams'
- pre-start contract issues will be pro-actively managed
- where appropriate, Development Manager roles will seamlessly transfer to Project Delivery Partner staff
- Development Manager and MDC4 roles will cease and be closed out quickly and efficiently
- any potential conflicts of interest will be identified and managed in a timely fashion

Following this workshop, the draft mobilisation plan was developed with three distinct phases:

- **Phase 1: Planning** – the planning phase has already effectively commenced as part of the tendering process. The purpose is to identify mobilisation issues, and to plan ahead to determine how these issues will be addressed.

- **Phase 2: Pre-contract start activities** – this is the period which commences with notification of award through to the contract start. During this phase, the necessary activities will be undertaken to ensure the rapid execution of the contract. Activities during this stage will not form part of the contract and the Project Delivery Partner will largely be proceeding ‘at risk’ until the contract is executed.
- **Phase 3: post contract start** – this phase comprises activities within the first two weeks of the contract, during which Project Delivery Partner staff will become established within the project office and able to commence Project deliverables.

The workshop also identified the following mobilisation activities:

- **Identify and empower a mobilisation team:** a senior *Project Delivery Partner* staff member would be assigned to lead the mobilisation process. Specific tasks would be assigned to other *Project Delivery Partner* team members. The Project Delivery Partner would seek an *Employer* lead to liaise with on mobilisation issues.
- **Undertake appropriate communications with staff and client:** daily team meetings would be held during the mobilisation phases to determine progress and assign actions. Regular updates to Project Delivery Partner project staff would be given. Regular update meetings will be held with the *Employer* to track progress and resolve issues arising.
- **Confirm availability of key and other staff:** whilst a number of staff are already engaged within the Development Manager team and would readily transfer, a further proportion will be new to the Project. Such staff have already been earmarked for the Project Delivery Partner role and internal agreement in principle obtained from their resource managers for their release to the Crossrail Project. This would be confirmed with formal release dates.
- **Action pre-start contract issues:** sufficient priority will be given to complete negotiations and execute the contract (including finalisation of the FSDP). Also included will be the proactive management of other contract start issues including acceptance of proposed staff (clause 22), sub consultants contracts (clause 24.3) and insurances (clause 81).
- **Implement a programme of inductions for staff:** inductions, targeted for the first two weeks of the contract will cover:
 - project briefing (including change of role from Development Manager to Project Delivery Partner)
 - shared vision of an affordable world-class railway and ‘high performing teams’
 - document management
 - safety inductions (office safety and site visits)
 - Crossrail IT systems
 - project confidentiality, security, conflicts of interest, communication protocols
- **Implement a programme of team building initiatives:** In order to support the development of high performing teams, a series of joint ‘ice breaker’ workshops will be proposed, and where appropriate participation will be sought with the client, Programme Partner and other parties.
- **Identify and resolve practical issues associated with a move to Canary Wharf:** specific practical issues will be planned such as organising building passes, IT accounts, seating plans, stationery, and specific hardware and software requirements. This will require input from the *Employer* as provider under the contract. Pro-active liaison will result in Project Delivery Partner staff having the resources to commence their roles quickly and efficiently.

The presence of both *Project Delivery Partner* and Halcrow as part of the current development team will greatly assist the mobilisation process. Many of the the *Employer's* systems and processes are already understood and we will seek to use existing staff to rapidly mentor new joiners to the Crossrail Project environment. It is however important that all the proposed Project Delivery Partner staff understand their new roles as transition occurs between the development and implementation phase of the Project.

To achieve this, a key component of mobilisation will be briefings, inductions, and team building workshops to ensure staff fully understand the new Project stage.

1.3 Key inputs

- As set out in the draft mobilisation plan, the Project Delivery Partner will require specific inputs from the *Employer* to support the mobilisation process. These include an *Employer* representative to lead liaison with the Project Delivery Partner mobilisation team, and specific support and commitment by the *Employer* to ensure provision of office accommodation, IT hardware and software, building passes. In addition, formal acceptance of proposed staff will be an early priority.
- In addition, in order to establish a clear Project Baseline which will align scope, programme and budget and will form the basis of the Project Delivery Partner's control systems to measure performance, change control and trending, the Project Delivery Partner will require from the Employer at Commencement the following:-
 - Detailed scope of works
 - The associated estimate of cost, including identification of allowances for risk, contingency and escalation
 - The associated programme for delivery of the works

Additional deliverables for the *Employer*: corporate

2 Project execution plan, specific to the Project Delivery Partner scope (the Project)

Status at Award: no draft

Requirement of Project Delivery Partner: produce

2.1 Description of deliverable

The Project Delivery Partner will produce an initial draft of the Project execution plan for the Project by 01 May 2009. This deliverable will set out in detail how the Project is to be provided. The document will set out the scope of work and explain how the works are to be designed, procured and managed in a safe manner, within the required budget and timescale, and to the necessary quality. The final agreed plan will be completed by 30 June 2009.

2.2 Method

As the Project execution plan is a key deliverable for ensuring the success of the project, we began planning work during the proposal phase and have already prepared a draft to define a project baseline against which all project measurement and control is monitored.

Upon mobilisation the Project Delivery Partner will finalise the draft Project execution plan for the Project to incorporate design, procurement, contract management and financial control from mobilisation through to Project completion and handover for operation. Sections will include, but not be limited to:

- health and safety management plan
- project management and administration plans
- project engineering plans, including design management and value management
- procurement plans, including contracting strategy, materials and plant planning
- plans for environmental management, sustainability and planning consents
- construction planning incorporating management of logistics and utilities
- project controls planning including risk management, scheduling, cost control and change control
- planning for systems integration, testing and commissioning and completion and handover
- quality management planning
- human resources and planning for the training necessary for staff and workforce

Detailed discussions will be held with the *Employer*, the Programme Partner and any other relevant parties involved or interfacing with the Project delivery to provide plans that are robust and founded on reality.

2.3 Key inputs

- Latest versions of the existing *Employer's* documents defining the scope of the Project, the Project Development Agreement, the delivery strategy, and the CPFR will be required to develop the Project execution plan to comply with the programme requirements.

3 The Project component of annual business plan and budget 2010/11

Status at award: no draft

Requirement of Project Delivery Partner: produce

3.1 Description of deliverable

The Project Delivery Partner will prepare the *Employer's* 2010/2011 business plan's Project component. The initial draft will be prepared during quarter three of 2009, and the final version during quarter 4 (complying with requirements established and provided by the *Employer*).

3.2 Method

Early in quarter three of 2009, the Project Delivery Partner will discuss and agree requirements for the 2010/2011 business plan's Project component with the *Employer* and the Programme Partner. These requirements will be translated into a plan, timeline and responsibility matrix for production of the delivery component of the 2010/2011 business plan.

The Project Delivery Partner will align the Project component of the 2010/2011 business plan with the *Employer's* delivery strategy, budget requirements, delivery programme, cash flow limitations and Review Point constraints.

The *Employer's* comments upon the initial and any subsequent drafts will be required in order to secure timely and effective development of the document.

3.3 Key inputs

- Early in quarter three of 2009 a written summary of the *Employer's* requirements of the 2010/2011 business plan.

Additional deliverables for the *Employer*: PDA driven

4 Detailed plan to meet Review Point 3 and Review Point 4

Status at award: initial plan agreed with sponsors

Requirement of Project Delivery Partner: validate, manage

4.1 Description of deliverable

It is anticipated that an initial plan to meet the requirements of Review Point 3 and Review Point 4 will have been completed and agreed with sponsors by the *Employer*. The Project Delivery Partner will review the plan relating to the Project and recommend changes or improvements for discussion with the *Employer* and the Programme Partner. The Project Delivery Partner will also check the status of all Project activities included in the plan and arrange for the updating of the plan on a periodic basis to reflect actual progress and performance.

The required information noted in the Project Development Agreement schedule 5 will be provided to the Programme Partner in accordance with the Project schedule activities for Review Points 3 and 4.

4.2 Method

The Project Delivery Partner will review the existing initial agreed plan and current versions of Programme schedules, delivery strategy, expenditure plans, budgets and any supporting documents relating to the Project. The Project Delivery Partner will make recommendations on any revisions that, in its professional opinion, will be necessary to validate the plan.

Periodically the Project Delivery Partner will provide an analysis of the status of Project activities contained in the plan. It will identify any potential issues or deviations from the plan, together with recommendations for possible mitigation actions.

The Project Delivery Partner will communicate with the Programme Partner, stakeholders and parties responsible for delivery of any of the Project review point deliverables. This will ensure that work plans and objectives are aligned and clearly understood among the relevant parties.

Throughout the period to Review Point 4, involvement, engagement and support from all parts of the Programme organisation and industry partners with responsibility for delivery of any parts of the actual area Review Point deliverables and/or commitments will be required.

4.3 Key inputs

- The agreed initial plan will be required from the *Employer*.

5 Review Point 3 deliverables relating to the Project (PDA schedule 5)

Status at award: varies by element

Requirement of Project Delivery Partner: validate, produce, manage

5.1 Description of deliverable

The Project Delivery Partner will reflect the requirements of Review Point 3, as they relate to the Project and as defined and established by the agreed detailed Review Point 3 plan, in relevant individual work plans, budgets and strategy documents.

Periodic status updates of the Project progress and performance data will be used to periodically update the agreed detailed plan.

5.2 Method

The Project Delivery Partner will incorporate the requirements of the agreed Review Point 3 plan in the relevant department/organisation strategy planning documents, work plans and delivery budgets.

The Project Delivery Partner will design progress and performance reporting systems that provide for accurate and timely capture of relevant data to provide the *Employer* and the Programme Partner with clarity and visibility of status against the agreed detailed plan.

The Project Delivery Partner will assemble the requirements of the Project Review Point 3 deliverables with the *Employer*.

The Project Delivery Partner will consult with the *Employer*, the Programme Partner and other parties as required to resolve any issues relating to interfaces, ambiguity of requirements or responsibilities.

5.3 Key inputs

- The agreed initial detailed plan.

6 Delivery strategy – second update for Review Point 3 (PDA schedule 5)

Status at award: CR/BMS/DS/001 V2.0 accepted by Sponsors by September 2008
Requirement of Project Delivery Partner: input

6.1 Description of deliverables

The deliverable will be a second update of the delivery strategy for Review Point 3 by 30 June 2009 in accordance with the Project master schedule for Review Point 3. The update is to reflect further significant changes to the Project strategy including any necessary input from the *Employer* and the Programme Partner

6.2 Method

The delivery strategy is a key strategic document for the *Employer* and it is anticipated that its updates will be co-ordinated by the *Employer* and the Programme Partner. The delivery strategy updates will require the Project Delivery Partner to gain timely and quality inputs from all of the key organisations working in the Project. The Project Delivery Partner will proactively consult, engage and, where appropriate, support the sponsors, the *Employer* and the Programme Partner in relation to their updates to the delivery strategy to ensure its completion for Review Point 3 within the agreed timescales. The Project Delivery Partner will set up working groups with key managers from the Design Framework Consultants, contractors and others whose input will be required for these updates to the Project portion of the delivery strategy.

In consultation with the *Employer* and the Programme Partner, the Project Delivery Partner will undertake the following:

- identify potential changes to the contents of the Project delivery strategy since the previous agreed version
- participate in a series of Programme-level working groups with representatives from each of the appropriate organisations in order to develop and agree the information required for Project Development Agreements

- participate in senior management interim steering committees (as required) to oversee the changes and consider progress in updating the delivery strategy. This will facilitate inclusivity of the concerned organisations in shaping the Project Development Agreements to support delivery of the strategy going forward
- report status and any key issues for consideration to the Programme board
- update the last version of the delivery strategy, tracking key follow-on actions
- follow-up on the completion of near-term actions so that the document is completed as planned
- track and actively pursue identified actions conditional on approval of the updated delivery strategy
- identify potential changes for future updates to the delivery strategy

6.3 Key inputs

- The most recent version of the Crossrail Programme delivery strategy and input from the *Employer* and Programme Partner.

7 Procurement strategy (Project level) (PDA schedule 5)

Status at award: Annex 6 of the delivery strategy CR/BMS/DS/001 V2.0

Requirement of Project Delivery Partner: validate, produce

7.1 Description of deliverable

This document will describe the goals, objectives, assumptions and proposed methods to be implemented in relation to procurement and delivery of the Project within the wider context of Crossrail. The strategy will build upon the work already undertaken by the *Employer*. It will outline how procurement is to be undertaken by the *Employer* to achieve defined value-for-money outcomes and meet sponsors' expectations. This will include reference to any mechanisms necessary to ensure delivery by others. The document will set out:

- the overall Project context (political, funding, social)
- Project procurement policies and principles already developed
- the requirements of Responsible Procurement and how these should be integrated into mainstream procurement procedures
- current industry, consultant and contractor considerations including capacity and risk management issues
- features of and reasons for the proposed form of contract
- design package methodology and how it fits into the overall strategy
- construction packaging proposals with any options
- contractor (pre)selection processes (expressions of interest, prequalification processes, tendering requirements)
- key interfaces and interdependencies
- the *Employer's* 'gateway' reporting and approval obligations

7.2 Method

The Project Delivery Partner will engage with agreed internal and external stakeholders to validate assumptions and supporting work completed to date to. The Project Delivery Partner will seek to identify any significant changes in the current position which may result in changes to the existing procurement strategy.

This approach allows early establishment and subsequent validation and development of:

- understanding of the key value drivers, risks and constraints of the procurement approach
- opportunities to achieve value for money through the most appropriate contracting and procurement strategies from design through construction and post contract administration systems
- maintenance of efficient and effective policies, processes, contract forms, systems, tools and procedures through planning of the procurement programme and ensuring availability of adequate skills/resources within a streamlined organisation, supported by staff development and training programmes
- compliance with the *Employer's* governance requirements, directives, regulations and delegations
- assurance that Project requirements for safety, environmental, health and quality are implemented as necessary within procurement and contract documentation
- agreement of key Responsible Procurement activities and integration of these requirements into working procedures, especially in relation to the prequalification processes
- communication to all Project groups to disseminate the strategy to those parties directly or indirectly involved with the supply chain
- early identification of risks
- development of a continuous improvement and knowledge bank to increase value throughout the life of the Programme
- continuous review, maintenance and periodic updates to reflect changing Programme requirements and learning

7.3 Key inputs

- Annex 6 of the delivery strategy.
- Sufficient access to agreed internal and external stakeholders and agreed members of the supply chain in order to gain timely and quality inputs from them.

8 Assurance process for the Project agreed by Sponsors prior to inclusion in delivery strategy (compliant with PDA clause 15.2)

Status at award: Initial submission made to Sponsors

Requirement of Project Delivery Partner: validate

8.1 Description of deliverable

In conjunction with the *Employer*, the Design Framework Consultants and Project stakeholders, the Project Delivery Partner will take a lead role in the preparation and agreement of a comprehensive assurance strategy. This document will describe how the Project will be designed, executed and commissioned in a way that will satisfy the future Infrastructure Managers and sponsors.

The strategy will also cover the *Employer's* responsibilities for end to end commissioning.

8.2 Method

Our assurance strategy will be based on the following principles:

- i. all party agreement to the overall packaging and hierarchy of assurance plans
- ii. robust requirements capture and validation processes
- iii. a structured process for the sign-off and collation of assurance evidence

Activities in each phase are set out below.

Phase 1 activities

Phase 1 activities will be focussed on developing a draft assurance strategy document. This will be done in two phases:

- **Strategy and approach validation:** we will produce and gain agreement by all relevant parties for the overall strategy and make up of assurance plans. This will lead to an agreed document that describes the overall assurance approach
- **Development of the draft assurance strategy documentation:** we will develop the detailed requirements of the assurance strategy and relevant plans, recognising that processes exist from the current Project Development work. Particular areas that we will focus on include:
 - the basis of an assurance plan is the availability of good quality evidence. We understand the *Employer* has already put in place a system of collating design evidence (i.e. the master documents list). This will need to be developed and taken forward as the Project moves into the next stage
 - the need for progressive sign-off and acceptance is essential, so we will work with the *Employer* to strengthen the assurance GATES process that exists from the development phase, moving forward to consider inspections and testing plan requirements and quality check sheets to build evidence in the execution stages
 - we understand that the requirements capture database (DOORS) has already been established. We will seek to strengthen this, particularly the validation processes, to provide clear visibility and understanding across the Project. By doing this the sponsors will gain more confidence as we move towards the final output

The output for phase 1 will be a draft assurance strategy that covers all of the above issues.

Phase 2 activities

To establish the assurance strategy as a meaningful document that will provide the necessary confidence to others, it is essential to gain the buy-in from all parties.

The focus of phase 2 activities is to seek all party agreement to the assurance strategy. We will achieve this through extensive consultation and review with the *Employer*, the Programme team and other stakeholders. We expect that this will be structured through formalised review and comments provided by the parties, supplemented by more detailed working sessions where appropriate to drive common understanding and buy in.

The output at the end of phase 2 will be a documented, all party agreement to the detailed assurance strategy.

An initial draft will be prepared in period 1 of 2009/10 with a final version being published by 30 June 2009.

8.3 Key inputs

- Confirmation of the Framework Design Agreements terms of agreement.
- Confirmation of the engineering accountability and division of responsibility, including the expert panels.
- Confirmation of the Project position on the tools for whole life costing.

9 Semi-annual construction reports for the Project (PDA clause 26)

Status at award: no draft

Requirement of Project Delivery Partner: produce each semi-annual reporting period

9.1 Description of deliverable

The Project Delivery Partner will prepare the Project semi-annual construction reports in compliance with the Project Development Agreement requirements. We will issue these reports to the *Employer* and the Programme Partner for onward transmission to the Sponsors within 45 days of the end of each semi-annual report period. It is our anticipation that the detail of the format and content of the semi-annual report will be developed from the requirements of Project Development Agreement clause 26.2 for the Project.

