FINSBURY PARK PHASE 2B WORKS

WORKS INFORMATION

WI 100

DESCRIPTION OF THE *WORKS*

CONTENTS

WI 105 **Description of the *works***

WI 105.1 **Project objectives and philosophy**

(1) Finsbury Park Station is situated within the London Borough of Islington. The station serves as an interchange between Network Rail (NR) lines and London Underground (LUL) Victoria and Piccadilly lines. The existing station entrances are located at Wells Terrace, Station Place and Seven Sisters Road.

(2) LUL is proposing to redevelop Finsbury Park Station to achieve step free access from the surrounding street level to the existing LUL Victoria and Piccadilly Line platform tunnels. It is proposed to use the opportunity afforded to LUL by an adjacent development to provide enhanced connectivity from ground level to the LUL platforms.

(3) It is intended that a new mixed residential and commercial development will be undertaken adjacent to the existing station by City North Finsbury Park Ltd. (CNFPL) directly to the west of the proposed scheme within the now disused City North area.

(4) As part of the CNFPL scheme, it is intended that CNFPL will construct a new Western Station Entrance (WSE) to replace the existing Wells Terrace entrance. The proposed Step Free Access scheme (of which the *works* form part) will seek to link the existing station infrastructure with the new station entrance by constructing an extension to an existing passageway (Passageway 4) within Finsbury Park Station. This passageway will extend directly under the Down Moorgate and Down Goods lines.

(5) The *works* for this contract relate to the major civil construction works in order to construct the extension of passageway 4 and the construction of two lift shafts., A series of smaller enabling work packages are being undertaken prior to these works so that the main civils works can be undertaken safely without causing any unplanned impacts on LUL or Network Rail train services.

WI 110 **General description of the *works***

(1) The project scheme is split into phases, as set out below:

- Phase 1 – Decommissioning of Wells Terrace Station entrance and design of WSE.
- Phase 2A –Civils works comprising (a) overhead line equipment works and new line switches and (b) enabling works including demolition, excavation, piling, diversion of existing services, lift design and installation and relocation of Connect CER equipment.
- Phase 2B – Main civil works comprising corridor extension works and construction of two lift shafts.
- Phase 3- Fit out of Western Station Entrance.

(2) This contract specifically relates to the Phase 2B works for Finsbury Park.

(3) These works are being let under a Design and Build NEC3 Option A Engineering and Construction Contract (June 2005) incorporating amendments June 2006 and September 2011 as amended by the additional conditions of contract including optional clause X21.

(4) The works consist of opening up the existing disused Passageway 4, constructing an extension beneath the railway lines to link the new ground level entrance to the west of the station, providing new lift cores, stairs and lobby areas coming off the new and existing Passageway 4 and linking to existing underground line northbound and southbound platforms. The provision of a new staircase and refurbishment of the existing staircase will connect Passageway 4 to existing passageway 3 to improve connectivity to the Network Rail area.

(5) The *Employer* has provided a Concept Design Statement (CDS) and other design information for the *works* which can be found within WI 2000 – The *Employer's* Design Information.

WI 115 Project Objectives

(1) The *Contractor* completes all *works* comprising of the following;

A. Formation of reception shaft

B. Breakthrough of Passageway 4 headwall

C. Piling and construction of mid-shaft including the demolition of the disused Milk Dock stairs and cover slab

D. Construction of the Passageway 4 extension up to the NR boundary (in the order of 2.8m from the City North piled wall as per the original CDS) and new staircase

E. Removal and reinstatement of Platform 7/8 stair wall and part of Platform 8

F. Square works to create lift shafts, lift lobbies and reconstruction of stairs

G. Southbound lift area 2 to be extended to the above Network Rail platform (including the increase in length by 200mm)

H. Refurbishment of the existing Passageway 4 staircase

I. Connect Equipment Room removal

(2) Any service diversions as defined in the Tag and Trace Survey and CDS within this Works Information and Site Information are to be completed by others except drainage diversions on NR platform 5/6 and 7/8.

(3) **T Junction Works and Extension of Passageway 4**

For the purpose of this WI115(3), the T Junction Works means the part demolition of the existing T Junction structure and connection to the CNFPL piled wall, including a new staircase and the Extension of Passageway 4 means tunnelling and excavation of approximately 2.8m, construction of walls, floor and ceiling, and connection to the City North piled wall.

T Junction Works

By 31 August 2015, the *Project Manager* may, at his absolute discretion, give an instruction changing the Works Information so as to omit the T Junction Works, which instruction shall constitute a compensation event under Clause 60 of the Contract.

In the event that such instruction is given by the *Project Manager*:

(a) the Prices decrease by £205,849 (which, for the avoidance of doubt, factors in an agreed amount payable for the *Contractor'*s loss of profit)

(b) the Contract continues to be administered in accordance with its terms in relation to any changes to the Completion Date or a *key date*.

Extension of Passageway 4

By 31 December 2015, the *Project Manager* may, at his absolute discretion, give an instruction changing the Works Information so as to add the Extension of Passageway 4, which instruction shall constitute a compensation event under Clause 60 of the Contract.

In the event that such instruction is given by the *Project Manager*:

(a) the *Contractor* is entitled to an increase in the Prices of £75,271; and

(b) the Contract continues to be administered in accordance with its terms in relation to any changes to the Completion Date or a *key date*.

WI 120 **Site location and Working Areas**

(1) The Site location is indicated in the Site drawings provided within the Site Information. Any other Site locations outside of the demise required by the *Contractor* are to be proposed for acceptance by the *Project Manager* and to be included within the *Contractor's* submission.

WI 125 **Contractor's design responsibilities**

(1) The *Contractor* is responsible for the designing all of the works including any temporary works designs in order to successfully undertake and Complete the *works.* Parts of the works that the Contractor is not responsible for designing is described within section WI 300 of this Works Information.

(2) The design requirements are described in more detail within section WI 300 of this Works Information.

WI 130 **G*eneral* statement of any constraints on how the *Contractor* Provides the Works.**

(1) Detailed constraints to how the *Contractor* Provides the Works are more fully set out in section WI 200, however the *Contractor* notes in particular the following constraints with respect to Providing the Works:

i. The existing LU and Network Rail stations are to remain open during

traffic hours unless otherwise agreed with the *Project Manager*.

ii. The *Contractor* is responsible to determine the applicable standards including LUL Standards and NR Standards, which apply to the *works* and comply with the same.

iii. The *Contractor* is also required to observe and follow Network Rail practices and procedures on site where his work interfaces with NR.

iv. Co-ordination of the works (including safety) with the work of NR so as not to delay the *Contractor's* performance nor NR's performance of their work (including safety),

v. Agreement of all aspects of access required by the *Contractor* through or into the area of the Site controlled by the *Contractor* by NR and vice versa

vi. The *Contractor* complies and Provides the Works, inter alia, in accordance with the Standards. The *Contractor* familiarises himself with the Standards, and ensures that he has taken them into consideration in his planning, pricing and programming.

vii. If the *Contractor* identifies that there are elements of the *works* for which there is no stated Standard in this Works Information or if the *Project Manager* requires that certain parts of the *works* are to be undertaken to a Standard not stated herein, or in compliance with British standards, EU Standards and International Standards, this constitutes a compensation event under clause 60.1(1) of the *conditions of contract*.

viii. The Standards applicable to the *works* include QUENSH (1-552) which in itself refers to a significant number of other Standards for the control of health, safety, quality and environmental risks when working in, on and around the *Employer's* assets. (See appendix A100.1).

WI 135 **The *Contractor's* Site inspection**

(1) The *Contractor* is deemed to have visited the Site and inspected and examined the Site and its surroundings in order to:

- understand the access to the Site
- assess the services, plant and accommodation available, and
- assess the condition and layout of the Site.

(2) If the *Contractor* considers that there are inadequacies in the information that pose potential risk to progressing the *works*, then the *Contractor* must notify the *Project Manager* at the earliest opportunity.

WI 140 **Essential Network Rail Interface**

(1) The *Contractor* acknowledges that the majority of the *works* are within the Network Rail demise, meaning that interfaces with Network Rail, Train Operating Companies (TOC's) and the Freight Operating Companies (FOC's) will need to be established.

(2) The *Contractor* acknowledges that where the Works Information references LU standards, processes, procedures, Licences, access requirements, health and safety requirements, approvals and the like, the *Employer* is also referring to Network Rail standards, processes, procedures, Licences, access requirements, health and safety requirements approvals and the like.

(3) The *Contractor* and his subcontractor's will acknowledge and follow Network Rail standards and rules for working when working on Network Rail assets.

(4) For *works* in the Network Rail demise and TOC/FOC areas, the *Contractor* ensures his staff sign on and off with TOC supervisor (office located on platform 5/6) even if they have signed in at the LU station (latter only if accessing LU assets or London Underground Station).

(5) When working on or near the Network Rail track, the *Contractor* will be required to sign on with National Delivery Service (NDS 24:7) (tel: 01908 723 500) prior to commencing their *works*.

(6) The *Contractor* will obtain all necessary licences for his *works* from the TOC for his works and hoardings, which can take up to 20 days. All hoardings may be subject to Signal Sighting checks and temporary works approvals from Network Rail.

(7) The *Contractor* ensures he obtains Network Rail & TOC approval for his method statements. The method statements are first submitted to Network Rail for approval via the *Project Manager*, allowing a minimum of 10 working days for review, and then submitted to the TOC, Govia Thameslink Railways (GTR) for review and acceptance, allowing a minimum of 10 days review. A list of Method statement requirements are attached to Appendix A100.2.

(8) All access arrangements onto Network Rail demise will be requested via the *Project Manager* unless otherwise instructed.

(9) During white hours or possessions the Contractor will manage his access through the Network Rail Station Place entrance including security and a signing in register so a log can be maintained of all staff on the Site

(10) The *Contractor* ensures clear pathways are kept through Network Rail / TOC platforms and operational passageways for emergency access and egress.

(11) The *Contractor* will manage all storage within NR/TOC areas and comply with Network Rail / TOC standards and requirements.

(12) The *Contractor* ensures his staff including subcontractors obtain the necessary Network Rail access permits (PTS) and complete the appropriate training before attending the Site

(13) The *Contractor* ensures that at end of working shifts within the Network Rail/TOC demise that areas are handed back to Network Rail/TOC in the appropriate manner and to their satisfaction fulfilling any operational requirements and timescales.

FINSBURY PARK PHASE 2B WORKS

WORKS INFORMATION

WI 200

CONSTRAINTS ON HOW THE *CONTRACTOR* PROVIDES THE *WORKS*

CONTENTS

WI 205 **Overriding Constraints and Requirements**

(1) The existing Finsbury Park Underground station and Finsbury Park National Rail station must remain open during standard LUL and NR operational hours throughout the *works* unless otherwise accepted by the *Project Manager.* Station times for Finsbury Park Underground station and Finsbury Park National Rail station can be found at appendix A200.1.

(2) The *Contractor's* activities in the existing station areas (both LU and NR) are likely to be constrained by passengers within the station. Prior approval is required from the *Project Manager* is required for any planned closures of any passageways during normal operating hours.

(3) The *Contractor* complies with Standard 1-552 QUENSH. The *Contractor* notes that within QUENSH there are multiple references to additional Standards and other requirements which apply to the *works*. However, the *Contractor* should note that they may or may not be applicable dependant upon the requirements and inclusion within the Contract QUENSH Menu.

Note: QUENSH is written in generic terminology to suit the *Employer's* business, therefore when the *Contractor* is determining his obligations under this contract he interprets the document accordingly, as the context requires, and in particular the following:

- Client means *Employer* or *Project Manager,* and
- Supplier means *Contractor* which includes his Subcontractors.

(4) The *Contractor* notes that within a Standard there may be reference to other Standards. As such the *Contractor* also complies with the requirements of the other Standards in respect of the context in which they were referred.

(5) Where reference is made to the *Contractor*'s staff and / or personnel throughout this Works Information, this includes and applies to all management, operatives, servants or agents carrying out the *works* in performance of this contract on behalf of the *Contractor*, including whether directly employed by the *Contractor*, self-employed, agency, labour-only, or equivalent through any Subcontractor or subconsultant.