The report will include sections on Project status (CI 26.2 a). The update of the Project delivery schedule (CI 26.2 b), changes to methodology, finances, final costs and claims or other significant events (c–f, l–o, q–v and y-aa), any Network Rail costs applicable to the Project (g), any issues relating to land acquisition relevant to the Project (j), health and safety (p) and consents (w).

The deliverables in the first year of the contract will be two semi-annual construction reports, the first due by 30 September 2009, the second 31 March 2010.

9.2 Method

The initial task will be to establish a reporting format and content outline for the first semi-annual construction report.

At the outset, the Project Delivery Partner will work with the *Employer* and the Programme Partner to establish and design a semi-annual report structure that aligns with other reporting requirements (periodic reports, Review Point reports and industry partner reports).

A process map will be prepared to describe the steps (including various levels of the *Employer's* management review) required to prepare the semi-annual construction report. This will include the responsibilities for production and timings for each component.

The Project Delivery Partner will also design progress and performance reporting systems in a structure that will facilitate production of the semi-annual construction report. This will maximise the use of standard project controls data and thereby reduce the efforts required to produce data specifically for these semi-annual construction reports.

9.3 Key inputs

- The Project portion of the Project semi annual construction report will be produced by the Project Delivery Partner. Some areas may require input from the Programme Partner or the *Employer*. These will be agreed as described above.

10 Periodic construction reports for the Project (PDA clause 26)

Status at award: period 13 complete

Requirement of Project Delivery Partner: produce each period

10.1 Description of deliverable

By the time the Project Delivery Partner has mobilised, we anticipate that the first periodic construction report (for period 13, prepared in accordance with the requirements of the Project Development Agreement clause 26.1 and the structure provided in schedule 15) will have been issued and the work to be reported on in the periodic construction report for period 1, 2009/10 will be substantially complete. We will work with the *Employer* and the Programme Partner to assist, as required, the completion and issuing of the period 1 report and assume responsibility for managing the preparation, review, approval and issue of the periodic construction reports for the Project Works thereafter. These will include the remainder of the periodic construction reports due in the first year of the contract, which we assume will be year 2009/10 periods 2 through to year 2009/10 period 13.

The Report will include an executive summary and sections on Safety, progress, financial information, key dates, quality, progress on land and property acquisition, environment and sustainability, and any other information agreed with the Programme Partner and the *Employer* as part of the report format.

10.2 Method

Building upon the work previously completed by the *Employer* (period reports up to 13), and taking into account any feedback or lessons learned, the Project Delivery Partner will further develop and refine the format and content of the periodic construction report in conjunction with the *Employer* and Programme Partner.

Once the format and information required is agreed a process map will be prepared to describe the steps required to prepare the periodic construction report which will identify the responsibilities and timing for production of the content of each component.

The Project Delivery Partner will design progress and performance systems and structures in a level of detail and manner that will facilitate production of the project work inputs to the periodic construction report. This will maximise the use of 'standard' project controls data and thereby reduce to a minimum the efforts required to produce data specifically for these periodic construction reports.

10.3 Key inputs

- Early agreement with the *Employer* and the Programme Partner with regards to the format will be required.

Engineering

11 Not used

12 Design management process

Status at award: to be developed based on existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

12.1 Description of deliverable

In conjunction with the *Employer*, the Project Delivery Partner will establish and document a robust process for the management of the preparation of the design by the framework consultants. This process will describe the structured environment for the effective control of designs in the Project. The process intent will be to support the framework consultants to produce a safe, economic and compliant output.

12.2 Method

Robust design management is based on the following principles:

- i. compliance to set criteria, for example project requirements, procedures, standards
- ii. continuous review and acceptance
- iii. delivering the optimum design that reduces risk to a minimum while offering best value and performance
- iv. supports the assurance regime
- v. works within a predefined structure of sign-off and accountability
- vi. provides a fully integrated design that satisfies sponsor requirements

In developing and implementing the design management process, we recognise that work has or will already have been undertaken in tendering for the design framework contract and potentially early packages of work under these contracts. We will incorporate this work into our development process.

Phase 1 activities

Phase 1 activities will be focussed on developing a draft design management strategy document. This will be done in two phases:

- **Strategy and approach validation:** we will produce and gain agreement by all relevant parties for the overall strategy and make up of the design management plans. This will lead to an agreed document that describes the overall design management approach
- **Development of the draft design management plan documentation:** we will develop the detailed requirements of the design management strategy and relevant plans, recognising that processes exist from the current *Employer's* development work. Particular areas that we will focus on include:
 - setting clear boundaries on the external approvals process and ensure alignment with the assurance strategy
 - updating and reissue of the existing design management plan (first published in August 2008)
 - agreement and establishment of a competency based assessment programme for key individuals within the framework consultants

- strengthening of existing process for inter-disciplinary design reviews, incorporating stakeholder buy-in
- linking the survey programme and output to the design schedule
- establishing performance metrics (including cost and schedule) to enable continuous tracking and management
- establishing parameters for consistent value engineering and the relationship with the Project position on tools for whole life costing
- implementing risk management regime across the Project. In this way we will be able to ensure that the output remains as low as reasonably practicable (ALARP)
- defining clear guidance in the use of standard components and products. This will most likely mean the introduction of a products database

The output for phase 1 will be a draft design management process that covers all of the above issues.

Phase 2 activities

In order for all parties to have confidence in the design management process it will be necessary to gain a high level of buy-in.

The focus of phase 2 activities is to seek all party agreement to the process management plans and documents. We will achieve this through extensive consultation and review with the *Employer*, the Programme team and other stakeholders.

We expect that this will be structured through formalised review and comments provided by the parties, supplemented by more detailed working sessions (where appropriate) to drive common understanding and buy in.

The output at the end of phase 2 will be a documented, all party agreement to the detailed assurance strategy.

An initial draft will be prepared during period 2 of 2009/10 with a final version being published in period 5.

12.3 Key inputs

- Confirmation of the Framework Design Agreements terms of agreement.
- Confirmation of the engineering accountability and division of responsibility, including the expert panels.
- Confirmation of the Project position on the tools for whole life costing.

13 Utilities coordination and diversions plan

Status at award: to be developed based on existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

13.1 Description of deliverable

In conjunction with the *Employer*, the *EWMA* and the Design Framework Consultants, the Project Delivery Partner will take a lead role in managing the utilities coordination and diversions. We will produce a robust process that will provide effective control of utility identification and condition, diversion designs and any third party instructions.

13.2 Method

To manage utilities requires:

- i. liaison with statutory undertakers
- ii. consents and legislative compliance
- iii. identification of clashes combined with a coordinated approach to diversions. This will avoid future clashes and minimise disruption

Phase 1 activities

- Establish an organisational structure with a clear remit to focus on the coordination of utilities.
- Document and issue guidance for the Design Framework Consultants on their input to the process.
- Establish strong links with statutory undertakers.
- Include utility diversions in the design review process (strengthening existing process to include asset owners).
- Establish a mechanism to control the work undertaken by asset owners, both in terms of cost and schedule.

The output for phase 1 will be a draft utilities co-ordination and diversion process that covers all of the above issues.

Phase 2 activities

Since utilities owners are external to the Project team, it will be necessary to gain a high level of buy-in.

The output from phase 2 will be a documented audit trail to evidence the level of buy-in and agreement to the process. This will be achieved through consultation; adopting a consistent approach to the approach used for other collaborative procedures development.

An initial draft will be prepared during period 2 of 2009/10 with a final version being published in period 4.

13.3 Key inputs

- Confirmation of the *Employer's* strategy for EWMA.
- Confirmation of the level of involvement that the *Employer* wishes to have with statutory undertakers.

14 Planning, environment and traffic and highways consents management plan

Status at award: to be developed based on existing Employer's documents
Requirement of Project Delivery Partner: produce, manage

14.1 Description of deliverable

The Project Delivery Partner will, in collaboration with the *Employer* and the Programme Partner, develop a planning, environment and traffic (PET) consents management plan of action designed to fulfil defined project planning requirements under the Crossrail Act (subject to conditions set out in schedule 7), heritage agreements or other town planning or listed building consent regulations. The plan will also define stakeholder expectations with respect to the development and preparation of planning packages by the Design Framework Consultants, along with required reporting mechanisms that will provide timely submissions against the Project programme. It will also define arrangements for managing compliance with

the Crossrail Act and performance of all undertakings and assurances in accordance with the requirements of the Project Development Agreement. The PET consents management plan will set out:

- the *Employer's* management, Design Framework Consultants and Project Delivery Partner responsibilities
- industry partner and third party stakeholder expectations and liaison arrangements
- list of consent granting bodies and agencies
- details of the *Employer's* highways and environment consents strategy, highways and traffic management strategy
- arrangements for assessing assurance and undertakings compliance with the Crossrail Act
- process flowchart indicating the key stages in preparing and submitting a consent application for review with the *Employer* and Design Framework Consultants
- Procedure for checking compliance with the *Employer's* environmental design management procedure and the *Employer's* design change control procedure
- the consents assurance processes. For example evaluating and reviewing package details for revisions, sign off and submission; requirements and process for archive and document control
- reporting requirements, format and cycle
- the PET consents register
- the PET consents programme for the Project
- a preliminary consultation schedule for the Project
- a PET training schedule
- an inter-dependencies map

14.2 Method

The Project Delivery Partner will seek to engage with appropriate internal (the *Employer* and Design Framework Consultants) and external (as agreed with the *Employer*) stakeholders in the preparation of the PET consents management plan. The key focus of this work is milestone planning and will include the following tasks:

- identify PET consents required for either outline or detailed planning permission, approval of reserved matters or discharge of conditions
- identify PET consents; for example local authority development consents, specific consents for works to listed buildings, protected trees or works within conservation areas, environmental consents for works to protected habitats, surface and ground waters, highway design approvals and traffic management powers, agreements with statutory undertakers, utility companies and telecoms providers, approval of works affecting third party infrastructure including London Underground, Network Rail and London Buses
- identify requirement for legal agreements regarding the provision of additional works, for example highway works on land outside the Crossrail limits of deviation
- produce and implement a PET consents management process in compliance with the *Employer's* consents management procedures
- produce a PET consents programme integrated within the Project programme. The programme is a key guide to the volume and timing of submissions as well as a vital tool to estimating workloads, successfully planning available resources and identifying critical paths

- establish number, scope of packages and information needs with design and construction team members and Design Framework Consultants
- review roles and responsibilities, key issues, constraints and environmental impacts
- review strategic Project requirements and Undertakings and Assurances relevant to the package and agree all consents required for the package
- establish PET consents contract language for flow-down to industry and construction contractors, for example traffic management, green travel and lorry management plans
- establish a programme of preliminary consultation with the consent granting body (in collaboration with the *Employer*) and in compliance with the the *Employer's* consultation procedure
- review draft consent packages from Design Framework Consultants (including drawings, specifications and supporting information) for compliance and sign-off
- develop and maintain consents register (including details of submission outcome)
- monitor and report progress against the Programme
- undertake PET consents training
- attend the *Employer's* planning forum and other sub-groups if required

An initial draft will be prepared during period 3 of 2009/10 with a final version published in period 5.

14.3 Key inputs

- the *Employer's* PET consents register.
- the *Employer's* stakeholder plan.
- the *Employer's* minutes of planning and environment forum.

15 Undertakings, Assurances and third party agreements

Status at award: to be developed based on existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

15.1 Description of deliverable

In conjunction with the *Employer*, the Programme Partner, the EWMA and the Design Framework Consultants we will manage compliance with the Undertakings and Assurances (U&A) and third party agreements. We recognise that this issue is strongly linked to the assurance regime (described elsewhere).

As part of the requirements capture process, we will incorporate third party agreements at the appropriate time in the Project lifecycle. This will be demonstrated through a robust validation and acceptance process (VAP).

As the assurance processes and deliverables have been described elsewhere, our methodology focuses on the development and implementation of the VAP.

15.2 Method

We appreciate that a validation process to demonstrate compliance with the Crossrail Project functional requirements (CPFR) exists. We will expand the existing validation process to embrace the Undertakings and Assurances register.

We will develop a dedicated VAP for the Undertakings and Assurances register to confirm:

- i. the *Employer's* agreements are captured in the design or during the execution stages, as appropriate
- ii. sufficient safeguards are in place that will enable the *Employer* to demonstrate and evidence compliance
- iii. adequate interface and liaison mechanisms.

Phase 1 activities

- Review assurance and undertakings register and develop links to existing DOORS database.
- Produce process documentation for use by design teams.
- Engage relevant stakeholders to achieve buy-in.

The output for phase 1 will be a draft VAP to cover all of the above issues.

Phase 2 activities

In order for all parties to have confidence in the VAP process, it will be necessary to gain a high level of buy-in. The focus of phase 2 activities is to seek all party agreement to the process management plans and documents. We will achieve this through extensive consultation and review with the *Employer*, the Programme team and other stakeholders. We expect that this will be structured through formalised review and comments provided by the parties, supplemented by more detailed working sessions (where appropriate) to drive common understanding and buy in.

The output from phase 2 will be an agreed VAP with an audit trail to demonstrate the level of buy-in. We will achieve this through extensive consultation exactly the same way as we approach other collaborative procedures.

An initial draft VAP will be issued by period 3 of 2009/10 with the first formal issue published in period 5.

15.3 Key inputs

- Latest *Employer's* Undertakings and Assurances register.

Project controls

16 Project controls plan

Status at award: to be developed from existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

16.1 Description of deliverable

This is an overarching document that describes the overall controls process for the Project, designed to meet defined the *Employer's* expectations. It will be supplemented by the various specific controls processes that define the updating, analysis and delivery of the desired data, products and outcomes. The document will include:

- the basic purpose and objective of the processes
- any important actions necessary to realise the basic purpose and objective
- the work or input required from any others.

16.2 Method

The Project Delivery Partner will develop bespoke controls plans and supplemental processes reflecting the specific needs of the Programme. This will include any defined requirements from the *Employer* and the Programme Partner. It is critical that these controls plans are established early, and incrementally built upon, as the Project evolves. Initial steps will include:

- canvassing the *Employer* and Programme Partner personnel to understand defined reporting needs and structures
- defining and implementing basic units of control from a scope, cost and schedule perspective and aligned with the Programme work breakdown structure (WBS)
- establishing a hierarchy (and levels) of controls/reporting, from both an internal and external Project perspective
- defining any unique software and hardware requirements that will provide information security and specific user availability
- issuing procedures that explain in detail the responsibilities of the various Project Delivery agents, thereby aligning consistency of control and timely reporting
- developing a directory of key reports formats that support the needs of managers at all levels in appropriate programme control

The initial draft will be developed during period 2 of 2009/10 to be finalised and implemented in period 4.

16.3 Key inputs

- Input from the *Employer* and Programme Partner including all existing Employer's procedures.

17 Project information plan

Status at award: to be developed based on existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

17.1 Description of deliverable

A Project Information Plan details, by function and discipline, the systems that will be utilised to support the execution of the work.

17.2 Method

Upon award the Project Delivery Partner will, in close consultation with the *Employer* and the Programme Partner, develop the Project information plan. This plan will include, but not necessarily be limited to, systems that support:

- engineering
- project controls
- procurement
- contract management
- construction
- human resources
- security
- safety
- QA/QC

Once complete, the Project Delivery Partner will work with the *Employer* and Programme Partner to ascertain which entity has the best systems that meet the needs of the Project Delivery Partner and the *Employer*. The same approach will be taken to determining how the Project-wide IT infrastructure will need to be configured to support the Project through construction and commissioning.

When the above is agreed, the Project RACI (responsible, accountable, consulted, informed) charts will be updated to define who is responsible for implementation, support and maintenance for each of the systems. Any changes to the scope of the Project Delivery Partner will be incorporated into the FSDP.

In parallel with this effort, an information systems security plan will be prepared that conforms to information security management system ISO/IEC 27001:2005 to assure that the information is appropriately classified and secured.

17.3 Key Inputs

- the *Employer's* systems plan.

18 Quantity tracking procedure/process

Status at award: to be developed from existing Employer's documents
Requirement of Project Delivery Partner: produce, manage

18.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will establish a procedure and process to initiate a successful quantity tracking programme for the Project. Quantity tracking encompasses the identification, quantification, and status updating of the Project scope and provides visibility of scope during all phases of the project. Quantities provide a means of measuring project scope in terms common to engineering, construction, and supporting services, and can provide a more accurate measure of progress than cost.

Quantity tracking is a fundamental and significant element of cost and schedule control. One of the most important functions of cost control is the accurate and timely collection and reporting of installed-to-date and total forecast quantities. This is because:

- quantities are a measure of a project scope and therefore serve as a guide in determining design, construction and procurement activities

- cost and job-hour information does not reveal productivity or performance unless related to quantities
- accurate equipment and material cost forecasts, as contractor estimates are checked, are directly dependent upon accurate to-date and total forecast quantities
- maintenance of the Project schedule and measurement and forecasting of job progress are dependent on good quantity information

Forecast quantities provide the basis for determining what work must be done. Installed quantities provide the measure and progress of completing work. Without reasonable quantity reporting accuracy, management will not know the status of a project, where it is going, or the rate at which it must proceed to complete the work on schedule.

18.2 Method

In consultation with the *Employer* and Programme Partner, and with an understanding of the scope, schedule, budgets and WBS, the Project Delivery Partner will draft the procedure and establish the process, including utilisation of appropriate software systems, to begin managing a quantity tracking programme encompassing both engineering and construction works.

The initial draft of this procedure will be developed during period 3 of 2009/10, to be finalised and implemented during period 5.

18.3 Key inputs

- Input from the the *Employer* and Programme Partner, including information on Employer's programme level scope, WBS, budgets, estimates and schedules for the Project works.

19 Project integrated master schedule and key milestone schedule

Status at award: to be developed and defined from the programme and master schedule, PCS-03

Requirement of Project Delivery Partner: produce, manage

19.1 Description of deliverable

The Project integrated master schedule is the Project's summary schedule, aligned with the work breakdown structure. It should be maintained with status updated on a periodic basis. At a high level, it will address the timing and interrelationships of all aspects of the Project scope of works. Additionally, it will highlight key interfaces among delivery contractors, as well as providing critical path(s) of activities – thereby providing an important source for identifying critical issues that may impact the Project's overall timeline and progress.

19.2 Method

In consultation with the Programme Partner, and in conjunction with the Programme-level master control schedule (currently PCS-03) and Project WBS, the Project Delivery Partner will review and develop the Project integrated master schedule. Once developed, and in accordance with the planning and scheduling procedure, it will be rigorously maintained, updated and analysed in order to identify and report the progress on the most critical elements of the Project works. In addition, the schedule will provide a basis for analysing and evaluating the various contractor schedules, as well as providing a tool for performing 'what if' analyses of various mitigation or value engineering proposals throughout the life of the Project.

As a subset of the master schedule, a Project key milestone schedule will be developed. This will be used primarily for reporting purposes to Programme senior management and outside Sponsors. It is anticipated that this will be the schedule for Project works incorporated into the construction report required by the Project Development Agreement for submission every four-weekly cycle.

Due to its critical nature, an initial draft will be produced during period 3 and this schedule will be finalised by the end of period 4 of 2009/10.

19.3 Key inputs

- Input from the *Employer* and Programme Partner, including Programme-level information on Project scope, WBS, budgets and schedule, as well as the Employer's programme level master schedule (current revision).

20 Budget control procedure/process

Status at award: to be developed based on CR-DV-MGT-X-PD-00012 V2.0

Requirement of Project Delivery Partner: produce, manage

20.1 Description of deliverable

Upon initial mobilisation, the Project Delivery Partner will develop the Project original budget in accordance with the Project work breakdown structure and Project code of accounts. Once established, the Project Delivery Partner will administer and manage the budget through development of a budget control procedure and process. This will establish the formal processes through which ongoing progress and activities such as scope changes, transfers and risk/contingency management are transparent in the current budget.

20.2 Method

The budget control programme's purpose is to maintain the current budget to reflect Project developments to date, enabling the current status to be communicated to the Project Delivery Partner's management, the *Employer* and the Programme Partner through a formal procedure and process.

The first task is to agree the Project baseline budget. This establishes a structured definition of quantified scope and resources required over a definitive period of time to execute the work. It will be developed in consultation with the *Employer* and the Programme Partner. This will provide a base from which to compare actual progress and performance and identify deviations from the baseline within an agreed controlling and structured format (WBS and code of accounts).

A formal budget maintenance system, including implementation of appropriate software systems, will be developed and managed to keep the budget information current. Because all projects undergo changes in scope and resource utilisation, budgets are revised accordingly to provide a meaningful yardstick against which progress and performance are measured in total and at a disaggregated level. The budget will be maintained through implementing control processes for recording changes to costs that align with clear definitions of change categories such as budget transfers, approved scope changes, allocation of risk/contingency. This will provide consistency in reporting and enable accurate periodic reporting with transparency of change, potential trend analysis and identification of required actions.

On a periodic basis, the current budget will also be updated/revised to check alignment with the most current Project execution objectives and strategy.

The initial draft of this procedure will be developed during period 3 of 2009/10, to be finalised and implemented during period 5.

20.3 Key inputs

- Input from the *Employer* and Programme Partner, including Employer's programme level WBS and code of accounts, as well as high level Project budgets.

21 Cost control and forecasting procedure/process

Status at award: to be developed based on CR-DV-MGT-X-PD-00011 V1.0

Requirement of Project Delivery Partner: produce, manage

21.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will establish a procedure and process for the periodic collection, assessment and reporting of the Project cost, including comparison to the current budget and reconciliation. The procedure will define the methodology and structure that will apply to cost reporting, the processes to be used for each of the various forecast approaches utilised, and the reporting frequency. Reports will range from four-weekly trend forecasts to (less frequent) bottom-up forecasts.

21.2 Method

In accordance with the Project work breakdown structure, code of accounts and original/current budget, the Project Delivery Partner will administer and manage a process, including utilisation of appropriate software systems, for the systematic collection and reporting of costs, both actual and forecast, at a level required to proactively manage the Project. The appropriate level of cost collection and reporting will be developed in consultation with the Programme Partner.

It is anticipated that the Current Forecast will be ascertained and reported on a four-weekly basis through the application of current actual costs, current trends and current un-awarded contracts or unallocated budgets. It is also anticipated that more-detailed, bottom-up forecasts will be developed and reported on an ad hoc basis, corresponding to overall Programme milestones (for example Review Points) or for areas where top-down forecasts are not considered sufficiently accurate for reporting. The established procedure will detail the processes to be used in both of these forecast approaches.

The initial draft of this procedure will be developed during period 3 of 2009/10, to be finalised and implemented during period 5.

21.3 Key inputs

- Input from the *Employer* and Programme Partner, including Employer's programme level cost control procedures, WBS, code of accounts, and budgets.

22 Organisation breakdown structure and resource management plan

Status at award: to be developed based on existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

22.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will develop a resource plan required for the delivery of the Project works that will note planned and actual staff/resources over time, identify start and completion dates, critical resources, resource constraints and other data as may be required. It may include personnel, daily rates, total planned days, actual days, planned cost and actual cost. This plan will be maintained, updated and reported on a periodic basis.

Additionally, an organisation breakdown structure (OBS) will be developed. The OBS will identify the Project organisations responsible for performing the scope of work, through integration with and cross-reference to the work breakdown structure.

22.2 Method

In consultation with the *Employer* and the Programme Partner, the resource/staffing plan and OBS will be developed through an analysis of the scope of works, contracting strategy, WBS and schedule. The Project Delivery Partner's mobilisation and utilisation of staff over the life of the Project will also be included in the resource plan.

The initial draft of this procedure will be developed during period 3 of 2009/10, to be finalised and implemented during period 5.

22.3 Key inputs

- Input from the *Employer* and Programme Partner, including information on Project scope, WBS, budgets and schedule.

23 Contingency management procedure/process

Status at award: to be developed from existing Programme level documentation
Requirement of Project Delivery Partner: produce, manage

23.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will establish procedures and processes to support the management of cost contingency throughout all phases of the Project works execution. Management processes will be aligned to project costs at a level consistent at which the contingency has been developed and is best administered. It will provide a uniform and consistent methodology and work process for the management, drawdown and reporting of cost contingency. Contingency allocations will be used and managed at the Project-level to address the deviations arising from normal progression of the contract scopes, as opposed to risk reserves, which will be held and administered at the Programme-level.

As the Project progresses, contingency will be managed and controlled through the trend and scope change control programme. Contingency usage will be monitored against the budget at the level consistent with the contingency development. Additionally, levels at which contingency usage and draw-down decisions can be made will be established, tempering required flexibility and timeliness with necessary controls and approvals, in order to properly balance progress with appropriate management input.

Contingency usage and forecasts will be reported on a four-weekly basis.

23.2 Method

In consultation with the *Employer* and the Programme Partner, and with an understanding of Project scope, budgets and schedule, the Project Delivery Partner will propose for approval by the *Employer* a level of contingency allocation to be held and administered at the Project level. Once this has been agreed, the contingency management plan and process will be developed, including utilisation of appropriate software systems, to best make timely and efficient decisions concerning deviations throughout the progress of the works.

The initial draft of this procedure will be developed during period 4 of 2009/10, to be finalised and implemented during period 6.

23.3 Key inputs

- Input from the *Employer* and Programme Partner, including information on Project scope, WBS, budgets and schedule, as well as Programme-level risk and contingency budgets. Agreement and approval from the *Employer* will be required to establish the allocated Project-level contingency budgets.

24 Planning and scheduling procedure/process

Status at award: to be developed from Employer's programme level documentation

Requirement of Project Delivery Partner: produce, manage

24.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will establish a procedure and process defining the approaches and rules for schedule development for delivery of the Project works. The procedure will address the hierarchy of schedules, including not only the Project integrated master schedule, but also the various summaries, management and control schedules to be utilised on the Project. Additionally, it will define the process and rules by which the Project integrated master schedule will be developed, updated, maintained and reported, including the intervals and timeframes for these actions. It will detail the requirements for the receipt, reporting frequency and analysis of the various contractor schedules for the works. A key purpose of the procedure will be to explain in detail the responsibilities of the Project planning personnel, thus aligning consistency of control.

24.2 Method

In consultation with the Programme Partner, and in conjunction with the development of the Project integrated master schedule, the Project Delivery Partner will develop robust and detailed planning and scheduling procedures and processes to ensure appropriate management control and reporting of the scheduled delivery of the Project works.

The initial draft of this procedure will be developed during period 3 of 2009/10, to be finalised and implemented during period 5.

24.3 Key inputs

- Input from the *Employer* and Programme Partner, including information on Project scope, WBS, budgets and schedule, as well as the Employer's programme level master schedule.

25 Work breakdown structure/code of accounts dictionary

Status at award: to be defined and developed from Employer's programme level WBS

Requirement of Project Delivery Partner: produce, manage

25.1 Description of deliverable

The work breakdown structure and code of accounts are mechanisms used to integrate the Project cost and schedule. Upon mobilisation, the Project Delivery Partner will establish a detailed WBS and code of accounts for the Project, preparing and maintaining a dictionary to define the elements within both, thus aiding in a common understanding among Project personnel. The Project-level WBS will align with the Employer's programme level WBS.

The WBS is a logical top-down structuring that will assist in defining the Project scope into manageable subsections, facilitate communication, and identify integration points for Project plans. It will also identify appropriate levels to summarise cost-schedule

information to meet Project reporting requirements. The code of accounts will define the formal coding structure through which the Project costs will be budgeted, collected and reported. It will sit hand-in-glove alongside the WBS.

25.2 Method

In consultation with the *Employer* and Programme Partner, and with an understanding of the scope, schedule and budgets whilst working within the parameters of the Employer's programme level WBS, the Project Delivery Partner will develop and finalise a Project WBS and code of accounts, to be used in both cost collection and reporting, and schedule organisation of the works.

This dictionary will be drafted in period 2 of 2009/10 and finalised in period 4.

25.3 Key inputs

- Input from the *Employer* and Programme Partner, including information on Project scope, Employer's programme level WBS, budgets and schedule.

26 Earned value management plan and procedure

Status at award: to be developed from Employer's Integrated Master Schedule and Key Milestone Schedule.

Requirement of Project Delivery Partner: produce, manage

26.1 Description of deliverable

Once the Project scope, budgets and schedule have been established, a formal process for measuring and reporting earned value of all phases of the works (engineering, procurement, construction and commissioning), including assessment of cost and schedule performance indices (CPI and SPI) will be key in order to ascertain performance to Project cost and schedule targets. Upon mobilisation, the Project Delivery Partner will establish a procedure and process defining the approaches and responsibilities for measurement of earned value of the Project works, and will begin reporting of these measurements following development and agreement of the Project budgets and schedule.

26.2 Method

In consultation with the Programme Partner, and in conjunction with the development of the Project integrated master schedule, the Project budgets, and the Employer's programme level earned value (including CPI and SPI) reporting requirements, the Project Delivery Partner will develop a robust and detailed earned value management procedure and process to manage appropriate assessment and reporting of the cost and schedule performance of the Project works.

The initial draft of this plan and procedure will be developed during period 2 of 2009/10, to be finalised and implemented by period 6.

26.3 Key inputs

- Input from the *Employer* and Programme Partner, including information on Project scope, WBS, budgets and schedule.

27 Estimating procedure/process

Status at award: to be developed from existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

27.1 Description of deliverable

The Project Delivery Partner anticipates that a wide range of estimates will be required in the performance and management of the Project works. This will be an

important activity supporting all phases of the delivery cycle – engineering, procurement, construction and commissioning.

Upon mobilisation, the Project Delivery Partner will develop a procedure and process, (including utilisation of appropriate software systems), defining the approaches and responsibilities for the preparation and checking of the various estimates to be utilised in the management and delivery of the Project works. This procedure will establish the framework for the maintenance of technical work processes, databases, tools, and resources to assist Project estimating personnel with their work. It will enable consistent approaches to all estimates regardless of organisation, encompassing Project Delivery Partner, Design Framework Consultants and contractors.

27.2 Method

The procedure and process will be written in consultation with the *Employer* and the Programme Partner. It will be built on an understanding of the Programme level estimating requirements. Estimates will be developed and checked in conjunction with (and to support) the Project integrated master schedule. This will include the contractual design-to-cost targets that may be incorporated into the Design Framework package contracts.

The initial draft of this procedure will be developed by period 3 of 2009/10, to be finalised by period 5.

27.3 Key inputs

- Input from the *Employer* and Programme Partner, including information on Project scope, WBS, budgets and schedule.

28 Trend programme and scope change control procedure/process

Status at award: to be developed from existing Employer's documents
Requirement of Project Delivery Partner: produce, manage

28.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will establish a procedure and process and begin administration of a trend and scope change control programme for the Project works. The primary objective of the trend programme is early identification of real and potential changes to the Project scope, quality, cost, and schedule baseline in order to mitigate adverse trends and maximise favourable trends. Specifically, the trend and scope change control program allows the Project Delivery Partner team to:

- identify changes in the scope, quality and services early enough to plan mitigation
- take corrective action before quality, cost or schedule impacts are irrevocably included in the Project
- initiate recovery measures to mitigate adverse trends
- optimise design and consider cost-saving alternatives
- improve communication on the Project
- identify potential scope changes before work is commenced, to allow the *Employer* and the Programme Partner to obtain approvals and additional funding from Crossrail Sponsors, as necessary

28.2 Method

The trend and scope change control process is the vehicle used to communicate and manage Project scope, quality, cost and schedule. A thorough understanding of the

current baseline by all Project team members will be key to the success of the programme, as all are responsible for identification of changes and deviations.

In consultation with the *Employer* and Programme Partner, and with an understanding of the scope, schedule, budgets and WBS, the Project Delivery Partner will draft the procedure and establish the process, including utilisation of appropriate software systems, to begin managing the trend process following mobilisation. This will include all team members being fully briefed on baseline scope, budgets and schedule to maximise understanding and the ability to input in to the trend/change control process. Management reviews of collected trends, with a view toward mitigation efforts, will be held with the *Employer* on a recurring basis (expected at not less than four week intervals).

The initial draft of this procedure will be developed during period 4 of 2009/10, to be finalised and fully implemented during period 6.

28.3 Key inputs

- Input from the *Employer* and Programme Partner, including information on Project scope, WBS, budgets and schedule, as well as the Employer's programme-level scope change control and trend procedures.

29 Risk management and reduction plan

Status at award: the *Employer* risk management framework

Requirement of Project Delivery Partner: produce, manage

29.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will develop the *Employer's* risk management framework into a plan and process for the implementation phase of the Project works. The risk reduction process and reporting structure will be designed and implemented to support management and mitigation of risks in accordance with the risk reduction targets established by the *Employer* at the Programme-level. The procedure will also define a process of regular Project-level quantified risk assessments (QRAs). This will include schedule QRAs (in accordance with the Employer's programme-level requirements).

These may result in revisions to Project processes as they are completed.

29.2 Method

In consultation with the *Employer* and Programme Partner, and with an understanding of Project scope, budgets and schedule, the Project Delivery Partner will review the Employer's programme-level risk management and risk reduction processes and plans.

From this review, a Project-level plan and process will be developed.

The plan will be drafted in period 4 of 2009/10 and finalised in period 6.

29.3 Key inputs

- Input from the *Employer* and Programme Partner, including information on Project scope, WBS, budgets and schedule, as well as the Employer's programme-level risk management and risk reduction plans and processes.

30 Management reporting procedure/process

Status at award: to be developed based on existing Employer's documents
Requirement of Project Delivery Partner: produce, manage

30.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will develop a procedure and process to define and govern the periodic reporting of Project progress to the *Employer* and the Programme Partner. This reporting will begin following mobilisation and is anticipated to encompass the areas mentioned below (although the initial reports are likely to cover status on the development of the various Project procedures and tools, as these will not yet be in use):

- **planning and scheduling:**
 - master schedule status reporting
 - project control schedule status reporting
 - schedule performance index (SPI) reporting
 - schedule risk and QRA reporting
 - manpower planned and actual reporting
 - physical quantity reporting
 - critical items reporting
 - schedule recovery and mitigation reporting
- **cost reporting:**
 - actual, forecast and budget reporting
 - trend and contingency management reporting
 - change control reporting
 - cost performance index reporting
 - risk QRA exposure reporting
- **risk:**
 - risk register reporting
 - risk mitigation plan reporting
 - risk reduction plan reporting
- **reporting narratives and other metrics:**
 - accomplished and planned work narratives
 - areas of concern and proposed actions
 - areas of support (external to reporting organisation) required from the *Employer*
 - value engineering reporting
 - safety reporting
 - sustainable procurement reporting
 - KPI reporting

30.2 Method

The content, format and frequency of reporting will be developed in consultation with the *Employer* and the Programme Partner, and in conjunction with Employer's programme level reporting requirements.

The initial draft of this procedure will be developed by period 3 of 2009/10, to be finalised and implemented by period 5.

30.3 Key inputs

- Input from the *Employer* and Programme Partner on reporting parameters/requirements.

31 Critical items action report procedure/process

Status at award: to be developed from the Employer's systems and procedures
Requirement of Project Delivery Partner: produce, manage

31.1 Description of deliverable

Throughout the progression of the Project works, numerous critical actions and elements will arise that will need to be addressed in order for all contractors to deliver the works to the established budgets and schedule. Most of these critical actions will be highlighted through the maintenance and updating of the Project integrated master schedule. The critical items action report (CIAR) is a method to systematically identify, discuss and address these critical actions, identifying required management attention and action. Upon mobilisation, the Project Delivery Partner will establish a procedure and process defining the CIAR approaches and responsibilities, including the levels and frequency at which the report will be produced and discussed in order to maintain timely and efficient delivery.