WI 210 General Constraints

WI 210.1 Use of the Site

(1) All areas of the Site are identified in the location plan Reference SI100 in the Site Information.

(2) The *Contractor* does not have exclusive use of the entire Site and liaises with Network Rail and/or the TOC/FOC via *Project Manager* regarding his access arrangements to the Site in order to undertake the *works*.

(3) The London Underground station is subject to the Fire Precautions (Sub-Surface Railway Stations) Regulations 2009 (formerly known as Section 12).

(4) During stages of this contract, Others working in and around the Site may liaise with the *Contractor* to arrange use of the Site to carry out works within Network Rail infrastructure and LU infrastructure.

(5) The *Contractor* submits his request for access to Network Rail infrastructure to Network Rail and/or the TOC/FOC via the *Project Manager* for his acceptance.

WI 210.2 Construction

(1) The *Contractor* is responsible for constructing and making Available the *works* required in accordance with the requirements of the Works Information, including but not limited to:

- Preparation of all *working areas*, to include erection of hoarding, provision of temporary power, general and task lighting
- Any enabling works, and temporary relocation of assets and drainage diversions on NR platform 5/6 and 7/8.
- Any temporary works or false work, including design and supporting calculations
- All permanent works, including building, civil engineering, fire, M&E, drainage and communication works.
- Planning, managing and coordination of the above and any other site activity required to complete the *works* in a safe, timely manner, to the acceptance of the *Project Manager*, and, reasonably, any other stakeholder with vested interests, and with minimal disruption to the LU and NR station operations unless otherwise accepted by the *Project Manager.*

(2) The *Contractor* carries out all construction *works* in accordance with the applicable LU and NR Standards, British standards and in a way which minimises the impact on the operational station.

(3) The *Contractor* liaises with Survey Associates who are conducting monitoring for the Site throughout the duration of the *works.* The *Contractor* is responsible for verifying that the actual conditions encountered accord with their design restrictions, and that the *works* are being constructed in accordance with the accepted design.

(4) The *Contractor* proposes his mitigating actions for acceptance by the *Project Manager* should ground movement and settlement become a risk, and conducts the necessary mitigating actions in order to nullify the risk if it becomes realised.

(5) The *Contractor* shall provide and maintain during the execution of the *works* all supports as may be necessary to preserve the stability of the structures, whether new or existing.

(6) The *Contractor* shall protect from injury and damage the adjoining buildings and premises and be responsible for and making good as soon as practicable all damage done to the complete satisfaction of the owners of the said properties through the carrying out of the *works* in this Contract.

WI 210.3 Enabling Works

(1) The *Contractor* plans and executes all enabling works required to complete the *works*.

(2) Any cables which require enabling or relocating to complete the *works* must be stored in the appropriate containment as proposed to and accepted by the *Project Manager*.

(3) Where services require enabling which belong to Others, as defined in section WI 1000 of this Works Information, the *Contractor* notifies the *Project Manager* in sufficient time to enable the *Project Manager* to solicit the services of the relevant party, and to scope, agree a contractual variation, plan and execute the *works*, so as not to delay the *Contractor*.

WI 210.4 Environmental Consents

(1) It is the responsibility of the *Contractor* to determine and obtain all relevant environmental consents (including noise and vibration consents & Section 61/60) with the local authority and/or other parties for his proposed works and comply with any consent granted.

(2) The *Contractor* will undertake noise and vibration modelling as part of the Section 61 (S61) application, and install suitable monitoring equipment to satisfy the S61 requirements, which may include real time monitoring and daily or weekly reporting back to the relevant local authority and the *Project Manager.*

WI 210.5 Car Parking

(1) Car parking on the Site is not permissible. The *Contractor* makes his own parking arrangements, and informs the *Project Manager* accordingly.

WI 210.6 Deliveries

(1) The *Contractor* determines the appropriate access and delivery routes to the Site area, working within the constraints of Section 61/60 Notices, any applicable Standard or applicable laws, ensuring safe access is maintained to the station at all times for staff, customers and the emergency services.

(2) The *Contractor* will liaise with Others to agree coordinated arrangements for deliveries, collections and vehicular space and avoid any possible conflicts with their logistics plan and traffic management plans. It is suggested that all deliveries and collections are to be via engineering trains and be arranged and managed by the *Contractor*.

(3) The *Contractor* is aware that the Site is very contained, therefore deliveries by road are extremely constrained and will be very difficult to execute. Should the *Contractor* find a way to deliver via road without disrupting various bus services, the *Contractor* is responsible for providing any personnel and equipment (temporary signs, cones and traffic management), to safely manage deliveries, collections and lorry movements as necessary to complete the *works*, including setting up of any temporary traffic management arrangements and its removal and making good on completion. The *Contractor* makes good any damage to the road surface, or other road or pavement assets and buildings,

damaged in the course of a delivery. Any damage thus caused is notified to the *Project Manager* and treated as a Defect in accordance with the *conditions of contract*.

WI 210.7 Hoardings and closures

(1) The *Contractor* is responsible for erecting hoardings necessary to ensure the safety of all staff and passengers during the execution of the *works*. The *Contractor* complies with LUL Standard 1-027 'Site Hoarding, Fencing and Barriers' and, as hoardings are classed as temporary works, LUL Standard S1062 'Temporary Works' and relevant NR and TOC/FOC standards which may apply including signal sighting design checks..

Additionally, hoardings internal to the LU station constitute a material change to the layout of the station, and must therefore be approved by the landlord and the London Fire and Emergency Planning Authority, in respect of maintaining fire safety. The *Employer's* process for managing this approval process includes:

- Submission and approval of a space application
- Submission and approval of a Bb224 notification (amendment to fire compliance plan)
- Submission and approval of a closure application

All submissions are submitted, in the first instance, to the *Project Manager* for acceptance at least 4 weeks prior to submission to the respective authority for approval.

The *Contractor* ensures that all necessary approvals are in place prior to erection of any hoarding.

(2) The *Contractor* removes immediately all other notices, advertisements or similar, posted on Site by unauthorised persons. Additionally, the *Contractor* removes or obscures graffiti or any other form of defacement on any hoarding within 24hrs of reporting. Any graffiti containing offensive, abusive or racist words or images is removed within 1hr of being notified or becoming aware of such a circumstance.

WI 210.8 Temporary Works

(1) Refer to QUENSH (Section 48) for the *Contractor's* requirements with respect to Temporary Works and any applicable NR Standards.

WI 210.9 Materials, Plant, Equipment and Storage

(1) Refer to QUENSH Conditions, Number: S1-552 (formally 1-552), Issue no: A14, Issue date: February 2013.

(2) Unless otherwise stated elsewhere in this Works Information, the *Employer* has made no explicit provision for storage of materials, plant and equipment on the Site, however has some limited space available within the wideway.

(3) Should the *Contractor* identify and secure storage area space on the Site, the *Contractor* is to comply with all due process and Site protocol including hoarding approvals, storage licence approvals and amendments of fire compliance plans where required. The *Contractor* maintains records of all materials, plant and equipment stored on the Site and are made available to the *Project Manager* upon request.

WI 210.10 Building Control

(1) The *Contractor* is to obtain London Underground JNP consents for all works on LU

premises. (Refer Works Instruction W0008, Building Control Procedure). All access arrangements and consents required for access onto the Network Rail demise will be requested via the *Project Manager* unless otherwise instructed.

WI 215 NOT USED – Please refer to WI 1600

WI 220 Security and identification of workpeople

WI 220.1 Security Pass

(1) The *Contractor* is also responsible for the issue of permanent security passes.

(2) *Contractor* personnel and all levels of Subcontractor personnel are only issued with permanent security identity passes after they have passed the appropriate background vetting checks undertaken by the *Contractor*, and forms recording the following information have been completed:

- Name of person;
- Photograph of person;
- Pass number;
- Name and address of employer;
- Job description and position;
- National Insurance number;
- Professional referee (not from existing employer);
- Personal reference (not from a family member or another pass holder);
- Areas of access permitted;
- Expiry date of pass;
- Record of induction.

(3) Vetting checks on applicants from the *Contractor's* and all Subcontractor staff and employees and workforce is the responsibility of the *Contractor*.

(4) The *Contractor* retains application and vetting records on Site. Records are made available to the *Project Manager* within 24 hours of being instructed to by the *Project Manager*. If proper records are not made available, the applicant or pass holder is not permitted further access to the Site.

(5) The *Contractor* provides all identity pass issuing, photographic, and validation equipment.

(6) No person receives a permanent security pass until they have been properly inducted and the pass application has been processed.

(7) The *Contractor* provides security passes for the *Employer's* and *Project Manager's* personnel and their regular visitors when instructed by the *Project Manager*.

(8) The *Employer* and the *Project Manager* will perform appropriate security checks on their personnel prior to requesting the issue of a permanent security pass.

(9) Recipients of permanent security passes collect and sign for passes in person from LUCAS Team

4th Floor East Wing

Ashfield House

7 Beaumont Avenue

London

W14 9UY

Tel: 020 7918 5297 (auto 45297)

(10) The *Project Manager* may audit the *Contractor's* pass issuing process at any reasonable time.

(11) The format for security passes indicate both visually and electronically the following information:

- Name of pass-holder;
- Pass number;
- Employer;
- Photograph of pass-holder;
- Permitted Zone access;
- Expiry date.

Passes will differentiate between:

- Employer's personnel (this includes *Project Manager's* personnel);
- *Contractor's* direct employees;
- Subcontractors;
- Others.

The Contractor submits the format for the passes to the *Project Manager* for acceptance.

WI 225 Security and protection of the Site

(1) The *Contractor* shall make the Site safe and secure at the end of each shift and shall fit all access doors with suitable locks for this purpose. If work is being carried out on the operating Underground Network and/or within the Network Rail demise, a complete set of keys shall be provided by the *Contractor* to the Station Supervisor after each work shift. (This is for Site access only and not for access to pieces of equipment, power supply etc.)

(2) The Site and compounds shall be securely hoarded off.

(3) The *Contractor* shall provide continuous 24 hour security to the *working areas* and any works compounds for the duration of the *works*. Security measures shall ensure that only authorised persons can enter the Sites or compounds.

WI 225.1 General matters

(1) The *Contractor* must not hinder or prevent authorised access to the Site or adjacent areas by authorised users.

(2) Gates provided for the passage of people, equipment, plant and materials must be kept locked when not in use and all boundary fences must be kept secure to prevent unauthorised access.

WI 225.2 Site Security - General

(1) The *Contractor* develops effective professional relationships with the Metropolitan Police, British Transport Police, the LFEPA, the Group Station Manager, the Duty Station Managers and the Train Operating Company (TOC).

(2) The *Contractor* advises the *Project Manager* of all incidents of increased security alert communicated by those bodies.

(3) The *Contractor* appoints a security manager recruited from an appropriate background and submits his CV to the *Project Manager* for acceptance. The security manager or an appointed deputy is to be on call 24 hours per day, 7 days per week.

(4) Any appointed deputies have an appropriate background in security or have received appropriate training. The *Contractor* submits CVs for the proposed deputies to the *Project Manager* for acceptance.

(5) The *Contractor* may appoint a specialist security Subcontractor to carry out the security duties ascribed to the *Contractor* in this Works Information.

(6) All security guards are employees of the *Contractor* (or the specialist security Subcontractor if appointed). Casual staff and self-employed personnel are not be used on to the Project as security operatives.

(7) All prospective security personnel are screened and vetted to check their work history and that they do not have a criminal record.

(8) Formal applications and written records of the screening are be maintained by the *Contractor*.

(9) In addition to the *Contractor's* duties specified elsewhere in the Works Information, the *Contractor*;

- has available at all times on call the *Contractor's* security manager, or a nominated deputy, to act as co-ordinator between the *Contractor*, the *Project Manager* and the emergency services
- provides up to date contact details, including those of the *Contractor's* security manager and any nominated deputies
- provides and maintains a roster of all security management staff
- provides up to date site security plans to the *Project Manager*
- attends regular meetings with the *Project Manager*
- develops the procedures required to meet the obligations of this Works Information; and
- provides the contract security manual as described below.

(10) The *Contractor's* security manager attends formal weekly and monthly meetings with the *Project Manager*. The *Contractor's* security manager takes and distributes minutes of the meetings.