31.2 Method

The CIAR report and process will be implemented upon agreement and issuance of the Project integrated master schedule. The process is anticipated to be entirely within the Project Delivery Partner domain, as a key tool in managing the Project works.

The initial draft of this procedure will be developed during period 3 of 2009/10, to be finalised and implemented during period 5.

31.3 Key inputs

- The Project integrated master schedule and Project scope.

32 Cash flow procedure

Status at award: to be developed from the Employer's programme-level documentation

Requirement of Project Delivery Partner: produce, manage

32.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will establish a procedure and process, including utilisation of appropriate software systems, to provide necessary cash flow forecast information for the Project works. This will aid the *Employer* and Programme Partner in financial planning.

32.2 Method

The cash flow format and reporting intervals will be developed in consultation with the *Employer* and the Programme Partner, and with sight of the Project budgets, schedule and WBS.

The initial draft of this procedure will be developed during period 4 of 2009/10, to be finalised and implemented during period 6.

32.3 Key inputs

- Input from the *Employer* and Programme Partner, including information on Project scope, WBS, budgets and schedule.

33 Information and document management plan and procedure

Status at award: to be developed from existing Employer's documents
Requirement of Project Delivery Partner: input, manage

33.1 Description of deliverable

The Project Delivery Partner will comply with the information and document management procedures, standards and systems established by the *Employer*, and manage all programme documentation on the Project.

Upon mobilisation, the Project Delivery Partner will review the *Employer's* document control procedures and standards, and develop a records retention plan and procedure.

This exercise is intended to identify any additional procedures and processes required and identify recommendations to the *Employer* on suppliers of record and archival software and/or services.

33.2 Method

Upon mobilisation the Project Delivery Partner will:

- establish processes for real-time, on-line collaboration to assist all stakeholders with ready access to information. The procedures and processes will be written in consultation with the *Employer* and the Programme Partner, and with an understanding of the end-to-end document life cycle as well as relationships among the different document types
- approach suppliers of record, archival, and retention software and/or services and, based on the information gathered, make recommendations to the *Employer*. To achieve a timely and accurate handover to the owner/operator, a records archival and retention plan will be created. This plan will cover all aspects of records retention including retention periods, security, naming, formats and disposition

The initial draft of this plan and procedure will be developed by period 3 of 2009/10 to be finalised and implemented by period 4.

33.3 Key inputs

- The *Employer's* procedures, standards, and systems.
- Services of employment agencies.
- Input from the *Employer* and Programme Partner.
- The *Employer's*, Programme Partner, and Project Delivery Partner's execution plans and envisaged work loads.

34 Historical cost report plan and procedure

Status at award: to be developed from Employer's guidelines
Requirement of Project Delivery Partner: produce, manage

34.1 Description of deliverable

The historical cost report will be an invaluable record of the design, procurement and construction of the Crossrail Project, not only of interest for archival purposes, but also for its use to government in planning and budgeting for future infrastructure projects, as well as the future application of lessons learned. The report will cover all aspects of the Project delivery, including final installed scope, summary level technical data, installed quantities, actual construction and services durations, schedule, cost and other pertinent information. However, in order to be accurate and timely, this information must begin to be collected in a systematic way from the beginning of the Project throughout the entire delivery cycle. Upon mobilisation, the

Project Delivery Partner will develop a procedure and plan for implementing collection and aggregation of historical information as the Project progresses.

34.2 Method

The procedure and process will be developed in consultation with the *Employer* and the Programme Partner to ensure that all historical elements of the Project delivery are adequately identified and captured as the Project progresses.

The initial draft of this procedure will be developed during period 6 of 2009/10, to be finalised and implemented during period 8.

34.3 Key inputs

- Input from the *Employer* and Programme Partner.

Project implementation

35 Delivery – development of RACI charts for the Project

Status at award: the *Employer's* version of the Project RACI charts
Requirement of Project Delivery Partner: produce, manage

35.1 Description

The RACI analyses responsibility for undertaking specified activities under the following headings:

- responsible
- accountable
- consulted
- informed

Further development of the RACI charts is required to fully define roles, responsibilities and management interfaces.

35.2 Method

Upon mobilisation the Project Delivery Partner will review the latest versions of the charts and draft proposed changes. The Project Delivery Partner will then work with the *Employer* and the Programme Partner to align the charts and then finalise for implementation and inclusion in the Project execution plan.

The initial development of the RACI charts will be done in period 2 of 2009/10, to be finalised in period 4.

35.3 Key inputs

- Latest RACI charts.

36 Stakeholder management

Status at award: to be developed from existing Employer's documents
Requirement of Project Delivery Partner: input

36.1 Description of deliverable

The Project Delivery Partner will support the *Employer* in stakeholder management in the following areas:

- the rolling stock: the planning and provision of information for the procurement and operation of the rolling stock
- operations: understanding of the operating provisions to be accommodated in infrastructure specification within the Project (for example train crew facilities and access)
- planning and liaising on prospective service and other disruptions to existing services arising from the construction of the Project
- incorporating and mitigating the impact of dependencies from related bodies and projects including planning and consents, conditions from stakeholders and other third party agreements
- managing public media and community relations interfaces, including procedures for communication and escalation issues

36.2 Method

Our engineering manager, system-wide manager and systems integration manager will liaise with the *Employer* to confirm the programme for identifying the rolling stock

and operating requirements and provide the necessary support and design integration from the Programme Delivery Team.

Our system-wide manager and systems integration manager will liaise with the *Employer* to understand the programme for the *Employer's* interface management with the train operating company and other stakeholders and provide the necessary support and interfaces as required by the *Employer*.

During the first service year, the Project's detailed implementation plan will continue to evolve and be provided with more detail. Our engineering and delivery teams will be reviewing and understanding the interfaces that are created between the planned construction activities and affected services (including train, Underground, bus, roads, utilities) and third parties. We will work with the *Employer* to establish a division of responsibilities, protocol and tracking mechanisms such that input required for the consultation and agreement of each potential interaction is provided.

Our team will respond to requests from the *Employer* to provide necessary inputs and information to support the *Employer's* interaction with the public media and community relations. We will develop and agree a protocol for this interface which will be incorporated into our Project execution plan.

36.3 Key inputs

- Programme and requirements specification, when available, from the *Employer*.
- The *Employer* interface management protocol procedures.
- Level III programme and the *Employer* interface management protocol procedures.

37 Strategic supplier management system

Status at award: to be developed from Employer's strategic and responsible procurement policies.

Requirement of Project Delivery Partner: produce, manage

37.1 Description of deliverable

The Project Delivery Partner will work with the *Employer* and Programme Partner to establish a supplier database in order to identify and report on all suppliers who express an interest in the Project delivery. This system will incorporate the data necessary to manage our undertakings in respect of Responsible Procurement. Detailed records will be maintained to identify applicant companies, demographic data and other data required to meet the Project's Responsible Procurement obligations. Also recorded will be summary details on ITTs issued and response/success details. Typically, we would expect to implement a procurement management system which records commitment details and supplier performance data during and after close-out of the contract.

37.2 Method

The Project Delivery Partner will develop documentation, processes and systems as early as possible, in collaboration with the *Employer* and Programme Partner to ensure consistency across the Project for supplier management. Specific actions will include the following:

- review our Responsible Procurement objectives and develop an integrated plan and data set against which the Project will manage its suppliers and contractors. Flow these requirements down into Project Delivery Partner expression of interest, pre-qualification and invitation to tender processes and contractual provisions

- develop appropriate software/select system to be used for data gathering and management
- develop an agreed Project procurement code to be employed by Project Delivery Partner and communicated to the supply chain
- prepare an expression of interest document that provides appropriate Project information; requests specific data; and conforms to the requirements of the OJEU
- review the *Employer's* performance monitoring processes and metrics for flow down into contract language and Project Delivery Partner procurement monitoring and review processes
- report on performance of suppliers to the *Employer* and Programme Partner in a form to be agreed

The initial draft of this system will be developed by period 2 of 2009/10, to be finalised in period 4.

37.3 Key inputs

- Input from the *Employer* and the Programme Partner, including review of the latest *Employer's* programme level responsible procurement plan.

38 Contracting plan

Status at award: to be developed from existing *Employer's* documents
Requirement of Project Delivery Partner: produce, manage

38.1 Description of deliverable

The Project Delivery Partner will manage the tender processes for contracts to construct the Project including the pre-qualification process, development of tender lists, and issue of ITTs, tender evaluation reports, negotiation, and subsequent administration and close-out of contract work packages. The commercial department of the Project Delivery Partner will also support the Project in the area of contract claims management and back charge administration (in collaboration with other involved functional groups and departments). The Project Delivery Partner will develop a contracting plan for the bid, evaluation and award of the construction work packages consistent with the Project schedule and Procurement Strategy. It will also detail the approach and process for contract management, including processing of payment.

The contracting plan will reflect a contract packaging approach that aligns with the Project's delivery strategy and the Procurement plan. It will include an assignment schedule, which will delineate the division of responsibilities among parties, including responsibilities of engineering, procurement, construction, and commissioning. It will be reviewed during the life of the Project to consider changes in variables that might affect the plan such as labour conditions, schedule constraints, price, material and other economic factors. A robust change management plan will be adopted to manage contract cost growth and minimise contractor claims and disputes.

38.2 Method

The Project Delivery Partner will develop a detailed contracting plan for the Project. This will cover all stages of delivery through to Project completion and handover for operation. It is intended to submit this document as an early deliverable in period 2 of 2009/10. It will be included in the Project execution plan and form the basis upon which the Project Delivery Partner structures future service delivery plans.

Accordingly we will liaise closely with the *Employer* during its development to establish the basic 'ground rules' for progressing these activities and to determine whether there are any fundamental changes in our assumptions. We propose to complete the following:

- engage with the *Employer* and Programme Partner to identify the key goals, responsibilities and compliance processes that should be followed by the Project Delivery Partner in order to meet the expectations of the *Employer*
- agree with the *Employer* and Programme Partner delegations of authority, reporting and submittal requirements
- agree consultation requirements and approaches to stakeholders and consult widely to benefit from lessons in other areas and projects
- agree automation and system requirements

The initial draft plan will be developed by period 2 of 2009/10, to be finalised and implemented in period 4.

38.3 Key inputs

- Input from the *Employer* and the Programme Partner, including review of the Employer's programme-level execution plan.

39 Procurement plan

Status at award: to be developed from existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

39.1 Description of deliverable

The Project Delivery Partner will be responsible for managing the procurement activities for the Project subject to specific delegations and authorisations having been given by the *Employer*. The Project Delivery Partner will develop a procurement plan consistent with the overall Project schedule for purchasing major long-lead engineered equipment, as well as bulk materials and supplies. Procurement activities will include pre-qualification and development of tender lists, issuance of ITTs, tender evaluation reports and recommendations, negotiations, award and administration of purchase orders as well as expediting activities and supplier surveillance.

Furthermore, as required, the receipt, acceptance, storage, control and distribution of equipment and materials at the jobsites will be managed. The procurement plan will be integrated with the contracting plan. It will include an assignment schedule which will delineate the division of responsibilities among parties, including responsibilities for engineering, contracts, procurement, construction, and commissioning.

39.2 Method

The Project Delivery Partner will develop a detailed Procurement Plan for the Project which will include the procurement plans from mobilisation through to Project completion and handover for trains to operate. It is intended to submit this document as an early deliverable in period 2 of 2009/10. It will form the basis upon which the Project Delivery Partner will execute its services and it will be included in the Project execution plan. Accordingly we will liaise with the *Employer* as an initial activity to establish the basic 'ground rules' for progressing these activities and to determine

whether there is any fundamental change in our assumptions. We propose to complete the following:

- engage with the *Employer* and Programme Partner to identify the key goals, responsibilities and compliance processes that should be followed by the Project Delivery Partner in order to meet the expectations of the *Employer*.
- agree with the *Employer* and Programme Partner delegations of authority, reporting and submittal requirements.
- agree consultation requirements and approaches to stakeholders and consult widely to benefit from lessons in other areas and projects
- agree automation and system requirements.

The initial draft plan will be developed in period 2 of 2009/10, to be finalised and implemented in period 4.

39.3 Key inputs

- Input from the *Employer* and the Programme Partner, including review of the Employer's programme level execution plan.

40 Procurement operations and documentation

Status at award: to be developed from existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

40.1 Description of deliverables

The Project Delivery Partner will be responsible for all procurement activities for the Project subject to specific delegations and authorisations given by the *Employer*. This will include the tendering, evaluation, and subsequent administration, certification of payment, change control and close-out of all contract work packages. In executing this work, the Project Delivery Partner will be required to provide assurance that strategies, plans and interfaces are appropriately managed. As part of our assurance process, we will develop and implement appropriate planning, control, documentation and reporting processes to support the contract and procurement strategies and plan implementation.

This will provide transparency of procurement activities and support planning of resource needs for the *Employer* and the Programme Partner. Extensive pro-forma documentation will be produced, much of it submitted to the Programme-level for review and, in some cases, approval. We will also liaise with the Programme Partner on a day-to-day basis to supplement formal reporting to ensure that proposals are approved prior to execution. Controls, reporting and documentation will cover:

- work package strategies for effective execution of all required contracts in conjunction with construction, engineering, project controls and other involved functional groups
- Project specific procedures, for example prequalification, tendering, evaluation and award, contractor payment certification and payment, and all elements of contracts administration
- pro-forma contract and purchasing documents
- letters to prospective tenderers requesting expressions of interest
- OJEU notices, prequalification documents, lists of tenderers
- contract formation status report which will be aligned with the overall Project schedule providing key dates
- invitation to tender packages and tender evaluation plans

- completed tender evaluation reports for the *Employer* and commitment approval support to the *Employer* and the Programme Partner as required
- letters of award
- conformed contract documents
- conformed 'long form' and 'short form' purchase orders
- agendas for the post-award work phase, meetings (such as kick-off, progress, negotiation, and coordination meetings)
- commercial reports on consultant/contractor progress, payment applications, early warnings, invoices, claims
- reports on correspondence and records in accordance with Project filing and records procedures and functional standards
- close out reports for contracts, including any claim issues
- warranties records until turnover to the *Employer*
- procurement automation plan addressing supplier management, contract, purchasing, formation, tracking and commitment reporting

40.2 Method

In order to conform to these extensive requirements the Project Delivery Partner will require the following:

- assignment of skilled staff and project orientation
- engagement with the *Employer* and the Programme Partner to identify the key goals, responsibilities and compliance processes that should be followed by the Project Delivery Partner to collectively achieve value for money requirements and expectations
- review with the *Employer* and the Programme Partner and agree roles and responsibilities, key issues, opportunities and constraints
- agree with the *Employer* and the Programme Partner delegations of authority, reporting and submittal requirements
- submit procurement strategy report and seek feedback
- agree consultation requirements and approaches to stakeholders and consult widely to benefit from lessons learned in other areas and projects
- agree automation and system requirements
- agree procedures and RACI charts in respect of contract administration activities
- provide feedback to the Programme-level on the effectiveness of the Crossrail procurement programme and work with the *Employer* and the Programme Partner to continuously improve procurement operations

The draft documentation will be developed by period 5 of 2009/10 to be finalised and implemented in period 8.

40.3 Key inputs

- Input from the *Employer* and the Programme Partner, including review of the Employer's programme level procurement procedures.

41 Responsible Procurement implementation framework

Status at award: to be developed from existing Employer's documents

Requirement of Project Delivery Partner: produce/manage

41.1 Description of deliverable

The Project Delivery Partner will, in collaboration with the *Employer* and Programme Partner, develop a Responsible Procurement plan, which will set out a recommended plan of action and outline how Responsible Procurement is to be undertaken within the Project procurement plan. The document will identify the key goals, responsibilities and compliance processes that should be followed by the Project Delivery Partner, to collectively achieve Crossrail's policy requirements and GLA group policy expectations. The plan will also provide the basis for an outreach programme for engaging with other industry partners, contractors and suppliers in delivering the *Employer's* vision for Responsible Procurement. The plan will set out:

- a statement of Crossrail's Responsible Procurement policy and requirements
- a Responsible Procurement code to be employed by Project Delivery Partner
- Guidance on how to implement Responsible Procurement for the following key themes:
 - supplier diversity
 - fair employment
 - workforce welfare
 - meeting labour needs and training opportunities meeting labour needs and training opportunities meeting labour needs and training opportunities
 - delivering community benefits
 - ethical sourcing
 - environmental sustainability
- Project Delivery Partner procedures to ensure compliance with the *Employer's* Responsible Procurement policy and other human resources, industrial relations and sustainability policies
- templates for pre-qualification questions, invitation to tender requirements and contractual provisions
- procedures for evaluating and reviewing procurement packages details for compliance with Responsible Procurement code and the *Employer's* policy including evaluation criteria for contract award
- procedure for Design Framework Consultant and contractor self certification, review and monitoring
- procedure for sign-off
- outreach and communication programme including stakeholder and community engagement
- training schedule
- an interdependencies map
- a RACI chart

41.2 Method

The Project Delivery Partner will use an inclusive process to engage with the Programme Partner, appropriate Project stakeholders and the supply chain. The key focus of this work will be compliance with the GLA's group policy, as articulated through the *Employer's* policy on Responsible Procurement:

- engage with the *Employer* and Programme Partner and align management approach with strategy and core objectives including dedicated Project Delivery Partner Responsible Procurement code
- review roles and responsibilities, key issues, opportunities and constraints
- review supplier lists to maximise opportunities, conduct small business market survey and capacity to perform
- review the *Employer's* Responsible Procurement policy and ensure flow-down into Project Delivery Partner pre-qualification and invitation to tender processes and contractual provisions
- review the *Employer's* performance monitoring processes and metrics for flow down into contract language as well as into Project Delivery Partner procurement monitoring and review processes
- establish reporting processes, process map and mechanism and guidance for self certification
- establish reporting processes, process map and mechanism for establishing course corrections following non-compliances
- establish a programme of planned communication (media, project portal)
- conduct outreach forums and workshops in targeted communities to disseminate Project opportunities and advertise in targeted diversity areas
- produce Project fact sheets that highlight opportunities for use in community outreach efforts and communication programmes
- review response plans from contractors and suppliers for compliance
- audit high risk areas and/or companies and establish details for course corrections following non-compliances
- undertake education, training and outreach to targeted groups on and off Project
- report on Responsible Procurement performance to the *Employer* in a form to be agreed
- attend briefings with external groups and stakeholders as required by the *Employer*

The initial draft plan is to be developed in period 3 of 2009/10, to be finalised and implemented in period 5.