WI 225.3 Serious Security Incident

(1) In the event that a serious security incident occurs, the *Contractor* promptly advises the *Project Manager* and agrees and implements all actions requested by the Police, LFEPA, and Others or instructed by the *Project Manager*.

(2) The *Contractor* records and logs all steps taken and resources used as a consequence of or arising out of the serious security incident.

(3) In the event of a serious security incident, or other emergency, occurring outside normal working hours, it may be necessary for the *Contractor* to immediately recall senior responsible personnel to the Site. The *Contractor* identifies senior responsible personnel within the emergency call out procedure and ensures that suitable senior responsible personnel are available at all times.

WI 225.4 Reporting of Crimes or Security Related Incidents

(1) The *Contractor* records and brings to the immediate attention of the *Project Manager* all allegations of crimes and other security related incidents (e.g. trespass).

(2) These reports are used to assess and monitor the efficacy of security management and standards.

(3) The *Contractor* immediately reports urgent and major issues of security breach to the *Project Manager*.

WI 225.5 Signage

(1) The *Contractor* supplies and installs suitable signage relating to access, security and safety requirements.

WI 225.6 Security Surveillance

(1) The *Contractor* provides and installs a CCTV system with cameras appropriately positioned to monitor vulnerable Site perimeters and the movements of vehicles, Materials and persons entering or leaving the Site. The *Contractor* proposes for acceptance by the *Project Manager* the positions and types of camera, arrangements for real time monitoring of the data, and the method of logging and storing information.

WI 225.7 Facilities for Security Officers

(1) The *Contractor* provides security accommodation at each manned site access/egress point or adjacent to any barrier control. The accommodation should provide good visibility and be presented and maintained to the acceptance of the *Project Manager*. The accommodation is equipped with a telephone, heating, ventilation, lighting and power. Toilet and washing facilities is to be sited within reasonable distance from the security accommodation.

WI 225.8 Contract Security Manual

(1) The *Contractor* prepares a contract security manual. The contract security manual sets out the security procedures and the *Contractor's* proposals for meeting his security obligations.

The contract security manual is submitted to the *Project Manager* for acceptance no less than four weeks prior to commencement of work on the Site.

The *Contractor* monitors his security activities against the requirements set out in the accepted contract security manual, issues revisions to the contract security manual when necessary, and reviews the contract security manual in full at maximum three monthly intervals thereafter. Any revisions to the contract security manual are submitted to the *Project Manager* for acceptance.

WI 225.9 Emergencies

(1) In the event of an emergency evacuation of the Site or part of the Site, the *Contractor*, within one hour, provides an accurate list of all persons who were on Site and forward this list to evacuation points to allow verification that all person(s) have been accounted for. The list is generated by an electronic access control print out or by manual records (as applicable).

The *Contractor* establishes and agrees written emergency call out procedures with the emergency services and the *Project Manager*. The emergency services are advised of the Site security system, its layout and the emergency access routes.

WI 225.10 Access to Zones

(1) Access to the Zones are restricted to authorised vehicles and personnel in possession of a valid security pass and the appropriate Personal Protective Equipment (PPE).

Access to the Station areas will require additional training and certification in accordance with the requirements identified in QUENSH. It is intended that these requirements will be mitigated by the establishment of worksites in safe zones behind hoardings on the platforms.

Security identity passes must be shown at any time within the Site and upon request by a uniformed security guard or any member of the *Contractor's* management or the *Project Manager's* team - who will prove their identity for this purpose.

Control of Access/Egress (All Zones);

The *Contractor* proposes, for acceptance by the Project Manager, the locations of the access/egress points which will be controlled by security guards and the duration which each point will be operational.

The *Contractor* provides an electronic access control system.

Where it is impossible or impracticable to install electronic access control, security passes must be shown to an identified authorised person when so requested when entering or leaving the Site, and all personnel sign-in at Zone boundaries.

The *Contractor's* security system incorporates a system of monitoring all personnel entering and leaving the Zones. This system ensures that access is granted only to:

- those persons authorised to enter the Zone;
- persons who have been correctly trained/inducted appropriate to the Zones; or
- are escorted or supervised by suitably qualified persons; and
- are equipped with appropriate PPE;

Records of Access/Egress;

Details and times of entry and exit are to be recorded either manually or electronically to enable the number and identity of persons in the Zone to be ascertained at any time.

All visitors and short term Subcontractors are recorded.

WI 225.11 Searches

(1) Personnel working anywhere within the Site may be subject to random searches conducted by the security guards at the direction of the *Contractor's* security manager. This may include any persons and vehicles entering or leaving the Site.

The *Contractor* treats any failure to permit such a search upon reasonable request as a

disciplinary offence. Passes are withdrawn on a permanent basis from persons refusing to co-operate with reasonable requests for search.

Personal searches will be confined to bags and equipment. Under no circumstances do the security guards conduct body searches. If circumstances deem such action to be appropriate; the matter will be brought to the attention of the police.

WI 225.12 Parking

(1) There is no on-Site parking for personal vehicles.

WI225.13 Delivery Logs

(1) Written logs of all deliveries and collections entering and leaving the Site are kept by the *Contractor* and made available to the *Project Manager* on request.

The delivery and collection logs include:

- Name of haulier;
- Vehicle number;
- Description of Plant/Equipment and Materials being collected or delivered;
- Driver's name and signature;
- Contractor's or Subcontractor's order number;
- Instructions for collection or delivery;
- Collection / delivery note number;
- Date;
- Time of entry and departure (to be recorded by the security guard).

The *Contractor* ensures that only authorised vehicles are admitted to the Site.

Deliveries must be accepted, unloaded and despatched to minimise congestion on adjacent access lines. Off-site holding areas are to be managed to ensure that no obstructions are experienced.

(2) The *Contractor* will liaise with Others in order to minimise congestion in and around the Site.

WI 225.14 Health & Safety

(1) The *Contractor* procures that each Subcontractor complies fully with the requirements of the CDM Regulations 2015.

(2) The *Contractor* is, and complies with its duties as, Contractor as defined in the CDM Regulations 2015.

(3) The *Contractor* is, and complies with its duties as, the Principal Contractor, as defined in the CDM Regulations 2015 for:

- all worksites defined by the *Contractor*; and
- all worksites established in public highways and footways, permitted pathways, Local Authority areas, Underground Network and Network Rail property, whether or not forming part of the main worksite;

(4) The *Contractor* will take over the worksites on the *access dates* contained within the Contract Data Part 1. The Contractor is appointed as Principal Contractor, as per the CDM Regulations 2015 for the Site from the *starting date*.

(5) As specified in the Works Information, there may be requirements for shared access; however this Principal Contractor designation remains, unless otherwise specified by the *Project Manager*.

(6) The *Contractor* is also Principal Contractor for any lorry holding areas and additional *working areas* accepted by the *Project Manager* in accordance with the *conditions of contract*.

(7) The *Contractor*, as Principal Contractor, consults and engages with workers in accordance with the CDM Regulations 2015.

(8) The *Contractor*, as Principal Contractor, ensures that each contractor follows the construction phase plan.

WI 230 Protection of existing structures and services (82.1)

WI 230.1 Utility supplies

(1) The *Contractor* is responsible for the protection of existing utilities on or adjacent to the site in connection with providing the *works*. Should the *Contractor* become aware of any damage to utilities during the works, the *Contractor* must notify the *Project Manager* as soon as practicable.

(2) Should the *Contractor* require existing utilities to be enabled, disabled or relocated then it is the *Contractor's* responsibility to make the arrangements directly with the utility company.

(3) The Water Resources Act 1991 (s.85) establishes that it is an offence to knowingly discharge any poisonous, noxious or polluting matter (liquid or solid) or solid waste matter to any controlled waters (including either surface or groundwater) without a discharge consent issues by the Environment Agency (under Part III Ch. II of the Water Resources Act 1991). It will be the responsibility of the *Contractor* to comply with this regulation. In addition, the *Contractor* will ensure good site management practice is utilised to protect surface water and groundwater from accidental contamination.

WI 230.2 Damage to works and protection to adjoining structures

(1) The *Contractor* does not carry out any works liable to damage the stability of the *works* and adjoining buildings. No cutting through floors, roofs or walls will be permitted except as shown on the design drawings and accepted by the *Project Manager*.

(2) The *Contractor* protects from damage the adjoining buildings and premises and is responsible for and making good as soon as practicable all damage done through the carrying out of the *works*.

(3) The *Contractor* is responsible for bearing the cost of any making good required following damage to the structures, services, or finishes of the *Employer's* or Other's premises.

WI 230.3 Protection of plant life (82.1)

(1) There are no records of noxious plants in the environs of the Site but, prior to starting any site clearance, the *Contractor* is to carry out a survey for noxious plants and reports his findings to the *Project Manager*. The *Project Manager* instructs the *Contractor*

accordingly.

WI 230.4 Protection of wildlife on Site

(1) NOT USED

WI 235 Protection of the *works* (82.1)

(1) Protection of the works

Unless expressly stated otherwise in the Works Information, the *Contractor* is responsible for protecting his elements of the *works*.

(2) The *Contractor* protects the *works* from inclement weather, public or staff access, accidental damage by third parties or its own operatives, in whichever form is required to ensure the *works* are made Available in "as new" condition, regardless of when the elements of *works* were completed.

WI 240 Traffic Management

WI 240.1 Traffic Management - General

(1) The *Contractor* liaises with Others to agree all Traffic Management measures which may be required in order to reduce congestion around the *working areas*.

(2) The *Contractor* ensures that his vehicles, those of his Subcontractors and his staff and personnel do not obstruct the use by the public or Others of adjacent premises or roads.

(3) The *Contractor* ensures that the access to and from the Site is clear of all Materials, Plant and Equipment on Completion of the *works*.

(4) The *Contractor* ensures that trafficked areas are clean and fit for public use to the acceptance of the *Project Manager*.

(5) The *Contractor*'s undertakes the *works* without danger to or interference with the *Employer's* operations and Others using the highway and adjacent properties.

(6) The *Contractor* ensures that all construction traffic outside the Site boundary follow only those routes on highways, public and other roads and bridges which are prescribed by the Highway Authority or Authorities concerned. The *Contractor* makes arrangements and agrees these routes with the appropriate Highway Authority or Authorities.

(7) Where the *Contractor* undertakes work or makes deliveries to the Site which impacts on public or private highways, including access to the Site and to other premises/establishments, the *Contractor* supplies, erects, maintains and removes prior to Completion, such traffic signs and barriers as may be necessary by the Code of Practice for New Road and Street Works (1997) to guide and warn traffic and to protect pedestrians and to prevent danger thereto.

(8) The *Contractor* ensures the *works* are appropriately lit and guarded in the hours of darkness and that traffic signs and barriers are removed as soon as they cease to be required for the purposes of Providing the Works. The size and positioning of all such signs and the wording thereon is to be as approved before erection with the *Project Manager* and Highways Authority or Authorities. The signs are to be reflective or adequately illuminated at night by approved means.

WI 240.2 Damage (to highways etc) (82.1)

(1) The *Contractor* is responsible for making good any damage to roads and footpaths and services underneath or adjoining, whether public or private, if caused by or attributable in any way to the cartage of equipment or materials by either the *Contractor* or any Subcontractor under this Contract. This includes but not limited to claims from local authorities and/or Others for damage to highway road, other route or footway by reason of the *Contractor's* operations.

WI 240.3 Cleanliness of highways (27.4)

(1) The *Contractor* will take strict measures for keeping public and private roads free from mud, dust or rubbish in connection with providing the *works.*

(2) The *Contractor* will take all necessary measures to avoid creating a dust nuisance and will submit his statement to the Project Manager for acceptance identifying his proposed measures prior to the *works* commencing.

WI 245 Surveys

WI 245.1 Intrusive Survey

(1) The *Contractor* carries out comprehensive and intrusive surveys to validate asset location, make up and condition information supplied with this contract. The *Contractor* reinstates and or makes good to original state any asset disturbance resulting from these surveys.

(2) All surveys are to be carried out prior to the commencement of the *works* to enable the *Contractor* or *Project Manager* to utilise the information in the validation and development of the design.

(3) The *Project Manager* will not accept *Contractor* designs that are deficient due to lack of survey information.

(4) The *Contractor* prepares and submits to the *Project Manager* a detailed report of any existing services, asset location or obstructions identified by the survey but not identified in the Site Information. The *Contractor* submits an early warning notification if the survey reveals the presence of unexpected services, which if not protected or diverted could affect the progress of the *works* or the works of Others.

(5) Where surveys necessitate the disturbance of an asset, the *Contractor* leaves the asset in a safe and operable condition until such a time as it is affected by the permanent works. If the asset disturbed is not affected by the main *works*, the *Contractor* makes it good, leaving it safe, operable and with its appearance commensurate with its immediate surroundings.

WI 245.2 Asbestos Survey

(1) The existing asset asbestos reports are included in Appendix SI03 of the Site Information. The *Contractor* may wish to commission their own asbestos surveys additionally during the *works*.

WI 245.3 Dilapidation survey

(1) The *Contractor* will complete a dilapidation survey and submit his dilapidation report to the Project Manager for acceptance prior to the commencement of the *works*.

WI 245.4 General Inspection

(1) Please see and comply with the requirements as set in Appendix A200.4.

WI 250 Access within the Railway Environment

WI 250.1 Working on Network Rail infrastructure

(1) Where Network Rail is responsible for the operational running of certain assets within a Site, the access required by the *Contractor* in providing the works will be subject to additional Network Rail access rules at certain locations. This includes minimum access permits such as PTS and COSS for operatives and site safety supervisors. The *Employer* makes the necessary arrangements via the appropriate Network Rail process for any works requiring access to the track or the area near the track requiring possessions of the Railways or isolations, (These are set out in the Access and Possessions Schedule or as notified to the *Contractor)*, including the provision of all safety critical resources.

WI 250.2 Interference with traffic and station operations

(1) The *Employer* will afford the *Contractor* reasonable facilities to enable him to Provide the Works but the *Contractor* must strictly observe any rules, regulations or instructions which he may from time to time receive from the *Project Manager* for the working and protection of such traffic or for the protection of persons employed on or adjacent to the Site.

(2) Any Losses incurred by the *Employer* by reason of any obstruction interruption or hindrance to any traffic or to the use of the *Employer's* premises or Network Rail premises, facilities or assets occasioned by either the neglect or default of the *Contractor* or of any Subcontractor or by any failure on their part to observe any such rules regulations or instructions may be deducted from monies due or to become due to the *Contractor* in accordance with the *conditions of contract*.

(3) Further to clause Z2.12.1, whereby the *Employer* may seek to recover the loss of NACHS (Nominally Accumulated Customer Hours) charges from the *Contractor*, the *Contractor* is referred to table of charges contained within the Appendices A200.7 to A200.30 in connection with Schedule 9 – Liquidated Damages For Disruption.

WI 250.3 Interference with railway plant and track

(1) The *Contractor*'s staff and personnel must not operate or interfere with any railway plant or track in any manner whatsoever except as required by the *works*.

(2) The *Contractor*'s staff and personnel must at no times trespass upon the Underground

Network.

(3) During the execution of the *works* the traffic along the Underground Network will be continued and all rules and regulations which may from time to time be issued by the *Employer* for working the traffic must be strictly observed by the *Contractor*.

(4) The *Contractor* Provides the *works* in such manner so as not to interrupt, endanger or interfere in any way with the Underground Network or National Rail network or the traffic thereon or equipment thereon existing. The *Employer* will afford the *Contractor* reasonable facilities to enable him to carry out the *works.*

(5) If the *Contractor* obstructs, interrupts or hinders the Underground Network, National Rail Network or the use of the *Employer's* and/or Network Rail premises without the prior agreement of the *Project Manager,* the *Contractor* is responsible for any Losses due to such obstruction, interruption or hindrance to the Underground Network, the National Rail Network or the use of the *Employer's* and/or Network Rail premises.

WI 250.4 Interrupted or delayed access

(1) The *Contractor* is reminded of the *Employer's* and Network Rail's frequent operational need to run Engineering/Sleet/Weed Killing/Test Trains, both planned and unplanned

(2) The *Contractor* is familiar with and cognisant of such issues, and allows for any planned engineering train movements within the planning and programming of the *works*. Notwithstanding that unplanned train movements causing the *Contractor* interrupted or delayed access is an *Employer's* risk event, the *Contractor* is expected to react, redeploy operatives and re-sequence the *works* so as to mitigate the effects in such circumstances where interrupted or delayed access may occur. The Accepted Programme, where possible, allows for and highlights such contingency work operations that can be carried out in the event that interrupted or delayed access occurs

(3) Where the *Contractor* is interrupted or delayed on an occasion when the *Contractor* has an agreed planned access, an initial delay of 15 minutes before access is granted will not be considered as a delay to access by the *Employer*. Additional interrupted or delayed access will be addressed in multiples of 15 minutes

WI 255 Site Cleanliness

WI 255.1 Site Clearance and Cleaning

(1) On completion of each shift all Equipment, building appliances, apparatus or tools, surplus materials, together with all rubbish and debris of every description is to be removed as quickly as possible and conveyed away from the Site unless agreed otherwise with the *Project Manager*. All barriers, scaffolding are to be dismantled, taken down and removed when no longer needed and in any event upon Completion. The premises are left clean and tidy. A daily or more frequent clean is carried out to ensure passenger areas are free of dust and nuisance.

(2) The *Contractor* ensures that high standards of cleanliness and hygiene are maintained in all areas of the site, in line with good industry practice. If the *Project Manager* notifies the *Contractor* that he has failed to comply with the required levels of cleanliness and hygiene, the *Contractor* resolves the problem within the agreed timescales to the

acceptance of the *Project Manager*. Failure to rectify and maintain, may result in the *Project Manager* arranging additional cleaning to be carried out for which the *Contractor* will be liable for the cost thereof.

(3) On completion of the *works* the *Contractor* clears the *working areas* made available to him of all surplus materials, stores, equipment, spoil, and rubbish and reinstates the areas to their condition existing prior to the *Contractor*'s occupation of those areas.

(4) Delivery and removal of materials to and from the site by road are subject to the restrictions as detailed elsewhere within the Works information. Should the *Contractor* require delivery or removal of materials at times other than those detailed in the Access Plan he submits proposals to, and obtains acceptance of, the *Project Manager* prior to carrying out works.

WI 260 Waste Materials

WI 260.1 Control of waste on Site

(1) The *Contractor* is responsible for the removal of waste materials from the Site and completes the Site Waste and Management Plan contained within WI 800 of this Works Information.

(2) The *Contractor* attention is drawn to section WI 1135 of the Works Information that details the *Contractor's* main requirements in relation to waste management, waste reporting and re-cycling.

FINSBURY PARK PHASE 2B WORKS

WORKS INFORMATION

WI 300

THE *CONTRACTOR'S* DESIGN

CONTENTS

WI 305 Design responsibility (21.1)

WI 305.1 General

(1) a) The *Contractor* is solely responsible for the design of the *works* in accordance with Option X21, with the exception of the following elements for which the *Employer* is responsible (within reasonable tolerances):

- any difference to the structural positions and dimensions of the tunnels, stairs and passageways, where the *Project Manager* assesses such differences will have a material impact on the permanent *works.*
- the *Contractor* is not responsible for the design of the T-junction, however the *Contractor* is responsible for the temporary works for the T-junction works.

b) The *Contractor* accepts as their own the ***Employer's*** Design Information contained within WI2000 of this Works Information, developing and amending it as is necessary to achieve a design that is compliant with relevant LU and British Standards.

c) The *Contractor* is appointed, and complies with its duties, as the Principal Designer in accordance with the CDM Regulations 2015. The *Contractor*, as Principal Contractor, must liaise with the Principal Designer from the *starting date* until the Defects Certificate has been issued and share relevant information with the Principal Designer in accordance with the CDM Regulations 2015

(2) The *Contractor* is responsible for the management, co-ordination, integration and Assurance for the entire design for the works.

(3) The *Contractor* develops the design for the *works* as a complete Project Information Model, in accordance with BSI 1192:2007, PAS1192-2,. The Project Information Model is to be hosted on the Common Data Environment (CDE). All design drawings and other deliverables shall be derived from the Project Information Model.

(4) The *Contractor* shall adopt the ***Employer's*** Design Information contained within WI2000.

(5) The *Contractor* develops the ***Employer's*** Design Information in order to Provide the Works and complies with the ***Employer's*** design requirements stated within the Works Information.

(6) In preparing the design of the *works* the *Contractor* uses existing information and data made available by the *Employer* within the ***Employer's*** Design Information. Unless otherwise agreed by the *Project Manager*;

- the ***Contractor's*** design of the *works* is consistent with the existing ***Employer's*** Design Information and the ***Employer's*** Requirements document.

(7) Where the *Contractor* is responsible for design, the *Contractor* is, and complies with, its duties as Designer as defined in the CDM Regulations 2015.The *Contractor* appoints a lead designer who is responsible for the coordination of the design.

(8) The *Contractor* appoints a Design Manager (the "***Contractor's*** Design Manager") who is responsible for the management, coordination, integration, quality control and Assurance of the ***Contractor's*** design of the *works*. The ***Contractor's*** Design Manager is the primary interface with the *Project Manager* on design matters.

(9) The *Contractor* appoints checkers for all of the ***Contractor's*** design of the *works* in accordance with Assurance requirements, LUL standards, Network Rail requirements and

other relevant Standards.

(10) The *Project Manager will* nominate a representative of LUL's project team to lead the design liaison with the *Contractor* at all stages during the preparation of the *Contractor's* design of the *works*.

(11) The *Contractor* appoints as their lead designer a design organisation with proven experience in similar works in the UK who is responsible for all aspects of the *Contractor's* design of the *works*. The lead designer will design the *works* at least up to and including design Compliance in accordance with LUL Standard S1538.

(12) For Network Rail elements, two copies of drawings are to be submitted to the *Project Manager* separately in DWG and PDF format.

(13) Through their design of the *works* the *Contractor* is required to seek to minimise the effects of settlement and noise and vibration on structures in and around the area of the Site.

(14) On Completion the *Contractor* submits a complete "as constructed" Project Information Model, and "as built" drawings, definitions and reports. The Project Information Model is to be in accordance with LUL Standards.

(15) The *Contractor* provides a BIM Execution Plan as described in WI 335 and shall use the verified Composite Graphical Model for the purposes of, but not limited to:

- Record modelling
- Site utilisation planning
- 3D co-ordination
- Design reviews
- Phase planning

WI 305.2 Design Generally

(1) The *Employer's* Design Information is contained within Works Information WI 2000 and has been developed to various stages of the design process. An element of the *Employer's* Design Information has received a letter of no objection in respect of a compliance submission for the LUL works design. There remains areas of the design which are the subject of further compliance submissions for which the *Contractor* is required to take responsibility.

(2) (a) For the avoidance of doubt the *Contractor* is responsible for the entire design of the *works* apart from those parts specifically described in WI305.1(a).

(b) The *Contractor* is responsible for the design of all Equipment together with installation and operation methodology (including temporary works).

(3) Notwithstanding WI 230, the *Contractor* liaises with Jacobs who are responsible for the design of existing services or relocating the same within the London Underground demise to allow the *works* to be constructed. The *Contractor* shall liaise with Jacobs to ensure the diversions are compatible with implementing his *works*, and were possible, only diverted once. Where this is not possible due to space restrictions or logistics, the *Contractor* shall allow for protection or temporary diversions of any services during the construction of the *works*.

(4) Notwithstanding WI 230, the *Contractor* is responsible for the design and diversion of utilities diversions within Network Rail demise. The *Contractor* will be responsible for the design and diversion of any affected utility at NR platform level and utilities running within

the platform structure. This includes the Milk Dock, Platform 5/6 and 7/8 and any utilities in adit 1/905 and the adit shaft off the disused Passageway 4. In particular a replacement utility route will be incorporated into the scheme to replace the existing distribution route to platform level currently formed by adit 1/905 which is displaced by the installation of the new Step Free Access lift. The *Contractor* will send for acceptance any temporary or permanent diversions required to implement the works with Network Rail via the *Project Manager*. Where there is a potential overlap of NR and LUL utilities in the disused passageway 4 and adits, the *Contractors*' designer for the NR diversion liaises with the *Employer's* utilities designer, Jacobs.