41.3 Key inputs

- Input from the *Employer* and the Programme Partner, including review of the *Employer's* Responsible Procurement policy.

42 Construction management plan

Status at Award: to be developed from existing Employer's documents
Requirement of Project Delivery Partner: produce, manage.

42.1 Description of deliverable

The Project Delivery Partner will produce the construction management plan as part of the Project execution plan. This deliverable will set out in detail how construction of the Project is to be delivered. The document will set out the scope of work at each worksite and will explain how each is to be organised and managed in a safe manner with minimum inconvenience to the neighbours.

42.2 Method

The Project Delivery Partner, in consultation with the *Employer* and the Programme Partner, will develop a detailed construction plan for the Project. This will consider key objectives, obligations, requirements and constraints for delivery. It will involve discussions with the safety, engineering, quality, procurement, environmental and project controls organisations to ensure that construction systems and methods are demonstrably best practice. The logistics plans, as part of the construction planning, will also influence the layout of worksites and wharf or railway loading areas and incoming material consolidation facilities.

Construction planning will also consider risk mitigation measures for delivery and minimisation of site presence. We will review facilities for pre-fabrication to minimise on-site work, pre-casting of concrete components and potential facilities for concrete supply or long-term secure storage of early acquired materials.

We will review the plan through all stages of project delivery. The construction plans will deal with facilities for key activities such as TBM delivery and erection and the associated planning for the systems required to feed them with segments and grout, remove spoil from tunnels and cater for power, air and water supply. Planning for sprayed concrete lined (SCL) tunnels will also review the options for the supply of equipment, concrete, reinforcement and other incoming necessities, together with systems for spoil removal from difficult small worksites. Staging of systems component delivery, installation and services fit out will also be considered, linking to procurement strategies, logistics and schedule requirements.

The initial draft plan will be developed in period 2 of 2009/10, to be finalised and implemented in period 4.

42.3 Key inputs

- The existing *Employer's* documents dealing with construction issues, including the up-to-date MDC and Design Framework Consultant reports, the delivery strategy, and logistics inputs from the Programme team and DHL.

43 Testing and commissioning strategy

Status at award: to be developed from the Employer's documentation

Requirement of Project Delivery Partner: produce, manage

43.1 Description of deliverable

In conjunction with the *Employer* and the stakeholders, the Project Delivery Partner will take a lead role in the preparation and agreement of a comprehensive testing and commissioning strategy. This document will set out how the testing and commissioning activities of the Project railway system and all its assets and interfaces will be executed in a manner which:

- demonstrates compliance of the railway system with the sponsors and CPFR requirements
- is consistent with the *Employer's* assurance process
- achieves progressive handover of elements of the works to the Infrastructure managers and operators
- achieves substantial completion and trial operations by the dates in the Project Development Agreement

The strategy will outline the overall testing and commissioning methodology and phases to be adopted; as well as defining the scope, roles and responsibilities of the *Employer*, stakeholders, infrastructure managers, train operators and the Project

contractors for the railway end-to-end commissioning leading to trial operations and final completion.

43.2 Method

The objective of the testing and commissioning strategy will be to progressively set to work the elementary systems, sub-systems and systems of the railway in a manner which enables safe operation at all times. This process will aim to demonstrate, to the satisfaction of the *Employer* and the authorities concerned, that the Project railway systems and interfaces meets the requirements set out by the CPFR, the statutory regulations, and the Project Development Agreement. This will support the *Employer* in obtaining the necessary approvals for passenger revenue service. The testing and commissioning strategy will set out and describe the key principles and processes leading to completion and define how the testing and commissioning activities will be effectively organised and managed to achieve this objective.

The key testing principles and processes will be based on following the main elements which will be described in more detail within the strategy:

- CPFR, Project Development Agreement, and delivery strategy testing and completion requirements
- a structured testing process for verification and validation of the railway system to meet the CPFR and design requirements
- a logic-driven and integrated commissioning programme considering Project internal, as well as its external Programme interfaces

To support the strategy, a more detailed testing and commissioning programme derived from PCS-03 will be developed on the basis of a commissioning logic and sequence which establishes the right order for testing and verifying that the works have been manufactured, installed and perform according to the design and specifications. The strategy will take into consideration the interfaces among the various Project railway systems and the external organisations involved in the testing process by incorporating:

- a site acceptance test process by which the various elements that make up the railway system are progressively integrated together, and demonstrated to deliver the CPFR requirements
- testing requirements incorporated into the design and specifications
- maximising off-site testing of electronic and computer-based systems, and their integration, in order to minimise rework of these systems on site
- a clear definition of testing scope, roles and responsibilities of the Project and stakeholders at the interfaces
- testing sequenced in a manner to support progressive handover of elements of the works to the Infrastructure managers
- testing programme aligned with PCS-03 dates and logic
- a testing regime supported by progressive assurance and certification process consistent with the *Employer's* verification and validation plan and assurance plan
- early determination of required major test equipment, measuring vehicles and instrumented trains and their provider
- handover requirements including all necessary documentation to support operation and maintenance of the assets concerned
- defects rectification plan for close out of snags
- support activities during trial operations

- reporting regime of progress of testing and commissioning activities and advance notification to allow the *Employer's* representatives or other nominated parties to witness the tests at factory or on site

In preparing the strategy, the Project Delivery Partner will consult with the Stakeholders and all interfacing parties to obtain their input to the strategy and gain their agreements. The strategy will also be subjected to the *Employer's* review and approval prior to its issue for implementation.

The draft strategy will be developed in period 2 of 2009/10 to be finalised and implemented in period 4.

43.3 Key inputs

- Programme delivery strategy.
- Project Development Agreement.
- Stakeholders testing programmes and logic.
- Verification and validation plan.

44 Property – over-site development provisions

Status at award: to be developed from existing Employer's documents

Requirement of Project Delivery Partner: input

44.1 Description of deliverable

The *Employer*, on behalf of Transport for London, is required to maximise the benefit to the Crossrail Project from the developments to be constructed on vacant land or over the station locations. The Project Delivery Partner will assist in this process by providing oversight of the designs for stations to allow effective developments to be constructed by developers with whom the *Employer* has signed collaboration agreements or other financial arrangements.

44.2 Method

The Project Delivery Partner will liaise with the *Employer* to ascertain their proposals for each worksite and include these in the appropriate Design Framework package when they are tendered. During the design phase, constructability reviews and other value management exercises will take account of any proposals for redevelopment of the sites.

44.3 Key inputs

- Any existing *Employer's* documents dealing with arrangements, proposals or agreements with developers for each site.

Logistics

45 Logistics plan for construction programme

Status at award: strategy by DHL and background work carried out by the *Employer's* team as noted in the current version of the construction logistics strategy and DHL reports

Requirement of Project Delivery Partner: produce, manage

45.1 Description of deliverable

The logistics strategy has been drafted by the *Employer* to address key programme logistical risks and to set out the strategic imperatives, implementation requirements, and execution plan for the safe, responsible, planned and methodical management of:

- Programme labour and staff movements
- construction plant and materials
- capital infrastructure equipment and materials
- demolition and excavation
- road, rail and water transport serving the Project

The Project Delivery Partner will review, validate and comment on the logistics plan as it pertains to the Project works and use this information in developing a Project-level logistics plan.

45.2 Method

The Project Delivery Partner will review the draft of the *Employer's* logistics and supply chain plan in its most up-to-date form. Where applicable it will provide constructive comments and recommendations for revisions that will enhance the plan.

Following this, clear stakeholder expectations, requirements and Programme operational parameters will be established and agreed with the *Employer*. This process will occur by means of a collaborative approach with DHL, Royal Society for the Protection of Birds, Port of London Authority, agreed industry partners, Department for Transport, the Environment Agency, other agreed environmental stakeholders and interest groups, local authorities and the Mayor's office.

From this review and building upon the *Employer's* programme level plan, a cross-functional logistics group will be developed to manage and monitor the logistics and supply chain activities. It will set and achieve necessary logistics requirements, including:

- site locations, labour numbers, shift patterns, transport routes and site access locations, health and safety and community interface requirements
- categories, volumes, usage, transport, storage and servicing requirements for Project construction plant and equipment
- value engineering and standardisation plans for Crossrail capital equipment and materials with expected quantities, volumes, and shipping/storage profiles from the Project
- a construction, demolition and excavation overview and execution strategy
- waste, environmental management, and construction plan deliverables for the Project delivery partner and relevant industry partners

- river transport methods and locations and arrangements for handling spoil from worksites and for unloading spoil and placing in final locations at Northfleet, Wallasea Island or other agreed locations
- rail transportation arrangements from Royal Oak worksite and railway pathing to the agreed disposal location to maximise flexibility with minimised risk of disruption to rail and public
- lorry haulage options for inbound materials and outbound spoil to tip or preferably to beneficial disposal via rail or road options
- materials testing and traceability requirements

Specific re-use options, target quantities and transport requirements for the appropriate and responsible re-use or disposal of all excavation and demolition material will be defined and recommended by the Project Delivery Partner and agreed with the *Employer* and the Programme Partner.

The Project Delivery Partner will seek to facilitate joint agreement upon key tasks, deliverables and division of responsibility amongst the contractors, industry partners and other involved agencies as appropriate.

Appropriate instructions and guidelines will be drafted, reviewed with the *Employer*, and issued to the tenderers for the construction packages and industry partners. The Project Delivery Partner will identify the key risks of non-compliance, the associated commercial and legal implications, and possible mitigation plans to address each of them.

In summary, the Project Delivery Partner will develop a strategy for the Project to co-ordinate:

- traffic, site access and security management
- material consolidation and site delivery
- transport operations, including rail and barge transport

If during the first year of the contract, hazardous substances of any kind are discovered, disturbed or cleaned-up on any site or property on which any activities are undertaken in connection with the Project, the Project Delivery Partner will assist the *Employer* by organizing an appropriate tender for and providing contract administration services in connection with the appointment by the *Employer* of specialists who will design the solution and supervise the contractor's remediation work. Although this is beyond the Project Delivery Partner's scope of services, if the *Employer* wishes the Project Delivery Partner to provide project management services in connection with any remediation activities, the Project Delivery Partner will discuss with the *Employer* the basis on which such project management services could be provided once the nature of the substances is known.

The draft programme will be developed in period 2 of 2009/10, to be finalised and implemented in period 4.

45.3 Key inputs

The *Employer* to share all available and pertinent information it has relating to:

- the current version of the Crossrail and DHL logistics plans
- current and anticipated environmental legislation and documentation requirements
- current and ongoing development of programme construction strategies
- applicable engineering standards and recommendations for material standardisation and value engineering opportunities by discipline and commodity
- constructability and programme designs

- logistics and transport input into major equipment and structural material designs
- Transport for London and local authority constraints by route
- current and future development and landfill opportunities
- other known major London project logistical constraints and requirements

46 Supply chain strategy

Status at award: to be developed from the Employer's documentation

Requirement of Project Delivery Partner: produce, manage

46.1 Description of deliverable

The Project Delivery Partner, as part of its overall efforts to control and reduce Project cost, will develop a supply chain strategy to secure Project materials, equipment and labour at sustainable market prices without experiencing unplanned shortages. This strategy will address the following issues;

- the overall Project context
- current industry considerations including market capacity, commodity equipment and labour price factors
- specific issues and opportunities relating to commodities
- specific issues and opportunities relating to equipment
- specific issues relating to labour and how management, supply and training under the project proposals can assure a stable and contented labour force
- cost benefit presentation

46.2 Method

The Project Delivery Partner will engage with the *Employer* and the Programme Partner

to identify and track opportunities in conjunction with our own review of the marketplace. The supply chain strategy will inform the procurement plan.

We will also undertake the following in order to present a balanced strategy:

- liaise with other public sector organisations in order to identify opportunities to achieve value for money through the most appropriate procurement strategies while ensuring that the Project will comply with the *Employer* governance requirements, directives, regulations and delegations
- liaise with selected suppliers, trade unions and labour organisations to identify similar opportunities.
- agreement of key Responsible Procurement activities and integration of these requirements into working procedures, especially in relation to recruitment and supply processes
- early identification of risks

During period 2 of 2009, the Project Delivery Partner will issue a draft supply chain strategy for review by the *Employer* and the Programme Partner, and it will be finalised in period 4.

46.3 Key inputs

- Contributions in the development of the strategy from the *Employer* and the Programme Partner together with initial documentation.

47 Develop and implement Project security function plan

Status at award: to be developed from existing Employer's documents

Requirement of Project Delivery Partner: produce

47.1 Description of deliverable

The Project Delivery Partner will produce a Project site specific version of the the *Employer's* security strategy. This will deal with the external security of the Project worksites and access control specific to the Project and any Project offices operated by the Project Delivery Partner to allow only authorised individuals to have permitted physical access to construction sites and areas, buildings and properties.

47.2 Method

Using an inclusive process to engage with the *Employer's* security advisor, the police, and other external security authorities personnel the Project Delivery Partner will:

- identify fencing and security requirements for worksites and offices
- identify access control arrangements for construction sites and special areas where restricted access arrangements will be required, such as tunnels and shafts
- identify security arrangements for vehicles entering and leaving worksites

The initial draft plan will be developed in period 2 of 2009/10, to be finalised and implemented during period 4.

47.3 Key inputs

- The existing *Employer's* documents dealing with security issues and police and security authority publications.

Health, safety, quality and environment

48 Health and safety management plan

Status at award: preparatory work by the Employer's HSQE department with health and safety manual and a number of procedures

Requirement for Project Delivery Partner: produce, manage

48.1 Description of deliverable

The Project Delivery Partner will examine, validate and comment as necessary upon the *Employer's* existing objectives.

48.2 Method

The Project Delivery Partner will work with the *Employer's* existing health and safety team

to understand the background to the existing procedures and the joint aims for the Project. We will produce a specific and targeted health and safety policy and procedures for the Project. The content of this will include the following:

- the methods to co-ordinate the *Project Delivery Partner's* health and safety policy and strategies with the *Employer's* to ensure full compliance by all involved in the Project
- the ways in which the *Project Delivery Partner's* safety culture and safety leadership programme will be promoted across the Project
- the methods for undertaking CDM compliance for all contracts in the Project and working with the *Employer's* CDM co-ordinator
- ensuring full alignment of industry partner's objectives, targets and procedures with the Project HSQE systems
- arrangements for site security, accident reporting and investigation, occupational health
- how resources will be provided to implement the health and safety programme together with proposals for regular training and site specific updates (for example STARTT briefings, Target Zero, workplace mobile facility)
- proposals for measuring how the objectives are being achieved
- metrics for health and safety in the Project (are they being met, and are they working for the Programme?)
- what barriers there may be to achievement of the objectives and how they may be managed
- ensuring that a robust accident, incident and near-miss reporting system is established and that regular feedback is given to all operatives
- establishing a behavioural management system to ensure that all staff and operatives take personal responsibility for safety
- emergency planning
- plant safety and the system for inspections prior to use

The initial draft plan will be developed in period 1 of 2009/10, to be finalised and implemented in period 3.

48.3 Key inputs

- All relevant documentation relating to the existing the *Employer's* health and safety policy and procedures, including, as a minimum, the health and safety manual; designing for health and safety procedures; risk assessment procedures for the *Employer's* personnel; the construction code; accident and incident reporting and investigating procedures.

49 HSQE induction plan

Status at award: preparatory work by the *Employer's* HSQE department

Requirement of Project Delivery Partner: validate, produce

49.1 Description of deliverable

The Project Delivery Partner will prepare a document outlining the content and schedule for a best practice HSQE induction programme for the Project.

This will include the mechanism for ensuring that all Project Delivery Partner personnel and those whom they control participate. This induction will contain the *Employer's* induction course, supplemented with additional material related to the Project, including Target Zero and other accident reduction indicatives. Amongst other things, the induction will include:

- objective of the induction programme
- outline content
- introduction to the *Employer*
- Crossrail vision/mission and how it will be achieved
- values and behaviours, including 'expected and accepted' code of conduct
- incident reporting requirements
- test of understanding
- delivery and tracking mechanisms
- any *Employer* produced materials or videos produced for the induction programme
- outline for an induction booklet
- Target Zero and other accident reduction initiatives

49.2 Method

The Project Delivery Partner will work with relevant members of the existing *Employer's* team and develop the existing induction plan to provide the programme outline described above. Consultation with industry partners will be sought in order to align the *Employer's* HSQE induction programme with those of the industry partners.

The draft plan will be developed in period 1 of 2009/10, to be finalised and implemented in period 3.

49.3 Key inputs

- Documentation relating to the existing HSQE induction programme.

50 Quality management system and Quality Plan

Status at Award: to be developed based on existing *Employer's* documents

Requirement of Project Delivery Partner: produce, manage

50.1 Description of deliverable

The *Employer* requires the Project Delivery Partner to operate an approved quality management system to BS ISO 9001. The Project Delivery Partner will plan to use the

existing *Project Delivery Partner's* certified quality management system tailored to integrate with the *Employer's* business management system. The details of this will be incorporated within the Project Delivery Partner's Quality Plan. This includes:

- quality management principles and arrangements for establishing quality management systems for designers, contractors and material suppliers
- quality monitoring and improvement schemes
- audit principles and schedule proposals
- verification and traceability of materials
- responsibility to collect documents for assurance purposes at the earliest possible stage.

50.2 Method

The Project Delivery Partner will work with the the *Employer's* quality team and all designers and contractors to establish a robust system which will track quality at all levels and ensure that contract requirements are met.

The draft Quality Plan will be developed in period 2 of 2009/10, to be finalised and implemented in period 4.

50.3 Key inputs

- The existing up to date *Employer's* documents dealing with the *Employer's* quality system, including but not restricted to quality management principles, policies and requirements, quality management review process.

51 Environment management plan

Status at award: to be developed based on existing Employer's documents

Requirement of Project Delivery Partner: produce, manage

51.1 Description of deliverable

The Project Delivery Partner will, in collaboration with the *Employer* and the Programme Partner, develop the environmental management plan and sustainable development plan designed to fulfil defined project planning requirements under the Crossrail Act, town and country planning regulations and third party stakeholder agreements or requirements as they pertain to project works. The documents will form part of an integrated HSQE management system and comply with the *Employer's* environmental management system (EMS) requirements. Each plan will set out:

- The *Employer* and Programme Partner, Project Delivery Partner and Design Framework Consultants' responsibilities
- The *Employer's* environment policy
- The *Employer's* EMS, industry partner and third party stakeholder requirements including environmental minimum requirements (EMRs) included in the construction code, planning and heritage memorandum, environment memorandum and Undertaking and Assurances
- The *Employer's* procedure for obtaining Section 61 consents under the Control of Pollution Act (1974)
- list of consent granting bodies and agencies
- Project Delivery Partner procedures to manage compliance with the *Employer's* environmental management system and other policies including sustainability and whole life costing

- procedure for evaluating and reviewing package details for compliance with EMRs, PET consents, green travel, materials and waste management strategy, sustainability requirements including carbon management
- procedure for evaluating contractor method statements for EMRs, PET consents, green travel, materials and waste management strategy, sustainability requirements including carbon management
- procedure for sign off, archive and document control
- environmental audit schedule for Design Framework Consultants and contractors
- environment training schedule for Design Framework Consultants, contractors and Project Delivery Partner staff as required
- performance reporting requirements, format and cycle
- an interdependencies map

51.2 Method

The Project Delivery Partner will seek to engage with appropriate internal and external stakeholders in the preparation of the environmental and sustainability management plans as part of a Project environmental management system. The key focus of this work is on meeting Project environmental minimum requirements, obtaining planning consents and meeting environmental conditions and any other stakeholder requirements. The Project Delivery Partner will:

- identify EMRs, industry partner and third party stakeholder requirements to be discharged, and develop an environmental compliance and requirements register as part of the Project Delivery Partner EMS
- review roles and responsibilities, key issues, constraints and environmental impacts
- review the *Employer's* environmental policy and sustainability requirements and ensure flow down into Project Delivery Partner environmental policy, goals and objectives
- review the *Employer's* environmental and sustainability performance monitoring processes and metrics for flow down into Project Delivery Partner EMS
- develop Project EMS procedures including detailed mitigation plans to ensure that environmental and sustainability objectives are met in key areas of concern (including, but not limited to, air quality, noise, vibration control, soil and water resource protection, spill prevention, flora and fauna protection, waste management, post operations environmental recovery, socio-economic and community) as well as to accomplish the high performance standards
- establish environmental and sustainability contract language for flow-down to construction contractors
- establish reporting processes, process map and mechanism for establishing course corrections following non-compliances
- establish a programme of preliminary consultation with consent granting bodies (in collaboration with the *Employer*) and in compliance with the *Employer's* consultation procedure
- review draft design packages (including all drawings, specifications and supporting information) for compliance with all Project EMRs and other requirements and sign off
- review construction method statements for compliance with all Project EMRs and consent conditions and sign off

- audit Design Framework Consultants and perform weekly workplace site inspections of contractors against environmental performance metrics and industry best practice
- undertake environment education and sustainability training
- report on environmental performance to the *Employer* in a form to be agreed
- attend the *Employer's* planning forum and other sub-groups or briefings with external groups and stakeholders as required by the *Employer*

The initial draft plan will be developed in period 2 of 2009/10, to be finalised and implemented in period 4.

51.3 Key inputs

- The *Employer's* environmental documentation (environmental policy and environmental management system).
- The *Employer's* sustainability strategy and design requirements.
- The *Employer's* whole life costing policy.
- The *Employer's* Undertakings and Assurances requirements register.
- The *Employer's* stakeholder matrix and list of contracts.

Corporate affairs

52 Corporate affairs plan

Status at award: to be developed based on existing Employer's documents
Requirement of Project Delivery Partner: produce, manage, input

52.1 Description of deliverable

The Project Delivery Partner will support the *Employer* in external interface management and communications through the following:

- i. support co-ordination of communications
- ii. stakeholder 'zippering' plan
- iii. public enquiry system database development
- iv. enhanced website for construction phase
- v. incident management plan

52.2 Method

The Project Delivery Partner will meet regularly with the *Employer's* corporate affairs to establish communications needs and resources required. The Project Delivery Partner will attend the *Employer's* communications group meetings to be advised of 'lines to take' and the protocols regarding Project communications. The Project Delivery Partner will advise the *Employer* of the most suitable spokesperson in order to cascade progress and positive messages at Stakeholder meetings, wider public meetings, local group and residents meetings and respond to any concerns raised. The Project Delivery Partner will provide relevant up-to-date information for the *Employer* to develop communications material needed for these meetings, and ensure that employees are available for media and communications training as required.

The Project Delivery Partner will develop a 'zippering plan' to establish contacts at Department for Transport, Transport for London, Network Rail, London Underground, Greater London Authority, the Mayor's office and equivalent employees within the Project Delivery Partner organisation. The Project Delivery Partner will work through the the *Employer's* communications group to establish regular liaison meetings and record stakeholder concerns so they can be responded to in a timely fashion.

We will support the *Employer* to develop the public helpdesk's on-line system, so that it is accessible by contractors, Project Delivery Partner and the *Employer*. We will introduce a digital alert system to facilitate timely action by the relevant personnel and a robust record of responses. The Project Delivery Partner will be responsible for a daily check of actions, and frequent on site auditing of responses. We will recommend enhancements to the existing Crossrail website to provide further information to the communities affected and wider public during the construction phase.

The Project Delivery Partner will develop an incident management plan with the *Employer* that will include input from contractors to establish procedures following all types of potential site incidents. We will roll out the incident management plan within the first six months and hold training sessions testing quality of response during example scenarios.

The initial plan will be developed in period 2 of 2009/10, to be finalised and implemented in period 4.

52.3 Key inputs

- the *Employer's* input, including access to the *Employer's* web and database developers.

Integration

53 Systems integration plan

Status at award: to be developed based on existing Employer's documents
Requirement of Project Delivery Partner: produce, manage

53.1 Description of deliverable

System Integration will be the key to allow the delivery of the railway system to CPFR and Project Development Agreement requirements, avoiding late changes to design and to achieving timely approval to put the railway into passenger service.

In conjunction with the *Employer* and the Programme Partner, the Project Delivery Partner will establish an organisation, methods and procedures to deliver a fully integrated and safe railway transport system. The systems integration management process

will support, through risk assessment, planning and appropriate integration activities the integration of the various elements that make up the system to meet the Project objectives and requirements. The process will cover the Project railway system assets and all its interfaces, including those with stakeholder's infrastructures such as Network Rail, London Underground and Docklands Light Railway.

The system integration team will have the ability and be given the authority to resolve conflicts, make decisions and follow them through to delivery

The system integration team will use the integration management plan which sets out the integration processes to manage integration throughout the phases of the Project.

53.2 Method

The plan will be the basis for the project design, procurement, construction and testing teams to manage and co-ordinate the integration between the Project railway systems. This plan will also address the interaction with the various interfaces with third party infrastructure systems and interfaces between the designers and contractors throughout the project lifetime by:

- i. focusing upon the Project requirements
- ii. considering a structured lifecycle from concept through to operation
- iii. compiling all elementary systems into coherent parts of a single integrated railway

The integration will cover all types of interfaces to enable the Project railway systems, including computer based systems, to integrate with the parts of the railway they are interfaced with:

- functional interfaces
- physical and environmental interfaces such as with civil, architecture and M&E
- interfaces (physical and functional) of Project systems with other parts of the Programme, for example Network Rail, London Underground and Docklands Light Railway, rolling stock and depot)

The five key strands of integration activities below are based on these three principles, and will be defined and detailed further within the systems integration plan:

- enabling the project requirements as a whole to be met
- embedding systems into operational and maintenance strategies
- define and manage issues at interfaces, including EMC/EMI
- control the configuration of design and systems, and design change control

- integrating and system proving

We will manage inter-disciplinary design reviews, factory acceptance testing, off-site and on-site testing. The testing requirements will be incorporated into the designs and specifications.

The systems integration plan will cover the following:

Requirements traceability

The Project requirements will be scoped and incorporated into the design through systems design specifications, functional design specifications and procedures. Manufacturing, installation, and testing plans/procedures will reflect these requirements and the means of demonstrating compliance.

The requirement will be tracked through the various stages of the project using the established DOORS database.

Interface management

The various systems interfaces will be managed in accordance with the systems interface management plan. The plan will address and cover the following key elements:

- define physical boundaries and other interfaces between systems and between designers and contractors
- confirm that systems, computer based systems, civil works or station works that meet at interfaces are compatible, physically and functionally
- scope and implement the interfaces requirements within designs and/or through interface design specifications
- regular joint design reviews with interfacing entities
- EMC/EMI compatibility
- establish testing requirements to validate design

Configuration management

The system architecture schematics and the interfaces that are defined will be the top level documents for design configuration control. They will be baselined and all design will proceed in accordance with the controlled baseline documents.

The various sub-systems will be defined and base lined at various levels of design development to freeze the sub-system architecture.

Changes to baseline design documents will be managed in accordance with the configuration management plan.

The plan will also deal with 'configuration changes' which are changes to the built sub-system that are made so that the sub-system remains compatible with the overall system. 'Configuration changes' are on-site and off-site changes to hardware/software that are needed to:

- reflect design changes
- resolve site technical queries
- correct non conformances
- changes to software that are needed to reflect late changes to hardware

Embedding systems into operational and maintenance strategies

Embrace maintenance and operation aspects of the railway and ensure that the requirements are incorporated into the design and specifications of the systems. Compliance will be tracked throughout the design, manufacture, installation and testing phase's to enable compatibility of the systems with the way the railway shall be operated and maintained to deliver the intended performance.

Integrating and system proving:

This plan will set the requirements and principles to identify system products and sub-systems, the method of integrating them into a system and the methods for testing and validating the various elements and the system as a whole.

Demonstration of compliance will be performed in accordance with the *Employer* verification and validation plan. The following key elements will be covered:

- inspection and testing plans for an element of a system
- commissioning lots – groupings and commissioning logic
- how integration will be followed by system proving
- what items need to be integrated, and in what order
- demonstration of Project requirements being met through testing
- recording of test results and compliance

In accordance with the testing and commissioning strategy, the plan will also address the testing regime to be deployed to maximise off-site testing especially for testing of electronic and computer-based systems, and their integration, in order to reduce or eliminate any subsequent rework of these systems prior to installation on site.

The initial draft plan will be developed in period 5 of 2009/10, to be finalised and implemented by period 7.

53.3 Key inputs

- Programme delivery strategy.
- Systems integration plan.
- Verification and validation plan.

Human resources

54 Develop and implement policies and procedures to support the *Employer's* human resources strategy

Status at award: to be developed from the Employer's programme level documentation

Requirement of Project Delivery Partner: validate, produce and manage

54.1 Description of deliverable

The Project Delivery Partner will develop and implement policies and procedures which support the *Employer's* human resources strategy, including:

- policies which cover the employment of individual members of staff
- the terms and conditions which apply to those staff
- the development of the organisation to ensure that it meets the changing needs of the Programme

The Project Delivery Partner will have policies that apply to their staff that are at least as stringent as those of the *Employer* in the areas of health and safety, training and development, business ethics, code of conduct, drug and illegal substances, equal opportunities and diversity, harassment and bullying, conduct of staff in the run up to elections/local elections, gifts and hospitality, and alcohol.

54.2 Method

The Project Delivery Partner's human resources representative will engage with the *Employer's* human resources team to ensure thorough understanding of the policy requirements.

The Project Delivery Partner's human resources representative will compare its existing policies with those of the *Employer* to confirm they are acceptable. Project specific policies will be developed and implemented if required.

The initial strategy will be developed in period 2 of 2009/10, to be finalised and implemented during period 4.

54.3 Key inputs

- The *Employer's* policies on health and safety, training and development, business ethics, code of conduct, drug and illegal substances, equal opportunities and diversity, harassment and bullying, conduct of staff in the run up to elections/local elections, gifts and hospitality, and alcohol and drugs.

55 Deliver and maintain a learning and development training programme for Project Delivery Partner staff

Status at award: to be developed from the Employer's programme level documentation

Requirement of Project Delivery Partner: produce, manage

55.1 Description of deliverable

The Project Delivery Partner will implement a training programme that provides a basis for employees to have the skills and capabilities required to deliver the Project in an effective and efficient way.

Project Delivery Partner staff will be trained in use of the *Employer's* bespoke systems

and processes. Staff compliance with the *Employer's* requirements will be monitored on an ongoing basis.

55.2 Method

All Project Delivery Partner staff will undergo a project specific induction which will inform them of the goals and requirements of the Project. This will be administered by the Project Delivery Partner's human resources representative.

All staff will also undergo a second, role specific induction, administered by their line manager. The line manager will liaise with the human resources representative to arrange training on the *Employer's* bespoke systems appropriate to the specific role. The employee and their line manager will discuss options for development, and identify the appropriate training courses required to achieve this, whether they be internal or external. A training and development plan will also be drawn up and agreed between the employee and line manager.

Line managers will be responsible for monitoring the performance of each employee. Each manager will monitor compliance with the appropriate the *Employer's* standards, processes and procedures to that role, and will take corrective action in the event of non compliance.

The initial programme will be developed in period 2 of 2009/10, to be finalised and implemented in period 4.

55.3 Key inputs

- Formal training courses that the *Employer* offers to its own staff.
- The standards, processes and procedures that the *Employer* requires the Project to hold.

56 Assist the *Employer* with the establishment of a community skills development programme

Status at award: to be developed from the Employer's documentation
Requirement of Project Delivery Partner: input

56.1 Description of deliverable

The Project Delivery Partner will assist the *Employer* in establishing a programme to implement skills related initiatives to aid the development of communities along the Crossrail route, and allow these communities to contribute to the successful delivery of Crossrail.

The Project Delivery Partner will also attend schools and colleges along the route to publicise the *Employer's* programme and to encourage young people to enter into a career in engineering and construction.

The Project Delivery Partner will promote careers in the construction industry through attendance at career fairs and universities.

The Project Delivery Partner will also work under the *Employer's* Responsible Procurement policy and will cascade skills and training requirements into ITTs and contract documentation.

56.2 Method

The Project Delivery Partner will work with the *Employer* and contractors to co-ordinate training initiatives, which will include secondments, graduate programmes, work placements and skills training programmes.

The Project Delivery Partner will work with contractors to develop a standardised approach to training that maximises the use of existing curricula, processes and facilities.

The initial programme will be developed in period 2 of 2009/10, to be finalised and implemented in period 4.

56.3 Key inputs

- The the *Employer's* programme for community skill training and development.
- The Project Delivery Partner's on project graduate and apprenticeship schemes.
- The the *Employer's* business ethics policy.
- The the *Employer's* Responsible Procurement policy.

57 Implement Programme-wide industrial relations strategy and policy

Status at award: to be developed from Employer's strategy and policy

Requirement of Project Delivery Partner: manage

57.1 Description of deliverable

The Project Delivery Partner is aware that the *Employer* has had discussions with unions and trade organisations to form a Project strategy. The Project Delivery Partner will implement the *Employer's* Programme wide industrial relations strategy and policy across all contracts on the Project.

57.2 Method

The Project Delivery Partner will work to support a consistent approach across all contracts to reinforce each company's obligations to discharge their responsibilities to their employees in a fair and responsible manner by monitoring and discussing industrial relations as part of the construction progress meetings.

The initial draft strategy will be developed in period 2 of 2009/10, to be finalised in period 4.

57.3 Key inputs

- The *Employer's* Programme-wide industrial relations strategy and policy.

58 Implement an employee programme which covers occupational health and welfare, and diversity requirements

Status at award: as per legal requirements

Requirement of Project Delivery Partner: produce, manage

58.1 Description of deliverable

The Project Delivery Partner will implement a programme which meets all relevant legislation for occupational health and welfare in the workplace and will meet all legal requirements regarding diversity and fairness of opportunity for both recruitment and duration of employment.

58.2 Method

The Project Delivery Partner will stipulate that all its employment policies and those of companies working on the Project are fully in accordance with the legislation and the *Employer's* policies. We will highlight this in all tenders and will audit compliance on site during the Project.

The initial programme will be developed in period 2 of 2009/10, to be finalised and implemented in period 4.

58.3 Key inputs

- The the *Employer's* company standards.
- The the *Employer's* accommodation guidelines.
- Diversity in the workplace legislation and the *Employer* documentation.
- Workplace health and safety legislation.

Operations

59 Input to operations plan

Status at award: to be developed based on existing Employer's documents
Requirement of Project Delivery Partner: input

59.1 Description of deliverable

The Project Delivery Partner will:

- contribute to the specification steering group
- assist with change control implications to functionality and specification
- provide the link between changes to operational requirements and the framework consultants

59.2 Method

The Project Delivery Partner will work with the *Employer's* respective operational working groups to provide the required assistance throughout the Project.