(5) A representative of the Contractor must be available 24 hours a day, 7 days a week to advise the Monitoring Review and Response Team and to respond and react to ground movements during construction of the *works*.

(6) The *Contractor* provides all these requirements within the design organisation.

WI 305.3 Design Checks and Approvals

(1) For all design undertaken by the *Contractor*, the *Contractor* submits details of designs carried out in respect of the *works* including relevant design and check certificates, to the *Project Manager* for acceptance. This includes CAT3 checks for both permanent and temporary works for LU and Network Rail.

(2) The *Contractor* prepares all Assurance deliverables in support of the "Consent to Operate" certification as described in LUL Standard S1538 'Assurance' and any applicable Network Rail standards.

(3) The *Contractor* prepares a complete submission of all deliverables necessary to obtain each "Consent to Operate".

(4) Design checks comply with one of three categories in accordance with the concepts set out in LUL Standard S1538, any applicable Network Rail standard and WI310.3 below.

WI 305.4 Consents and Third Party Technical Approvals

(1) The *Contractor* obtains all approvals of the designs and assessments from consenting bodies (e.g. local planning authorities, Environment Agency, Network Rail) and other third parties (e.g. highway authorities, Statutory Undertakers) that may be required via the *Project Manager.* Where any approvals have already been obtained, the *Contractor* will comply with the approved submission and any associated conditions. Any deviation must first be agreed with the *Project Manager* prior to obtaining further approvals as required.

(2) The *Contractor* obtains approvals and consents for design of the *works* carried out by his subcontractor's.

(3) The *Contractor* is responsible for formal submissions to consenting bodies. These submissions are made in accordance with the particular requirements of the consenting body which are to be determined by the *Contractor*.

(4) Network Rail approvals include (but are no limited to) Form 1, Form 2 and Form 3 approvals which are all to be CAT 3 checked.

WI 305.5 Design for the *works*

(1) Within four weeks of the *starting date* the *Contractor's* Design Manager prepares the following:

A design assurance plan (component within the ***Contractor's*** Project Quality and Assurance Plan described in WI 600) including as a minimum;

- A detailed design programme consistent with the programme to be submitted for acceptance, showing the planned order and timing of the *Contractor's* design activities including the various stages involved with the preparation of the design documentation for construction through to completion of "as-built" records. This programme includes provision for all reviews required under this contract, for design, design development, design checks, certification, and for obtaining design consents and third party technical approvals as appropriate, and providing Assurance and obtaining a statement of “No Objection” to the compliance submission. The *Contractor* allows sufficient time in his Programme for any re-submissions that may be necessary to obtain acceptance or consent or approval or statement of “No Objection” as the case may be;
- A schedule of all Assurance deliverables commencing with the design elements of the ***Contractor's*** Project Quality and Assurance Plan, through receipt of the LUL “No Objection” and the process culminating in the “Consent to Operate”;
- A list of all design deliverables, in particular in relation to the Project Information Model, but also including all drawings, specifications and other designs which the *Contractor* intends to produce together with the dates by which the *Contractor* plans to complete each deliverable identified in the list;
- A list of the names of the *Contractor's* key design staff and specialist designers and Subcontractors, and evidence of their competence to undertake the design work (including Network Rail designs), and identifying those with delegated authority to certify the *Contractor's* design;
- A list of the names of independent checker's key staff and evidence of their competence to undertake the checking, and identifying those with delegated authority to sign-off check certificates; A list of all consents and approvals for the *Contractor's* design required from the *Project Manager* and Others including technical approval bodies;
- The quality plans and procedures applicable to the *Contractor's* design of the *works* and checking activities, including describing the interfaces between the *Contractor's* designers, the *Contractor's* Design Manager and the ***Project Manager's*** nominated design representative; and
- Procedures for design progress monitoring and reporting, design change control and design risk management.

As part of the assurance regime the *Employer* will undertake regular detailed Client Design Checks of the BIM process. The *Contractor* is required to highlight any change since the previous BIM progress review so the *Employer* can understand the progress made, and verify adherence to the ***Employer's*** requirements.

WI 305.6 Design of Equipment

(1) Within two weeks of the *starting date* and before commencing any design of Equipment, the *Contractor* submits to the *Project Manager* a list of items of Equipment for which the *Contractor* intends to prepare designs, and the proposed checking categories.

(2) In preparing this list the *Contractor* identifies the potential for risk, together with any third party approvals that may be required (e.g. highway authorities and Statutory Undertakers).

(3) The *Contractor* submits to the *Project Manager* for acceptance, a schedule of design interfaces between Equipment and the *works* and settlement / ground movement monitoring, identifying which party within the design organisation is responsible for the design and checking of each aspect of design.

(4) The *Project Manager* instructs the *Contractor* which items of Equipment the *Project Manager* will require submission of the *Contractor's* Design, as per WI310.2 and shows this in the detailed design programme.

(5) The design and check of any item of Equipment is undertaken by competent qualified persons and, where appropriate, the *Contractor* appoints a Temporary Works Coordinator, who will undertake the duties and role described as Falsework Co-ordinator in BS: 5975.

(6) Unless the *Project Manager* allows it to be left in the *works*, the *Contractor* removes all Equipment when it is no longer needed, in such manner as to prevent damage to the *works*. The *Contractor's* design of Equipment takes account of this requirement.

WI 310 Design submission procedures (21.2)

WI 310.1 Design process

(1) The *Contractor* provides complete supporting information and completed concessions for the *Project Manager's* written acceptance for any concessions from the *Employer's* Design Requirements and Standards required for the *Contractor's* design of the *works*. (Concession template provided at A300.2).

(2) The *Contractor* confirms compliance with, and makes cross references to, the *Employer's* Design Requirements and any other relevant section of the Works Information.

(3) The *Contractor* provides Assurance packages and a compliance submission in timely fashion to obtain LUL & NR "No Objection" statement in respect of the design. At appropriate intervals and upon request by the *Project Manager* or Principal Designer (as applicable) at any time from the *starting date* until the Defects Certificate has been issued, the *Contractor* (whether or not it is appointed as Principal Contractor) must provide information relevant to the health and safety file.

(4) The *Contractor* prepares the Composite Graphical Model, Project Information Model, working drawings, design calculations, specifications, or amendments to LUL specifications, safe system of works and any other relevant information necessary to Provide the Works.

(5) The *Contractor* obtains all required design checks and third party technical approvals and carries out any reworking of the design necessary in order to obtain these approvals.

(6) The *Contractor* obtains the acceptance of the *Project Manager* to any changes which arise on Site and vary the *Contractor's* design, which has been already been accepted by the *Project Manager,* or vary designs prepared by Others and contained in the *Employer's* Design Information.

(7) The *Contractor* constructs the *works* in accordance with the design which has been accepted by the *Project Manager.*

(8) The *Contractor* completes and submits to the *Project Manager* all documentation to suit the progressive completion of the *works*.

(9) The *Contractor* complies with the quality plans and procedures and ensures that the *Project Manager's* nominated design representative is kept informed of the *Contractor's* progress at all stages during the preparation of *Contractor's* design.

(10) The *Contractor* makes presentations and provides reviews of the developing design to any affected PFI Contractors, LUL technical assurance, Network Rail, the project team and Others as requested by the Project Manager.

WI 310.2 Submission of the *Contractor's* design for acceptance by the *Project Manager*

(1) The *Contractor* submits the design of the *works* to the *Project Manager* for acceptance. The *Contractor* makes a presentation for each package of design data submitted for review and gives no less than four weeks' notice of the intended submission date.

(2) Unless otherwise agreed between the *Project Manager* and *Contractor*, the *period for reply* by the *Project Manager* to a *Contractor's* design of the works submission is four weeks.

(3) The *Contractor's* design for the *works* submitted for acceptance, is comprised of:

During Design development

- Intermediate submissions, including regular reviews of the Project Information Model, drawings for comment and review, technical reports, surveys, etc., as is deemed appropriate by the *Project Manager*, are made by the *Contractor* as the design of the *works* progresses.

Detailed Design

(4) The components of any interim submission of the *Contractor's* design are agreed between the *Contractor* and the *Project Manager* through the *Project Manager's* nominated design representative and are appropriate to keeping the *Project Manager's* nominated design representative informed and allowing the necessary co-ordination, liaison and review of the design to take place. There is no acceptance/rejection in respect of interim submissions; therefore the *Project Manager's* response will be in the form of comments only.

WI 310.2.1 Third Party approvals

(1) The design of the *works* to be submitted for planning consents and / or to third party technical approval bodies is agreed in advance between the *Contractor* and the *Project Manager* through the *Project Manager's* nominated design representative and is appropriate to the application that is to be made.

WI 310.2.2 Construction information

(1) The *Contractor* will submit the *Contractor's* design of the *works* for acceptance by the

Project Manager before it is advanced to “complete and suitable for construction” status.

(2) The Contractor’s design of the *works* submissions are to be staged in accordance with the Accepted Programme. The *Contractor* includes all relevant information in these submissions, which may include but are not limited to the following:

- Composite Graphical Model
- Drawings
- Bending schedules
- Specifications
- Safe system of works
- Assessment reports
- Design certificates
- Check certificates
- Designer’s risk assessments
- Design calculations
- Confirmation that the *Contractor* has obtained the third party approvals for which he is responsible.
- 3D PDF

WI 310.3 *Project Manager’s* Acceptance

(1) The *Project Manager* reviews the *Contractor’s* design of the *works* submittals for compliance with the *Employer’s* Design Requirements.

(2) Any re-working of the *Contractor’s* design of the *works* which is necessary in order to obtain the *Project Manager’s* acceptance is undertaken by the *Contractor* before commencing construction of that element or elements of the *works* covered by the design submittal.

(3) In accordance with the provisions of clause 21 of the *conditions of contract*, the categories of acceptance are as follows:

a) Accepted without comment

The *Contractor* adheres to the design of the *works* which the *Project Manager* has accepted and construction proceeds.

b) Accepted with comments

The *Contractor* reviews and incorporates the *Project Manager’s* comments in his design of the *works* and construction proceeds.

If the *Contractor* does not incorporate the *Project Manager’s* comments, the *Contractor* justifies the reasons for not agreeing, in detail, to the *Project Manager*. The *Contractor* then resubmits the design of the *works* to the *Project Manager* for acceptance.

Construction does not proceed unless the design of the *works* submission has been accepted by the *Project Manager* in accordance with clause 21 of the *conditions of*

contract.

c) Rejected

The *Project Manager* gives reasons for rejecting the design of the *works* submittal.

Construction does not proceed.

The design of the *works* submittal is revised by the *Contractor* and resubmitted.

WI 315 Design approvals from Others (27.1)

(1) The *Contractor* ensures that all approvals from consenting bodies (e.g. local planning authorities, Environment Agency) and other third parties (e.g. Highway Authorities, Statutory Undertakers) that are required as part of the design of the *works* are obtained from Others.

WI 320 *Employer's* requirements

WI 320.1 *Employer's* Design Requirements

(1) The *Contractor* develops the design of the *works* in order to Provide the Works to comply with the *Employer's* Design Information contained within WI2000 of this Works Information. The *Employer's* Design Requirements comprise all applicable associated constraints arising from the particular environment both explicit and implicit, regulations and LUL and other relevant Standards.

(2) The *Contractor* is responsible for producing a fully assured coordinated and integrated design to deliver the requirements stated in WI 2000.

(3) The *Contractor* complies with the accepted Fire Strategy during the stages of construction by the London Fire and Emergency Planning Authority. This document imposes requirements and constraints upon the *Employer's* Design Information. The *Contractor* is responsible for gaining approval from the London Fire and Emergency Planning Authority if he changes fundamental aspects of the *Employer's* Design Information before he submits it to the *Project Manager* for acceptance.

(4) Energy and carbon consumption target levels shall be set as low as reasonably practical, and the *Contractor* is required to qualitatively demonstrate this.

WI 320.2 Change to *Employer's* Design Requirements

WI 320.2.1 *Contractor's* design change proposals

(1) For the purpose of this section, a *Contractor's* design of the *works* change proposal means a proposal made by the *Contractor*, before proceeding with the relevant work, to change the design which is contained in the *Employer's* Design Information, or design of the *works* that has previously been accepted by *the Project Manager*.

(2) Any alternative design of the *works* proposal will comply with the *Employer's* requirements.

WI 320.2.2 Process

(1) If the *Contractor* wishes to propose such a change (as referenced in WI320.2.1(1)), he submits the relevant design information to the *Project Manager* for acceptance, with an explanation of the reasons for the proposed change together with an assessment of the cost and programme effects.

(2) Except as may be agreed between the *Project Manager* and *Contractor*, the *period for reply* for the assessment of the *Contractor's* submission to change the design of the *works* shall be four weeks.

(3) The *Contractor* submits the following information with any alternative design proposal:

- Composite Graphical Model
- Outline drawings of his proposed scheme;
- Outline construction safe system of work with safety risk assessment;
- Summary of changes from the *Employer's* Design Information;
- Proposed design check category of the structure;
- List of third party approvals required for the alternative design proposal;
- Outline programme for design, liaison, checking, consents, *Project Manager'*s review and construction; and
- Proposed design and checking bodies.

(4) The *Contractor* is responsible for co-ordination of the design of the *works* and its integration with other parts of the *works* not designed by the *Contractor*. This may involve regular liaison and formal reviews on all aspects of the design with the *Employer's* PFI suppliers.

(5) Design of the *works* (including the Composite Graphical Model, drawings and specifications) are subject to formal review by the *Project Manager*.

(6) The *Contractor* is responsible for an increase in the *Project Manager's* and *Employer's* costs incurred in review and acceptance of a proposed design change. The *Contractor* is also responsible for management of the programme to ensure that the process of revisions to the design does not impact on the Completion Date or on any other Key Date.

(7) The *Project Manager* may agree a phased submission programme to facilitate development of the assured design and to mitigate delays in the construction programme.

WI 320.2.2 Records

(1) The *Contractor* maintains a log of all proposed design of the *works* changes sufficient to track the relevant correspondence, design particulars, and cost and programme impacts of each design change. The *Contractor* will propose the format of the log to the *Project Manager* for acceptance.

WI 325 Design co-ordination

***Project Manager's* nominated design representative**

(1) The *Project Manager's* nominated design representative is appointed by the *Project Manager* but is not delegated any of the *Project Manager's* powers under this contract

unless expressly advised to the *Contractor* in writing. Consequently the *Contractor* addresses all written communications to the *Project Manager* with a copy to the *Project Manager's* nominated design representative.

(2) For the avoidance of doubt, any act or omission by the *Project Manager's* nominated design representative (including but not limited to the acceptance, where applicable, of any communication from the *Contractor*) does not change the *Contractor's* responsibility to Provide the Works or his liability for his design.

(3) For the avoidance of doubt any assistance provided by the *Employer's* nominated design representative does not remove from the *Contractor* the responsibility to obtain relevant design checks, consents and approvals in respect of his design.

(4) The *Project Manager's* nominated design representative duties include:

- Acting as the *Project Manager*'s focal point for any design-related queries during preparation of the *Contractor's* design;
- Liaising with the *Contractor* during the preparation of the Contractor's design;
- Assisting the *Contractor* to prepare Assurance packages and the compliance submission, including advice on format and content of submissions.
- Assisting the *Contractor* to obtain any consents and third party technical approvals required, including advice on format and content of submissions. Assisting with the liaison and reviews that are necessary to integrate *Contractor's* design with other parts of the works commissioned directly by the *Employer* from Others;
- Routine monitoring of the *Contractor's* developing design particulars for compliance with the *Employer's* Design Requirements;
- Routine monitoring of the *Contractor's* progress against the periods allowed for design in the Accepted Programme; and
- Monitoring the preparation and update of the records, including as-built drawings, and the *Contractor's* preparation of data for the MAID.

(5) The *Contractor's* must coordinate his design works with the *Employer's 3rd pa*rty contractors, including but not limited to:

- Prestige – Gate line and Ticketing Equipment
- Connect – Radio and Communication Equipment
- CBS – Advertisement
- TfL Signage (Design Only *Contractor* to Supply).
- Jacobs – Fit out designer
- Kone – Lifts
- Mott McDonald/Bam Nutall – Network Rail AFA

WI 325.1 *Contractor's* Design Manager

(1) The *Contractor* appoints a design manager (the *Contractor's* Design Manager) who is responsible for the management, coordination, quality control and Assurance of the design work.

The requirements of the *Contractor's* Design Manager are to:

- be the primary interface with the *Project Manager's* nominated design representative on design matters;
- have the appropriate knowledge, skills and experience to carry out the role;
- act as the single point of contact for design queries for the *Contractor*, designers, *Project Manager's* nominated design representative, *Project Manager* and *Employer*;
- be responsible for managing the exchange of information between the various discipline designers in order to achieve a coordinated design;
- chair design team meetings (and provide minutes to the *Project Manager*);
- conduct regular informal interdisciplinary reviews and at least one formal documented interdisciplinary review prior to the design being submitted to the *Employer;*.
- collate all design information and maintains the official copy of the design; and
- be the first point of contact for any design changes, whether requested by the *Employer*, the *Contractor,* or necessitated on site.

(2) For the duration of the design phase of the *works* until the submitted design has been accepted by the *Employer*, the *Contractor* must convene a weekly design team meeting. The meeting is to be chaired and recorded by the *Contractor's* Design Manager and will be attended by a competent representative from each design party. A representative of the *Project Manager* and/or the *Employer* may elect to attend. A copy of the recorded minutes is to be submitted to the *Project Manager*, regardless of his attendance or that of one of his agents.

WI 330 Requirements of Others

(1) The *Contractor* is responsible for obtaining and satisfying any necessary authority requirements (e.g. government departments) which may need doing so throughout the duration of the Project.

WI335 BIM Execution Plan

(1) Within four weeks of the *starting date* the *Contractor* submits to the *Project* Manager for acceptance a BIM Execution Plan containing:

- an information delivery index to be submitted for acceptance showing each item contained within the Project Information Model which the *Contractor* intends to produce together with the dates by which the *Contractor* plans to complete each deliverable identified in the list (a template, yet to be developed will be provided by the *Project Manager*);
- a list of the named individuals within the *Contractor's* design staff and task teams, of any tier, for each of the roles defined within CIC Scope of Services and PAS 1192-2 and evidence of their competence to undertake the design work and production of their respective element of the Information Model, and identifying those with delegated authority to certify the *Contractor's* design;
- a volume strategy showing how the Graphical Models will be divided into logical zones as described in BS1192:2007;
- a modelling strategy showing how the Graphical Models will be physically divided as defined in LUL Standard S1037. (this is defined as per LU asset group (see LUL Standard S1041), per level (see LUL Standard S1037) and per location (See LUL Standard S1035));
- the Level Of Detail (LOD) at each stage. (The *Contractor* shall adopt the CIC definitions concerning LOD);
- origin and orientation;
- a description of how the Project Information Model will be maintained during the construction stages to ensure any deviation is captured; and
- how the *Contractor* demonstrates the effectiveness of any value engineering using the Project Information Model.

FINSBURY PARK PHASE 2B WORKS

WORKS INFORMATION

WI 400

COMPLETION

CONTENTS

WI 405 Completion definition 11.2(2)

WI 405.1 Works to be Done by the Completion Date

(1) In order for Completion to be certified by the *Project Manager*, the minimum requirements set out in this WI405.1(1) must be achieved by the *Contractor.* Where this section of the Works Information requires additional requirements to be met, then for the avoidance of doubt Completion will not be certified until the *Contractor* has met such additional requirements.

In his notice to the *Project Manager* under clause 30.1A of the *conditions of contract*, the *Contractor* states how the following elements have been satisfied and provides all necessary supporting data to demonstrate to the *Project Manager* that the Completion has actually been achieved.

- the completion of all works necessary to facilitate a safe Handover of the *works* to the *Employer*;
- all LUL, Network Rail, TOC/FOC Assurance processes have been achieved in respect of LUL assets; or
- in the event that the relevant Assurance process has not been fully achieved, the *Project Manager* (having consulted with the *Employer*, *Supervisor* and Others, as appropriate) in his absolute discretion accepts that the level of achievement is sufficient to allow the *Employer* to take over the relevant *works*;
- all records including documentation for TLF 447, documents and drawings have been issued to the *Project Manager* and transferred to the relevant maintainer, PFI Contractor, highway authority, Network Rail and Others as appropriate;
- o maintenance data are provided by the *Contractor* and accepted by the *Project Manager*; and
- completed Project Information Model.

(2) Completion is not certified until the Contractor ensures that:

- the Site is clear of all unused Plant and Materials and Equipment and other items to ensure free and unobstructed access by the *Employer* and Others
- a “builders final clean” has been undertaken;
- all temporary hoardings and barriers have been removed;
- the demobilisation of all site accommodation and welfare is completed;
- all strategic maintenance spares and tools are provided to the *Employer* for those assets that have a long lead time or are vulnerable and/or susceptible to failure or damage; and
- all necessary training to the *Employer* for those assets and systems installed as part of the *works* has been provided.

(3) Notwithstanding the above, completion of the *works* in accordance with clause 11.2 (2) of the *conditions of contract* and the requirements of this Works Information, including the provision of all deliverables required under the Works Information is a condition precedent for Completion, notwithstanding that the *works* may be Available in part or in full use.

(4) All information relating to the Price for Work Done to Date at the assessment date occurring on Completion of the whole of the *works* and any other applicable information

required in accordance with clause 50.1A has been provided by the *Contractor* in the format of the CFS template.

WI 405.2 Completion documentation

(1) The *Contractor* produces a the TLF 447 Asset Capture documentation included in this contract at Appendix A400.1, All document submissions required under the TLF 447 are provided to the *Project Manager* for logging, uploading onto the *Employer's* database and updating of the master TLF 447 document.

(2) Whilst the *Contractor* is at liberty to submit documents early and in stages, which is encouraged by the *Project Manager*, the TLF 447 is required to be fully reviewed as a complete document. The *Contractor* must allow up to a 6 week period for the *Project Manager's* review of the submitted and complete TLF 447. Comments raised by the *Project Manager* from the review will require addressing by the *Contractor* before the TLF 447 can be accepted.

(3) In addition to the above requirements, the *Contractor* supplies to the *Project Manager* the following, no less than 6 weeks prior to seeking to hand assets over into maintenance:

- Red lined drawings and as-builds in micro station
- Project Information Model

(4) This information will be used by the *Employer* to vary existing maintenance contracts, in readiness for Handover. The *Contractor* is liable for any delay in the acceptance of assets due to non compliance with this section.

(5) The manuals include copies for;

- All new and affected asset certification,
- Formal concessions on an asset by asset basis (or cross references to an appropriate separately supplied document/concessions log)
- Warranties where appropriate
- One copy of the as-built drawings in both CAD "dgn" and Acrobat "pdf", complete with an index indicating the drawing number, revision reference and description of the drawing contents; and
- All drawings relevant for Network Rail in AutoCAD format

(6) Complete set of CAD drawings to be submitted in both hard copy and electronic form for acceptance on Completion

(7) In addition to clause 30.1A, the *Contractor* shall comply with Works Instruction 0091 in relation to Notifications of works ready for inspection (NOWRIs)

(8) The *Contractor* provides the Employer with an electronic copy of all documents contained within the A-Site document management system relating to this contract. The documents will be within the agreed folder structure as described in WI800 of this Works Information.

WI 410 Final Clean on Site

(1) Prior to Completion the *Contractor* ensures that the Site is clear of all Equipment and

unused Plant and Materials and other items to permit free and unobstructed access by the *Employer* and Others and that a "builder's final clean" has been undertaken. This will include, but is not limited to:

- removal of all temporary structures
- cleansing of all new infrastructure and cleansing of existing infrastructure in close proximity which may have received dust and debris arising from the *works*
- removal of all *Contractor's* Plant and Machinery and Equipment
- removal of all screening and protective films
- clean down using appropriate methods and products
- cleansing of all glazing affected by the *works*
- cleansing of all light fittings and surfaces,
- all surfaces to be free of smudges, dirt, grease and dust and uniformly cleansed throughout, and
- all floors to be slip free and absent of any obstacles.