59.3 Key inputs

- Close co-operations of the *Employer's* working groups.

General obligations

60 Project Delivery Partner register

Status at award: available at mobilisation

Requirement of Project Delivery Partner: produce/manage

60.1 Description of deliverable

Upon mobilisation, the Project Delivery Partner will submit to the *Employer* a register of its employees assigned to the Project detailing name, company, position, grade, and other information as required. This information will be kept current as additional employees are mobilised or demobilised.

In accordance with the *Conditions of Contract*, the Project Delivery Partner shall submit details of *key personnel* and others to the *Employer* for acceptance and shall not reassign or alter the responsibilities of *key personnel* without the *Employer's* approval.

Also, in accordance with the Conditions of Contract, the Project Delivery Partner shall ensure that the procedure for the submission and agreement of Invoices is agreed with the Employer at the commencement of the Contract. The Project Delivery Partner will use the Employer's spreadsheets or other appropriate formats or templates. This will ensure that all required information is provided at the time of invoicing and that the Employer will have the opportunity to verify that personnel have been correctly invoiced and that any auditing requirements can be fulfilled.

60.2 Method

The Project Delivery Partner Register detailing the initial mobilisation of employees will be made available during the first period of mobilisation, and will be maintained and updated as necessary.

The initial draft register will be developed and finalised in period 1 of 2009/10.

60.3 Key inputs

- The *Employer* input on information required to be maintained.

Please refer to our project controls deliverables which cover the further requirements of the general obligations. The project controls function will be responsible for this scope of work.

Service delivery plans

61 Service delivery plans

Status at award: FSDP appended to contract
Requirement of Project Delivery Partner: produce

61.1 Description of deliverable

The Project Delivery Partner will produce a service delivery plan that, in its professional judgement, responds to the requirements of the *Employer* for the forthcoming year.

61.2 Method

The Project Delivery Partner and the *Employer* will discuss and agree the key inputs, deliverables and required dates for delivery in the forthcoming year, and a draft plan for the following two years. Based on the identified requirements, a service delivery plan in accordance with the established content and format will be prepared. Review and discussion of the plan with the *Employer* will be scheduled to support finalisation of the plan by the end of period 10 each year to be agreed in period 13.

61.3 Key inputs

- the *Employer* will identify its requirements for the second year of the contract and the proposed deliverables by the end of period 7 of 2010.

Further deliverables

62 Quality Policy Statement

Status at award: To be developed by Project Delivery Partner
Requirement of Project Delivery Partner: produce

62.1 Description of deliverable

The *Scope* requires the Project Delivery Partner to operate an approved quality management system to BS ISO 9001. The Project Delivery Partner will plan to use the *Project Delivery Partner's* existing certified quality management system tailored to integrate with the *Employer's* business management system and will provide the associated Quality Policy Statement.

62.2 Method

The draft Quality Policy Statement will be developed by 5 May 2009 to be finalised in period 3.

62.3 Key inputs

- The Project Delivery Partners quality management system as noted in Section 50 of this document.
- The Employer's Quality Management System.

63 Submission of Deliverables and acceptance by the Employer

Status at award: To be developed by Project Delivery Partner
Requirement of Project Delivery Partner: produce, manage

63.1 Description of deliverable

The *Scope* requires the Project Delivery Partner to submit a series of Deliverables during the course of the Contract for review and acceptance by the Employer.

63.2 Method

A plan will be produced by the Project Delivery Partner to indicate how deliverables will be produced, submitted for approval to the Employer and modified to accord with the Employer's requirements. This draft plan will be developed by 27 April 2009 to be rapidly finalised in conjunction with the Employer during period 3.

63.3 Key inputs

- Employer's system for Approval of contract submissions.

64 Design Package Procurement Plan

Status at award: To be developed from documentation upon which Package Orders have been tendered and all documentation relating to Framework Design Consultants Agreements.
Requirement of Project Delivery Partner: produce, manage

64.1 Description of deliverable

The *Scope* requires the Project Delivery Partner to produce a plan to procure the Design Packages for the Project, some of which have already been tendered by the Employer.

64.2 Method

The Project Delivery Partner will review the Documentation supplied by the Employer and propose a strategy for early award of these packages, considering the initial aspects of both the Procurement and Construction strategies. The draft plan will be developed by 27 April 2009 to be rapidly finalised in conjunction with the Employer during period 3.

64.3 Key inputs

- All documentation upon which Package Orders have been tendered and all documentation relating to Framework Design Consultants Agreements.

65 Plan for carrying out the duties of Employer's Agent for the design packages

Status at award: To be developed by Project Delivery Partner

Requirement of Project Delivery Partner: produce, manage

65.1 Description of deliverable

The *Scope* requires the Project Delivery Partner to carry out the duties of Employer's Agent for the design packages and requires a plan to be developed to ensure that the advance works are carried out in accordance with Project procedures and control and reporting mechanisms.

65.2 Method

In conjunction with the Employer, the Project Delivery Partner will establish and document a robust process for the management of the preparation of the designs by the Framework Designers under Package Orders. This process will describe the process by which these packages will be administered to produce timely, safe, economic and compliant designs. The draft plan will be developed by 5 May 2009 to be finalised in period 3.

65.3 Key inputs

- All documentation upon which Package orders have been tendered and all documentation relating to Framework Design Consultants agreements.
- Employer's procedures and requirements for financial control and reporting.

66 Plan for procurement of advance works packages

Status at award: To be developed by Project Delivery Partner based on documentation to be supplied by the Employer and EWMA.

Requirement of Project Delivery Partner: produce, manage

66.1 Description of deliverable

The *Scope* requires the Project Delivery Partner to produce a plan to procure the Advance Works Packages for the Project, some of which are already in the process of procurement by the EWMA and the Employer.

66.2 Method

The Project Delivery Partner will review the Documentation supplied by the EWMA and Employer and propose a strategy for early procurement and award of these packages, considering the initial aspects of both the Procurement and Construction strategies. The draft plan will be developed by 5 May 2009 to be finalised in period 3.

66.3 Key inputs

- The EWMA Service Delivery Plan, schedules, work lists and all other relevant ITTs and documentation relating to the procurement of any Advance Works packages or preparations for such.

67 Plan for managing the EWMA

Status at award: To be developed by Project Delivery Partner
Requirement of Project Delivery Partner: produce, manage

67.1 Description of deliverable

The *Scope* requires the Project Delivery Partner to manage the EWMA and requires a plan to be developed to ensure that the works being carried out under these contracts are in accordance with Project requirements, procedures and control and reporting mechanisms.

67.2 Method

The Project Delivery Partner will develop a detailed strategy for the management of the EWMA and ensuring that supervision, contract administration, cost control and reporting and all other processes required by the Project are carried out. The draft plan will be developed by 5 May 2009 to be finalised in period 3.

67.3 Key inputs

- The EWMA Service Delivery Plan, schedules, work lists and all other relevant contract documentation.
- Employer's procedures and requirements for financial control and reporting.

68 Plan for the carrying out of the duties of Project Manager and Supervisor for the advance works

Status at award: To be developed by Project Delivery Partner
Requirement of Project Delivery Partner: produce, manage

68.1 Description of deliverable

The *Scope* requires the Project Delivery Partner to carry out the duties of Project Manager and Supervisor for the advance works and requires a plan to be developed to ensure that the advance works are carried out in accordance with Project procedures, requirements, and control and reporting mechanisms.

68.2 Method

The Project Delivery Partner will develop a detailed strategy for the management of the advance works and the supervision, contract administration, cost control and reporting and all other processes required. The draft plan will be developed by 20 July 2009 to be finalised in period 6.

68.3 Key inputs

- Review of the Employer's systems and those being developed by the Programme Partner and Project Delivery Partner.
- Any information from the EWMA which informs the scope or any other aspects of the Advance Works contracts.

69 Provide Early Warnings as required by the Contract

Status at award: To be developed by Project Delivery Partner
Requirement of Project Delivery Partner: produce, manage

69.1 Description of deliverable

Contractually the Project Delivery Partner is required to provide Early Warnings to the Employer in a number of circumstances. A plan is required to enable all parties involved in the process to understand both the administrative and contractual processes and timings.

69.2 Method

As part of the Administration and Document Control procedures, the Project Delivery Partner will develop a system to issue Early Warnings, track the issue and response or time outstanding and the record of actions taken to closeout. These will be collected and reported regularly. The administration plan for Early Warnings will describe these processes. The draft plan will be developed by period 3 to be finalised in period 5.

69.3 Key inputs

- The Project Delivery Partners information and document management systems.

70 Plan for promotion and implementation of values and behaviours

Status at award: To be developed by Project Delivery Partner
Requirement of Project Delivery Partner: produce, manage

70.1 Description of deliverable

The overarching responsibility of the Project Delivery Partner, as defined in the *Scope* is to ensure successful delivery of the central section Project. In order to achieve this, the Project Delivery Partner will require to establish, promote and implement a number of values and behaviours during the implementation of the contract and will produce a plan to indicate how this will be implemented.

70.2 Method

The Project Delivery Partner will produce a plan describing these values and behaviours and indicating how these will be implemented. This will be based on the Stage 2 Tender submission section A1.5. The draft plan will be developed by 5 May 2009 to be finalised in period 3.

70.3 Key inputs

- The Project Delivery Partner's tender response section A1.5.
- The Employer's standards for conducting business.

71 Plan for development and management of effective relationships with key Project stakeholders

Status at award: To be developed by Project Delivery Partner
Requirement of Project Delivery Partner: produce. manage

71.1 Description of deliverable

Managing the successfully delivery of the Project will require the Project Delivery Partner to develop effective relationships with the key Project stakeholders during the implementation of the contract. In order to allow the Employer to understand how this will be achieved, the Project Delivery Partner will produce a plan to indicate how this will be implemented.

71.2 Method

The Project Delivery Partner will describe how these relationships will be developed and managed. This will be based on the Stage 2 Tender submission section A1.6. The draft plan will be developed by 20 June 2009 to be finalised in period 5.

71.3 Key inputs

- The Project Delivery Partner's tender response section A1.6.

72 Plan detailing people, processes and systems used to monitor and manage the interim and Programme KPIs

Status at award: To be developed by Project Delivery Partner
Requirement of Project Delivery Partner: produce

72.1 Description of deliverable

The Project Delivery Partner details how it is proposed to monitor and manage the KPI process during the implementation of the contract.

72.2 Method

The Project Delivery Partner will produce a plan describing the people, processes and systems and indicating how these will be implemented. This will be based on the Stage 2 Tender submission section A1.7. The draft plan will be developed by 20 May 2009 to be finalised in period 4.

72.3 Key inputs

- The Project Delivery Partners tender response section A1.7.

Part ii) Schedule of deliverables, key dates and conditions

ii)

Schedule of deliverables, key dates and conditions

Note 1 Q = Quarter of year, 3 month period measured from 1 Jan 2009			Note 2 Validate = Review/Modify/Agree with CLRL. Produce = Production of the deliverable. Manage = Management of the production and application of the deliverable. Input = Provide content to deliverable managed by CLRL or Programme Partner.			
Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input	
Mobilisation						
1		Mobilisation plan	15/04/2009	P1	P/M	N/A
Corporate						
2	3.2, 4.0, 11.0	Project Execution Plan, specific to the PDP scope (the Project).	01/05/2009	30/06/2009	P	No draft.
3		The Project component of Annual Business Plan and Budget 2010/11	Q3	Q4	P	No draft.
PDA driven						
4		Detailed plan to meet requirements of Review Point 3 and Review Point 4.		01/05/2009	V/M	Initial plan agreed by CRL with Sponsors by 20 April 2009 to enable PDP to finalise detailed Plan by 1 May 2009.
5		Review Point 3 deliverables relating to the Project (PDA Schedule 5)	01/05/2009	30/06/2009	V/P/M	Varies by element.
6		Delivery Strategy - Second Update for Review Point 3 (PDA Schedule 5)		30/06/2009	I	CR/BMS/DS/001 V2.0 accepted by Sponsors Sept 08
7		Procurement Strategy (Project Level) (PDA Schedule 5)	01/05/2009	30/06/2009	V/P	Annex 6 of the Delivery Strategy CR/BMS/DS/001 V2.0
8	2.1	Assurance Process for the Project agreed by Sponsors prior to inclusion in Delivery Strategy (Compliant with PDA clause 15.2)		30/06/2009	V	Initial submission made to Sponsors and accepted as basis for validation of Process by 20 April 2009

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Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input	
9		Semi-annual Construction Reports for the Project (PDA Clause 26)		30/09/2009	P	No draft.
9		Semi-annual Construction Reports for the Project (PDA Clause 26)		31/03/2010	P	No draft.
10		Periodic Construction Reports for the Project (PDA Clause 26)		Each Period End, starting Period 1	P	Period 13 complete by 20 April 2009
Engineering						
12	2.2 8.0	Design management process	P2	P5	P/M	<p>Engineering safety management process - Draft at Programme-level; Project level to be developed</p> <p>Integration management plan - Draft at Programme-level; Project level to be developed</p> <p>Design management structure - Organisation Chart, 0a0201-xxxx-50001</p> <p>Scheme Design Programme Procedure, CR-SD-MGT-X-PD-00026, version 1</p> <p>Competency based assessment programme - DM Competency Management Procedure, CR-DV-MGT-X-PD-00034, version 1</p> <p>Competency Management Procedure, CR-QMS-DEV-P-0131, version 2. This document requires review and re-issue by the programme.</p> <p>Integrated design / survey schedule - Crossrail Survey Schedule, CR-DV-PRW-X-SV-00008</p> <p>Design Assurance Plan CR/QMS/DEV/MP/0175 Version 2</p> <p>Scheme Design Final Review & Acceptance Procedure, CR-SD-MGT-X-PD-00031, version 2</p> <p>Review and Acceptance Procedure for Design Packages: Post SD3, CR-SD-MGT-X-PD-00035, version 2</p> <p>Design Review & Checking Procedure, CR-DV-MGT-X-PD-00036, version 4</p> <p>Performance metrics - standard process - Draft at Programme-level; Project level to be developed</p> <p>Performance modelling strategy and integration - Draft at Programme-level; Project level to be developed</p> <p>Standardised process for collating principal quantities - SDS Quantities</p>

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Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input	
						Report, CR-SD-PRC-MG-RT-00003, version 1
13	2.3	Utilities coordination and diversion process	P2	P4	P/M	Preparation of Estimates for the Diversion of Undertaker's Apparatus, CR-DV-PRW-X-PD-00002, version 6
14	2.4	PET consents management plan	P3	P5	P/M	Consents Management Procedure, CR-DV-MGT-X-PD-00015, version 1 Highways and Traffic Consents Register Explanatory Note, CR-PN-PRW-TR-NT-00001, version 1 Highways Consents Strategy (Draft), CR-PN-PRW-TR-SY-00001 Planning Consents Strategy January 2007, 15012008-RFPU-ANJE, version 1 Highways and Traffic Consents Register, CR-PN-PRW-TR-RG-00001, version 1 Highways Consents Guidance, CR-PN-PRW-CN-GN-00002, version 1 MDC2 Traffic & Highways Consents Register, CR-SD-ENV-CN-RG-00002, version 2 MDC3 Traffic and Highways Consents Register, CR-SD-PRC-TR-RG-00001, version 1 Completion of Highway Planning & Environmental Consents Register, CR-SD-PRW-X-RT-00016, version 3
15	2.5	Undertakings and Assurance and third party agreements strategy	P3	P5	P/M	Validation and acceptance process – Undertakings and Assurances Register available by 20 April 2009; Project level to be developed
Project Controls						
16	3.1, 3.2	Project controls plan	P2	P4	P/M	Draft at Programme-level available by 20 April 2009; Project level to be developed
17	3.1.4	Project information plan	P3	P6	P/M	Information Management Plan, CR-DV-MGT-X-PL-00011, version 2
18	3.3.4	Quantity tracking procedure/process	P3	P5	P/M	Draft at Programme-level available by 20 April 2009; Project level to be developed
19	3.2.3, 3.3.9, 3.3.12	Project integrated master schedule and key milestone schedule	P2	P4	P/M	CLRL Master Summary Schedule, CR-SD-PRW-X-PG-00014, version 1.0
20	3.3.1-3.3.7, 3.4.3	Budget control procedure/process	P3	P5	P/M	Budget Planning and Management, CR-DV-MGT-X-PD-00012, version 2

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Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input	
21	3.3.1-3.3.7	Cost control and forecasting procedure/process	P3	P5	P/M	Cost Planning and Management, CR-DV-MGT-X-PD-00011, version 1
22	3.3.4, 11.4, 11.6	OBS and resource management plan	P3	P5	P/M	Organisation Chart, 0a0201-xxxx-50001
23	3.3.5, 3.4	Contingency management procedure/process	P4	P6	P/M	Draft at Programme-level available by 20 April 2009; Project level to be developed
24	3.3.8 - 3.3.13	Planning and scheduling procedure/process	P3	P5	P/M	Draft at Programme-level available by 20 April 2009 ; Project level to be developed
25	3.3.13	WBS/code of accounts dictionary	P2	P4	P/M	Draft at Programme-level available by 20 April 2009; Project level to be developed
26	3.3	Earned value management plan and procedure	P2	P6	P/M	Employer's integrated master schedule and key milestone schedules available by 20 April 2009; Project level to be developed
27	3.3.14, 3.3.15	Estimating procedure/process	P3	P5	P/M	Project Cost Estimating Procedure, CR-QMS-P-0500, version 5 Crossrail Capex Estimate Production Plan, CR-DV-MGT-MG-PL-00005, version 1 Scheme Design Capex Cost Estimate Procedure, CR-SD-MGT-X-PD-00003, version 1
28	3.4	Trend programme and scope change control procedure/process	P4	P6	P/M	Trend and Change Control Management, CR-DV-MGT-X-PD-00001, version 4
29	3.5	Risk management and reduction plan	P4	P6	P/M	Strategic Risk Management Plan, CR-BP-PRW-X-PL-00025, version Q2-07 Risk Management Procedure, CR-DV-MGT-X-PD-00002, version 2 Risk Assessment procedure for Site Activity, CR-DV-MGT-X-PD-00041, version 3
30	3.6, 11.2	Management reporting procedure/process	P3	P5	P/M	Period Reporting Procedure, CR-DV-MGT-X-PD-00025, version 2 Engineering Reporting Procedure-Pre Implementation Phase, CR-DV-MGT-X-PD-00049, version 6 Commitment & Compliance Handling & Reporting Procedure, CR-SD-MGT-X-PD-00006, version 2 Engineering Progress and Performance Reporting, CR-DV-MGT-X-PD-00009, version 8
31	3.1, 4.1	Critical items action report procedure/process	P3	P5	P/M	Employer's systems and procedures available by 20 April 2009 ; Project level to be developed