(2) Where break through activities to track infrastructure and passenger areas are executed, an interim clean will be undertaken and shall include thorough cleansing of the track and signal infrastructure to a distance of 100m unless otherwise instructed by the *Supervisor* or *Project Manager* ensuring all affected areas and facility plant and mechanical infrastructure are free of dust and debris and fit for operational use.

WI 415.1 Handover Plan

(1) The *Contractor* prepares a Handover Plan ten weeks in advance of the Completion Date to enable the *Contractor* to transfer the possession of the Site or part(s) thereof to the *Employer* as part of the Handover Plan requirements.

This includes;

- a process to ensure compliance with all health and safety requirements (particularly in respect of the CDM Regulations and the transfer of Principal Contractor responsibilities in respect of the relevant area);
- provisions to ensure adequate emergency egress and access for the *Contractor* and Others;
- boundary details of the relevant area;
- relevant drawings and condition surveys;
- confirmation of the completion of the relevant *works* within the area to be transferred.

Prior to submitting the Handover Plan to the *Project Manager* for acceptance, the *Contractor;*

- carries out a joint inspection (including a photographic survey) of the relevant area in conjunction with the *Project Manager* and the Others to whom the area is to be transferred. The joint inspection and survey report are included in the plan;
- consults with all relevant Others and with the *Project Manager* and takes account of their comments; and
- obtains the agreement of the *Project Manager* and/or Others to whom the relevant area will be transferred. The relevant Others sign the agreed plan. In the event of any disagreement, the *Project Manager* instructs the *Contractor* and Others

accordingly.

The *Contractor* submits the plan (signed by the *Contractor* and the relevant Others) to the *Project Manager* for acceptance at least six weeks before the Completion Date.

There is no Completion of the Site or part(s) thereof until the *Project Manager* has accepted the Handover Plan for that Site.

When accepted, the *Project Manager* arranges for the Handover Plan to be provided to the Others.

The *Contractor* manages and implements the Handover Plan in conjunction with the *Project Manager* and Others.

WI 420 Correcting Defects (45.1, 45.2)

WI 420.1 Access for correcting Defects

(1) In complying with the requirements of the *defects correction period* as stated in the *conditions of contract* and Contract Data, the *Contractor* continues to make use of the Access Plan and SABRE process requirements in order to arrange the appropriate access to the Site in order to correct any Defects.

(2) The *Contractor* shall liaise with the *Project Manager* to agree an appropriate time to return to undertake any Defects works including those defects works on Network Rail infrastructure. Where works are deemed obstructive to the operations of the facility, the *Employer* may require the *Contractor* to undertake the works during non operational hours.

(3) The *Contractor* will notify the *Project Manager* within one week after he has corrected a Defect

WI 425 Pre-Completion arrangements

WI 425.1 Pre-Completion Meeting

(1) The *Project Manager* instructs the *Contractor* to attend a pre-Completion meeting with the *Employer* to review the *Contractor's* progress and planning 4 weeks prior to planned Completion as shown on the Accepted Programme, or if there is no updated Accepted Programme when the *Project Manager* deems it to be the appropriate time. This enables the *Employer* to consider what action may be required or assistance given in order to achieve Completion.

(2) The purpose of the pre-Completion meeting is:-

- to establish the *works* remaining to achieve Completion; and
- to agree upon a fixed date and time for the Completion of the Project

(3) The pre Completion meeting will take place at the location of the Project and at the agreed date and time. The meeting will be attended by the *Contractor, Project Manager, Supervisor, Employer* and such other personnel of the *Employer* as may be appropriate.

WI 430 *Contractor's* Maintenance Obligations

(1) Where Clause 35.2 is exercised by the *Employer*, the *Contractor* shall undertake a final clean in accordance with WI 420, ensuring the Site is fit for use and clear of dust and debris arising from the *works*. The *Contractor* will remove all Equipment from Site which may inhibit the operations of the facility and ensure that the area is safe to use.

WI 430.1 Notice requirements

(1) The *Contractor* provides the *Project Manager* no less than four weeks' notice of the date that the *Contractor* believes he will achieve Completion.

WI 430.2 Maintenance of completed works

(1) The *Contractor* is responsible for routine preventive maintenance and breakdown maintenance of all items of Plant and Materials which have been installed in the *works* and have not been taken over by the *Employer*.

(2) Responsibility for maintenance of new and altered assets passes from the *Contractor* to the *Employer's* maintainer at Handback or Handover of the asset.

Handback means the process by which the *Contractor* returns into use an altered or unaltered asset where the function of the asset is not changed by the *Contractor's* occupation or alteration. The responsibility for maintenance after the Handback returns to LUL Maintenance or PFI Contractor. [Also refer WI440.4(2)]

Handover means the same as take over by the *Employer* (in accordance with clause 35 of the *conditions of contract)*.

WI 435 Meeting post Completion

(1) The *Project Manager* instructs the *Contractor*'s Project delivery team to attend an "estimate closure" meeting with the *Employer*'s programme assurance team on Completion, with a view to sharing any lessons learned in the course of the execution of the *works* that have relevance and impacted on the overall capital costs of the *works*.

WI 440 Post Completion review meeting

(1) Post-Completion, the *Contractor*'s project delivery team will be instructed to attend meetings if deemed necessary arranged by the *Project Manager* to review progress, planning and implementation of any outstanding works, commissioning and Defects correction prior to the *defects date*. The *Contractor* will also share any lessons learned in the course of the execution of the *works* that have relevance and impacted on the overall capital costs of the *works.*

WI 445 Planned and Reactive maintenance

(1) The responsibility for maintenance of assets is in accordance with the *conditions of contract* and includes the following.

a. The maintenance of new permanent assets brought into use but not handed over remains the *Contractor's* responsibility in accordance with clause 35.2 of the *conditions of contract.*

b. The maintenance of new temporary assets constructed or installed to enable the ongoing operability of the *Employer's* asset but not forming part of the permanent works remains the *Contractor'*s responsibility.

c. The responsibility for maintenance of existing assets is retained by LUL Maintenance,

Network Rail and the TOC, save where access to such assets is prevented by the *Contractor* or the assets have been significantly modified by him such that a material change to the existing maintenance regime is required. In such case the *Contractor* becomes responsible for the maintenance of the affected assets and remains so until they are Available and where access is prevented, until such time as they can be accessed.

d. The maintenance of existing assets that are unaffected by the *Contractor* remains the responsibility of LUL Maintenance, NR and the TOC.

e. The maintenance of new assets on being made Available is the responsibility of LUL maintenance, Network Rail and the TOC

The *Contractor* is responsible for all planned and reactive maintenance of the *works* until the *defects date*.

WI 450 Maintenance records

(1) The *Contractor* submits to the *Project Manager* for acceptance, no less than four weeks prior to the *defects date*, the following maintenance records;

- Register of defects
- Statement of rectification actions against each Defect, and acceptance of this by the *Employer*
- Service records, reports, addition warranties associated with any Defect rectifications works
- Record drawings, asset lists etc detailing any changes made due to Defect rectification works.

WI 455 Security on Completion

(1) The *Contractor* prepares a plan four weeks in advance of the Completion Date to enable the *Contractor* to transfer the possession of the Site or part(s) thereof to the *Employer* as part of the MAID and Handover Plan requirements.

- This includes; a process to ensure compliance with all health and safety requirements (particularly in respect of the CDM Regulations 2015 including the handover of the health and safety file as part of the MAID);
- provisions to ensure adequate emergency egress and access for the *Contractor* and Others;
- boundary details of the relevant area;
- relevant drawings and condition surveys;
- security arrangements;
- handover of general and security asset keys, and
- confirmation of the completion of the relevant works within the area to be transferred.

Prior to submitting the Handover Plan to the *Project Manager* for acceptance, the *Contractor;*

- carries out a joint inspection (including a photographic survey) of the relevant area in conjunction with the *Project Manager* and the Others to whom the area is to be transferred. The joint inspection and survey report are included in the plan;

- consults with all relevant Others and with the *Project Manager* and takes account of their comments; and
- obtains the agreement of the *Project Manager* and/or Others to whom the relevant area will be transferred. The relevant Others sign the agreed plan. In the event of any disagreement, the *Project Manager* instructs the *Contractor* and Others accordingly.

The *Contractor* submits the plan (signed by the *Contractor* and the relevant Others) to the *Project Manager* for acceptance at least two weeks before the Completion Date.

There is no Completion of the Site or part(s) thereof until the *Project Manager* has accepted the Handover Plan for that Site.

When accepted, the *Project Manager* arranges for the Handover Plan to be provided to the Others.

The *Contractor* manages and implements the Handover Plan in conjunction with the *Project Manager* and Others.

FINSBURY PARK P2B WORKS

WORKS INFORMATION

WI 500

PROGRAMME REQUIREMENTS

CONTENTS

WI 505 Programme requirements

(1) The *Contractor* submits a programme for acceptance, within four weeks of the *starting date*, in accordance with the 13 period calendar reporting cycle (refer to WI800, Management of the *works*), unless otherwise instructed by the *Project Manager*.

(2) In addition to the requirements of the *conditions of contract*, the *Contractor* shall resource load, with man hours, cost and quantities, in the first programme for acceptance, within four weeks of the *starting date*. The resource loading of this programme will facilitate the use of Earned Value techniques for assessment of progress, cost and performance. Once accepted this programme will be known as the baseline Accepted Programme. (Refer to WI 540, Earned Value Management).

(3) Within the Accepted Programme, the *Contractor* is to apportion the time risk allowance that the *Contractor* has identified directly in front of Key Milestones relating to that particular section of the *works* (to be identified in Contract Data, Part 2).

(4) The *Contractor* shall revise his programme every four weeks, in line with the 13 period calendar reporting cycle (refer WI800, Management of the Works). In addition to the requirements of the *conditions of contract,* the *Contractor* shall also include in his revised programme actual resources used, physical percent complete and man hours, the price for Work Done to Date (PWDD), and quantities to go (Refer to WI 540 Earned Value Management).

(5) The *Contractor* submits within four weeks of the *starting date*, to the *Project Manager* for acceptance, detailed procedures for the establishment and revision of programmes including the responsibilities for and methods to be used to measure the actual progress achieved, and the plan for maintenance and further development of all the resource loading.

(6) The *Contractor* submits programmes using Primavera Enterprise Version 6.1 or later in Pdf and Xer format including cost and resource data.

Primavera Enterprise settings are as advised by the *Project Manager* to ensure compliance with the Master Projects Database (MPD) desk reference, and to enable presentation of the programme in relation to London Underground's four weekly reporting periods (refer to Appendix A500.1). The programme incorporates WBS levels and all activity coding as specified in the Finsbury Park Phase 2B Works Activity Code List which will be provided within two weeks of the *starting date*.

(7) All programmes submitted include the information listed in clauses 31.2, and 32.1 of the *conditions of contract* as amended together with the following information:

1. The dates the *Contractor* plans to submit particulars of the design of any items of Equipment required by the Works Information;
2. All major milestones to Completion of the *works*; (Milestones to be advised by the *Project Manager)*
3. The agreed dates when documents are submitted, for acceptance by the *Project Manager*, in respect of design or third party consents;
4. The dates when any *Contractor* consent submissions are made and required date of

obtaining consent;

5. The agreed dates when, in order to Provide the Works in accordance with the programme, the *Contractor* requires design information or other information to be provided by the *Employer* or Others;
6. The dates of both LU and NR/TOC/FOC platform closures and track access requirements;
7. All Engineering Hours access dates applicable to the existing station with definition of the work related to this access;
8. QSRA's being held with Network Rail
9. The submission dates of any quality plans;
10. The submission dates of any safety plans;
11. The submission dates of any other programmes and safe system of works;
12. The submission dates of any logistics plan;
13. The dates of commencement of all permanent and temporary construction and installation activities;
14. The dates of factory and site inspection and tests;
15. All quality hold points and quality control points;
16. The dates of all necessary approvals and consents from the *Employer* or Others;
17. The dates of submission of any design documents; and any other deliverables required by the Contract (including hand-over documents and TLF 447); and
18. Hour by hour programmes for each possession for Network rail acceptance.