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Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input	
32	3.6.5	Cash flow procedure	P4	P6	P/M	Project level to be developed
33	3.7, 11.5.1	Information and document management plan and procedure	P3	P4	I/M	Document Management Manual,CR-DV-MGT-X-ML-00002, version 4 Document Management Requirements,CR/QMS/PROC/P/110503, version 2 Document Management Manual,CR-SD-MGT-X-PD-00030, version 2 Document Control Manual, CR/QMS/CA/M/0525, version 2 Record, Archiving, Retrieval & Disposal, CR/QMS/CA/P/0526, version 2
34	3.7.5, 11.7	Historical cost report plan and procedure	P6	P8	P/M	Employer's guidelines available by 20 April 2009; Project level to be developed
Project implementation						
35	4.1	Delivery – RACI charts	P2	P4	P/M	RACI charts - Draft at Programme-level available by 20 April 2009; Project level to be developed
36	4.2	Stakeholder management	ongoing	ongoing	I	Command and Control Strategy,CR-OP-PRW-CS-PR-00001, version 0.1 Network Rail Client Requirements, LU Development Agreement DLR Works Agreement Berkeley Homes Woolwich Station Box Deed DLR Overarching Agreement DLR Property Agreement CWG IOD Building Development LU Interface Schedule
37	4.3	Strategic supplier management system	P2	P4	P/M	Employer's strategic and responsible procurement policies available by 20 April 2009. Project level to be developed
38	3.2.2	Contracting plan	P2	P4	P/M	Contract Execution,CR/QMS/PROC/P/1170, version 3 Variation to Contract Procedure, CR/QMS/PROC/P/1181, version 3 Contract Closure Procedure,CR/QMS/PROC/P/1182, version 2

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Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input	
39	3.2.2, 4.3, 5.2	Procurement plan	P2	P4	P/M	Guidance for Preparation of a Procurement Strategy, CR/QMS/PROC/G/1130, version 7 Sustainable Procurement Guidance, CR/QMS/PROC/G/1133, version 7 Compliance with the CLRL Procurement Process, CR/QMS/PROC/G/1192, version 1 Management System Structure for Procurement, CR/QMS/PROC/G/110501 version 24 Procurement Process, CR/QMS/CP/1705, version 17 Procurement Policy, CR/QMS/PROC/POL/1101 version 6 Choice of procurement methods, CR/QMS/PROC/G/1120, version 7 Crossrail Procurement System User Guide, CR/QMS/PROC/P/1104, version 3 Procurement Procedure, CR/QMS/PROC/P/1102, version 1
40	4.3.5 - 4.3.7	Procurement operation plan	P5	P8	P/M	Guidance for Preparation of a Procurement Strategy, CR/QMS/PROC/G/1130, version 7 Sustainable Procurement Guidance, CR/QMS/PROC/G/1133, version 4 Compliance with the CLRL Procurement Process, CR/QMS/PROC/G/1192, version 1 Management System Structure for Procurement, CR/QMS/PROC/G/110501 version 24 Procurement Process, CR/QMS/CP/1705, version 15 Procurement Policy, CR/QMS/PROC/POL/1101 version 6 Choice of procurement methods, CR/QMS/PROC/G/1120, version 5 Crossrail Procurement System User Guide, CR/QMS/PROC/P/1104, version 3 Procurement Procedure, CR/QMS/PROC/P/1102, version 1

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Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input	
41	4.3.4	Responsible procurement implementation framework	P3	P5	P/M	Guidance for Preparation of a Procurement Strategy, CR/QMS/PROC/G/1130, version 7 Sustainable Procurement Guidance, CR/QMS/PROC/G/1133, version 4 Compliance with the CLRL Procurement Process, CR/QMS/PROC/G/1192, version 1 Management System Structure for Procurement, CR/QMS/PROC/G/110501 version 24 Procurement Process, CR/QMS/CP/1705, version 17 Procurement Policy, CR/QMS/PROC/POL/1101 version 6 Choice of procurement methods, CR/QMS/PROC/G/1120, version 5 Crossrail Procurement System User Guide, CR/QMS/PROC/P/1104, version 3 Procurement Procedure, CR/QMS/PROC/P/1102, version 1
42	3.2.2, 4.4	Construction management plan	P2	P4	P/M	Construction Logistics Strategy, CR-EG-PRW-X-RT-00034, version 3 Construction Programming Procedure, CR-DV-MGT-X-PD-00039 version 2 Construction Programming Procedure Appendix, CR-DV-PRW-X-PD-00010, version 1
43	4.5	Testing and commissioning strategy and plan	P2	P4	P/M	Draft at Programme-level available by 20 April 2009 ; Project level to be developed
44	4.6	Property - over-site development provisions	ongoing	ongoing	I	Over Site Developments Procedure, CR-SD-MGT-X-PD-00001, version 1 CR-STD-303-12 Civil Engineering Design Standard - Part 12 - OVER SITE DEVELOPMENTS AND INTERFACES v4, CR-STD-303-12, version 4
Logistics						
45	3.2.2, 5.1	Logistics plan for construction programme	P2	P4	P/M	Strategy informed by DHL and Programme team information, Construction Logistics Strategy, CR-EG-PRW-X-RT-00034, version 3
46	5.2	Supply chain strategy	P2	P4	P/M	Project Master Schedule available by 20 April 2009; Project level to be developed
47	3.2.2, 5.3	Security function plan	P2	P4	P	Information Security Policy (ISPD), CR/IT/PRW/X/PY/00001, version 2

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Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input	
HSQE						
48	3.2.2, 6.1, 6.2	Health and safety management plan	P1	P3	P/M	Project Health & Safety management plan assumed available by 20/04/2009 EWMA Health and safety management plan, EW/QMS/MP/0202, version 7
49	6.2.4	HSQE induction plan	P1	P3	V/P	Project Health & Safety Induction plan assumed available by 20/04/2009 EWMA Health and safety management plan, EW/QMS/MP/0202, version 7
50	3.2.2, 6.3, 11.5.2, 11.1 and CoC 40.2	Quality management plan	P2	P4	P/M	Business Management Manual, CR/BMS/M/0001, version 11 Audit Procedure, CR/QMS/QA/P/1204, version 16 Quality Management Principles, Policies & Requirements, CR/QMS/QA/P/1240, version 2
51	3.2.2, 6.4	Environment management plan	P2	P4	P/M	Environment management plan, CR-DV-MGT-X-PL-00002, version A
Corporate Affairs						
52	7.0	Corporate affairs plan	P2	P4	P/M/I	Community Relations Strategy Framework, CR/QMS/CA/P/0505, version 1
Integration						
53	8.1-8.4	System integration plan	P5	P7	P/M	Computer Systems Integration Requirement, CR-IT-PRW-X-SP-00047, version 1 SDS System Integration, CR-SD-PRW-MG-SP-00001, version 2
Human Resources						
54	9.1	Human resources plan	P2	P4	V/P/M	Employer's strategy at Programme-level available by 20 April 2009 ; Project level to be developed
55	9.1.2 - 9.1.5	Learning and development programme	P2	P4	P/M	Employer's strategy at Programme-level available by 20 April 2009; Project level to be developed
56	9.1.6	Assist with community skills development programme	P2	P4	I	Employer's strategy at Programme-level available by 20 April 2009; Project level to be developed
57	9.1.7	Programme-wide industrial relations strategy and policy	P2	P4	M	Employer's strategy and policy available by 20 April 2009; Project level to be developed
58	9.1.8 - 9.1.10	Employee programme	P2	P4	P/M	Employer's strategy at Programme-level available by 20 April 2009 ; Project level to be developed
Operations						
59	10.0	Operations plan	ongoing	ongoing	I	Train Service: Operations Plan, 1R0000-G0G00-50001, issue 1 Crossrail Project Functional Requirements, CR-QMS-DEV-P-0117, 4.0

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Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input	
General obligations						
60	11.4	Project Delivery Partner register	P1	P1	P/M	Project level to be developed
Service delivery plans						
61	12.0	Service delivery plan year 2	P10	P13	P	First Service Delivery Plan appended to contract
Further deliverables						
62 (15)	6.3 & COC 40.2,	Quality Policy Statement	05/05/2009	P3	P	Quality Policy Statement
63 (16)		Submission of Deliverables and acceptance by the Employer	ongoing	ongoing	P/M	Throughout Contract
64 (17)	2.2.5	Design Package Procurement Plan	27/04/2009	P3	P/M	All documentation upon which Package Orders have been tendered and all documentation relating to Frame work Design Consultatnts agreements to be provided by 20 April 2009
65 (18)	2.2.6	Plan for carrying out duties of Employer's Agent for design packages	05/05/2009	P3	P/M	All documentation upon which Package Orders have been tendered and all documentation relating to Frame work Design Consultatnts agreements to be provided by 20 April 2009
66 (19)	4.3.5	Plan for procurement of advance works packages	05/05/2009	P3	P/M	Guidance for Preparation of a Procurement Strategy, CR/QMS/PROC/G/1130, version 7 Sustainable Procurement Guidance, CR/QMS/PROC/G/1133, version 4 Compliance with the CLRL Procurement Process, CR/QMS/PROC/G/1192, version 1 Management System Structure for Procurement, CR/QMS/PROC/G/110501 version 24 Procurement Process, CR/QMS/CP/1705, version 15 Procurement Policy, CR/QMS/PROC/POL/1101 version 5 Choice of procurement methods, CR/QMS/PROC/G/1120, version 5 Crossrail Procurement System User Guide,

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Deliverable			Key Dates and Conditions		Requirement of PDP	Anticipated Status at Award	
Group	Appendix 1 Scope ref	Deliverable	Draft (B)	Final (A)	Validate/Produce/Manage/ Input		
						CR/QMS/PROC/P/1104, version 3 Procurement Procedure, CR/QMS/PROC/P/1102, version 1 All documentation upon which Advance Works packages have been tendered and all documentation relating to Advance Works procurement to be provided by 20 April 2009	
67	(20)	4.4.5	Plan for managing the EWMA	05/05/2009	P3	P/M	Enabling Works Service Delivery Plan 2009/10 ver 1
68	(21)	4.4.1	Plan for carrying out of duties of Project Manager and Supervisor for advance works	20/07/2009	P6	P/M	To be developed
69	(25)	CoC 15	Provide Early Warnings as required by the Contract	ongoing	ongoing	P/M	Throughout Contract
70	(26)		Plan for promotion and implementation of values and behaviours	05/05/2009	P3	P/M	Based on response to Question A 1.5
71	(27)		Plan for development and management of effective relationships with key Project stakeholders	20/06/2009	P5	P/M	Based on response to Question A 1.6
72	(28)		Plan detailing people, processes and systems used to monitor and manage the Interim and Programme KPIs	20/05/2009	P4	P/M	Based on response to Question A 1.7

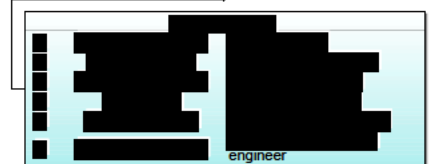
Condition A: The Project Delivery Partner's deliverable is accepted without comments.

Condition B: Project Delivery Partner's deliverable is acceptable subject to changes or clarification requested by the Employer and the deliverable is to be resubmitted.

Part iii) Schedule of deliverables (in simple programme format)

Part iv) Resource schedule

Part v) Organisation charts



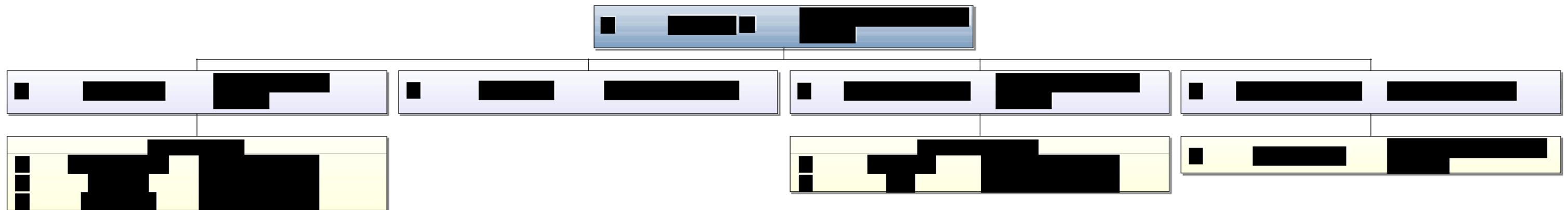


Legend
 ☆ Key person

Project controls
 team



Proprietary and
 confidential



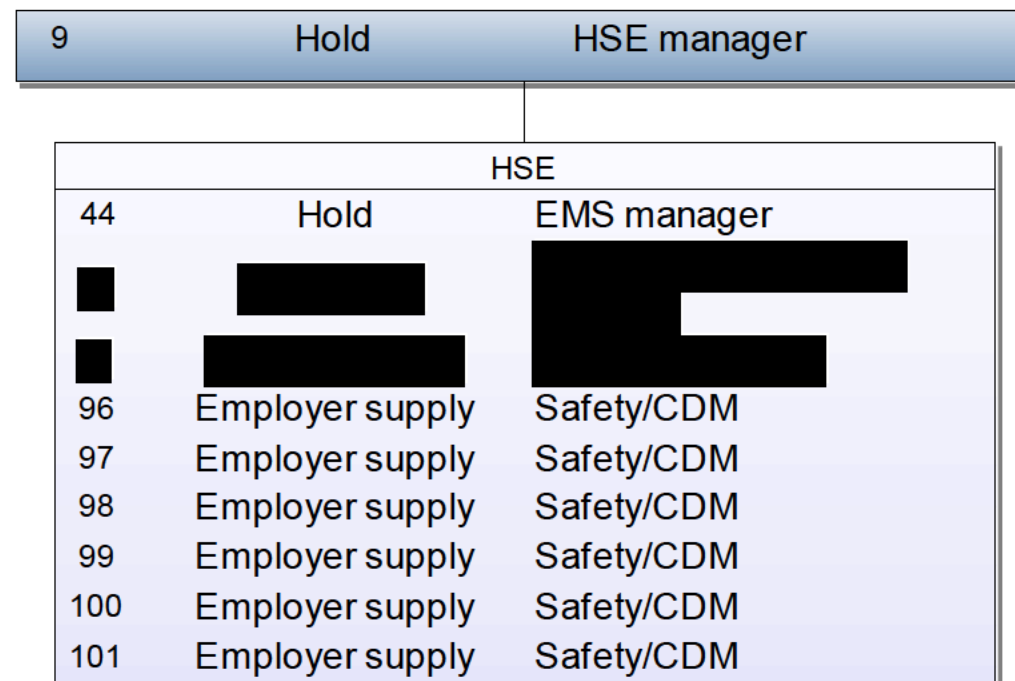
Legend

★ Key person

Contracts and procurement team



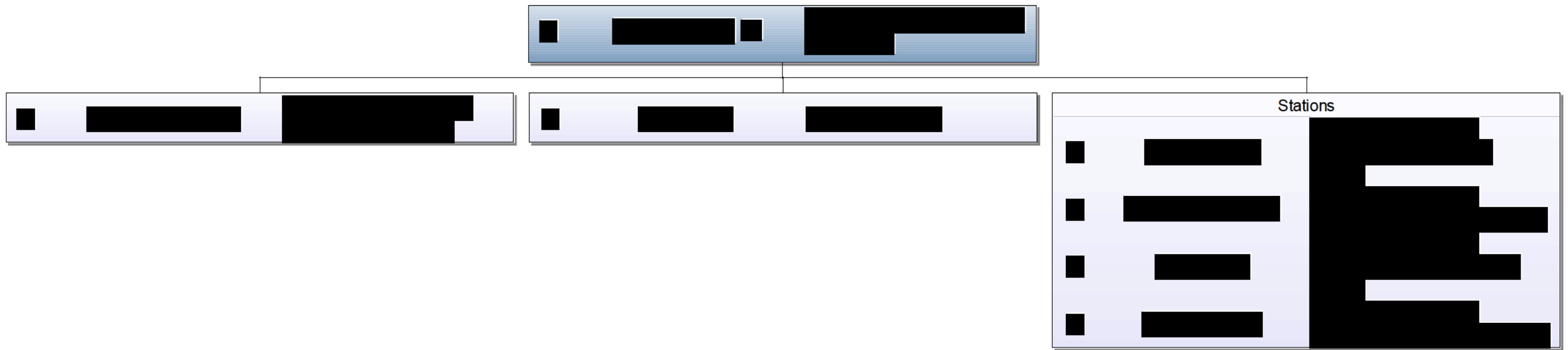
Proprietary and confidential



Health, safety and environment team



Proprietary and confidential



Stations and quality team



Proprietary and confidential

Legend

★ Key person



Tunnels, portals and shafts team



Proprietary and confidential

Legend

☆ Key person