(8) The Programme is to be developed with a Work Breakdown Structure (WBS). The WBS is a deliverable orientated hierarchical arrangement of scope ranging from the highest level of deliverable, down to detailed task based activities. The WBS is maintained throughout the duration of all of the *works.*

The WBS is represented within the Primavera programme using the WBS development tool contained within Primavera Enterprise Version 6.1 or later.

The *Contractor* supplies a reference document which defines the Project WBS, Activity ID numbering system, Activity codes and project calendars, including a summary of statutory holidays applied to calendars for each year of the contract. This WBS will follow the higher levels of the WBS specified by the Project Manager together with the required coding to be supplied within two weeks of the starting date.

Each activity within the programme is coded to the lowest level of the Activity Schedule (London Underground Quantified Activity Breakdown (QAB) for the works).

(9) No activity exceeds a 28 calendar day duration unless agreed with the *Project Manager*

(10) In preparing this programme the following is noted:

1. The Prices are loaded by the *Contractor* onto a sufficient quantity of activities as to allow

a detailed planned value baseline curve to be created by the *Contractor* for the purpose of Earned Value Analysis (EVA) (refer to section WI 540);

2. A clearly identified critical path with zero total float from *start date* to Planned Completion date (refer to section WI510.1);
3. The schedule is to identify sub critical paths of 28 days float, or less, to the critical path;
4. Contractually agreed Key Dates and completion dates for each section of the *works* are represented;
5. The requirements of the *conditions of contract* are complied with;
6. Interfaces with other *works* controlled by the *Employer* are represented as one milestone at the end of a string of activities to be delivered by Others to allow co-ordination and integration with the *Contractor*'s *works*.

(11) All programme submissions are clearly titled, numbered and dated.

If the number of any activities of a repetitive or multiple nature is such that there is a risk of causing confusion by including them in the programme, the *Contractor* may present details of such activities in a tabular format subject to having obtained the prior consent of the *Project Manager*. The format provides cross-references to the programme by way of activity identification numbers to enable reconciliation with the remainder of the programme. When the relevant programme has been accepted by the *Project Manager*, such details become part of the Accepted Programme.

(12) The programme allows 20 days for the process of review, revision and further review (including reviews by Network Rail and the TOC) of all drawings, documents and other things to be submitted to the *Project Manager* so that such process may be completed without delaying the placing of orders and the execution of the *works*.

(13) The programme is resource loaded with main materials, all major Equipment and labour resource by trade including all Subcontractors. The level of resources are substantiated by the production rates and manpower details described in the programme narrative and by the sequencing and deployment plan described in the safe system of work.

(14) The *Contractor* submits programmes to the *Project Manager* in the following format:

1. The full programme in logical linked Gantt chart form showing the critical path(s), Early Start Dates, Late Start Dates and Float in hard copy and .pdf electronic file format;
2. A Summary Schedule (at Level 2, as defined within section WI 510 (2)) for each section of the *works* in linked bar chart format showing the critical path(s), sectional Completion Dates, Key Dates and other major milestones in hard copy and .pdf electronic file format; and

   The full programme Primavera .xer file, and .pdf (Primavera layout) files by electronic data transfer. The export format of the .xer file is to be advised by the *Project Manager*, to ensure compatibility with the current version of the clients Primavera Enterprise system. The change log is submitted with the data files and any changes to calendars particularly noted.

(15) All project programmes adhere to the following naming convention:

- Project ID;

- Sub-contractor Schedule ID - LUL Supplier Code - Portfolio UIP Number - Package ID, e.g. SUB-XXX-0000-ABC001.
- Project Name;
- Project Name – Works Area Name - Contract Name, e.g. XXX Project – ABC works - Package 001

(16) The activity ID shall form a unique identification. The activity IDs are not to be changed without the prior approval of the *Project Manager*.

(17) All programmes submitted by the *Contractor* for acceptance by the *Project Manager* shall be accompanied by a Programme Narrative and shall contain as a minimum the following requirements:

- summary description of the *Contractor*'s execution plan;
- format of activity descriptions including any abbreviations used;
- staffing plan indicating total labour resource required per reporting period, inclusive of Subcontractors;
- list of the major construction equipment items including types, number of units, unit capacities, the proposed time each piece will be deployed and the activities on which it will be deployed;
- description of the production rates, crew build-ups etc used to determine the durations for key quantities;
- the activity calendars used, particularly non-standard work patterns;
- holidays, weather windows and other non-work periods;
- description of the critical path(s);
- listing of key interfaces with the *Project Manager* or others and the dates those interfaces are planned to occur; and
- listing of information required by the *Contractor* to meet his stated programme together with the date that information is required.
- Any variance in available Time Risk Allowance should be identified within the Programme Narrative, together with reasons.

(18) In addition, submissions of revised programmes shall be accompanied by an updated programme narrative, which includes the following:

- details of any significant changes including revisions to critical path since the previous Accepted Programme.
- impact on progress;
- details of changes to Key Dates, milestones, and associated float and time risk allowances;
- list of implemented compensation events included and their impact;
- lists of trends included and their impact;
- any delay mitigation measures incorporated; and
- changes incorporated based on notified comments raised by the *Project Manager* regarding earlier Accepted Programmes.

WI 510 Programme arrangements

(1) In preparing the programme the following is noted:

The *Contractor* shows all design deliverables, and design activities, in a schedule to be developed in a logical format as a sub-network of the programme. This sub-network is capable of review as a stand-alone programme but when integrated forms part of the whole programme submitted for acceptance. The design programme is developed with a number of control points, relating to specific design deliverables, to be agreed by the *Project Manager.*

(2) In addition to the requirements of the *conditions of contract*, the *Contractor* shall maintain a hierarchy of programmes that support each other whilst keeping detail at the appropriate level within the hierarchy. The programme hierarchy is identified below, including performance graphs, derived from the programme (as described within section WI 510.5, below):

Programme Level	Description	Comments
Level 1	The *Contractors* Summary Schedule.	A 1-2 page summary of the Accepted Programme, showing key elements of the *works*, and *works* phases to Completion of the *works*. The specific format, and software used for creation of this schedule are to be agreed by the Project Manager.
Level 3	The *Contractors* Summary Engineering, Procurement, Fabrication, Construction and Commissioning Schedule.	Fully logic-linked Critical Path Method (CPM) network summary of the Level 3, Accepted Programme. The specific format and level of detail are to be agreed with the Project Manager. The schedule is developed and maintained within Primavera Enterprise 6.1 or later.
Level 3	The *Contractors* Accepted Programme	Cost and resource loaded logic linked CPM network, which the *Contractor* uses to plan the *works*, report progress, for Earned Value Management (refer to section WI540), together with all requirements within Clauses 31, and 32 of the conditions of contract. The schedule is developed and maintained within Primavera Enterprise 6.1 or later.
Level 3	The *Contractor's* Procurement Schedule	The *Contractor's* Procurement Schedule identifies all of the following: 1) Sub contract package listing; 2) Dates for procurement of sub contract works including tender period, scope and sub contract terms; 3) Start on Site Dates for identified sub contract packages; 4) Duration of sub contract works. The *Contractor's* Procurement Schedule is incorporated into the

		Contractor's Accepted Programme. (Refer to section W1800 (2), Management of the Works).
Level 3	The *Contractor's* Design Schedule	Fully logic linked CPM network, containing all design deliverables, and all design activities. (Refer to WI 510(1)). The *Contractors* Design schedule is a sub-network of the Contractor's Accepted Programme
Level 4	The *Contractors* Weekly Work Plan	A four-weekly rolling schedule, (one week look back, and three weeks look ahead) covering day to day activities. The specific format, and software used for creation of this schedule are to be agreed by the *Project Manager.* This is be based on activities in the level 3 schedule and ideally using Primavera Enterprise 6.1 or later.
Level 4	*Contractor's* Programme Graphs	A suite of graphs derived from the *Contractor's* Baseline Accepted Programme, and latest Accepted Programme (or most recently submitted Programme for review by the Project Manager). (Refer to section WI510.5)
Level 4	*Contractor's* Commissioning & Start up Programme	Fully logic-linked CPM network for use in co-ordinating all activities involved in commissioning. The schedule is developed and maintained within Primavera Enterprise 6.1 or later and should be based on activities in the level 3 schedule.
Level 5	*Contractor's* Possession Programmes	Detailed programmes produced by the *Contractor* for all works undertaken during possessions, closures or blockades of the operational railway. These programmes shall have a maximum time unit of 1.0 hour unless agreed otherwise with the *Project Manager*. The specific format, and software used for creation of this schedule are to be agreed by the Project Manager and should be based on the *Contractor's* level 4 commissioning and start up programme.

(3) All programmes created by the *Contractor*, in relation to any of the *works*, are to be made available to *Project Manager* if requested, in the software format in which they were created.

WI 510.1 Critical Path

All programme activities shall be logically linked in order to maintain the integrity of the critical path and float calculations. The Programme start activity does not require a predecessor, and the final activity, does not require a successor.

WI 510.2 ***Contractor*'s Summary Schedule**

The *Contractor* shall submit a Summary Schedule, in a format accepted by the *Project Manager,* with each programme submitted for acceptance. The Summary schedule is used as the basis for developing and reporting contract schedules to management and key stakeholders from initiation through all project completion phases. The Summary schedule is developed in time-scaled format with typically not more than 200 activities and contained on 1-2 sheets. The Summary schedule highlights the critical path, major milestone events and events important to the overall management of the project.

Summary schedule activities are related to Accepted Programme activities with status of each Summary schedule activity "rolled up" from the *Contractor*'s Accepted Programme.

The Summary schedule shall be produced within software to be agreed with the *Project Manager*.

Summary schedules may be produced in time-chainage format with the agreement of the *Project Manager*. An updated Summary Schedule shall be included within each four Weekly Report by the *Contractor*.

WI 510.3 ***Contractor*'s Summary Engineering, Procurement, Fabrication, Construction & Commissioning Schedule.**

The *Contractor* shall submit a summary Engineering, Procurement, Fabrication, Construction & Commissioning logic linked CPM network which is a summary of the Level 3 Accepted Programme with each revision of the Accepted Programme.

WI 510.4 ***Contractor*'s Accepted Programme**

The Accepted Programme shall be used by the *Contractor* to direct his work by providing parameters for the more detailed Implementation programmes and tools such as the, Procurement Schedule and Weekly Work Plan. It is also used to identify and resolve schedule problems, measure the impact of compensation events and delays, assist in earned value calculations and develop recovery plans. Programmes shall be developed by the *Contractor* using CPM / network analysis techniques to produce a coherent schedule that covers the entirety of the *Contractor*'s awarded scope.

Information to be included in the programmes submitted for acceptance should include:

- the dates when the *Contractor* plans to submit any particulars of the design required by the Works Information;
- the dates when the *Contractor* plans to submit any particulars of the design of any items of equipment required by the Works Information;
- the dates from the *Contractor*'s Procurement Plan when any key items of Plant and Materials, and Equipment are required at Site;
- the dates for any establishment of fabrication facilities and dates for fabrication of

materials;

- the dates when any of the design information or other information provided by the *Employer* or Others will be required by the *Contractor*;
- details of any consents, permits and licenses development, submission and approvals allowing sufficient time for each stage of the process and also allowances for resubmission;
- details of any utility supplies development, submission and approvals allowing sufficient time for each stage of the process and also allowances for resubmission;
- details of any 3rd party (e.g.NR, London Underground etc.) interfaces and/or submissions development, submission and approvals allowing sufficient time for each stage of the process and also allowances for resubmission; and
- the *Contractor* shall describe in the method statements included with his programme submission details of any measures to be taken to minimise the effect of the *Contractor*'s operations on the public including as a minimum (where applicable):

    - traffic safety and management plans;
    - cleanliness of adjacent highways;
    - intended working hours; and
    - safety risk assessments.

WI 510.5 *Contractor*'s Programme Performance Graphs

The *Contractor* shall prepare graphs to assist in demonstrating the feasibility of the *Contractor's* Programme in terms of cost, quantities, production rates and resources required to support the Programme upon the *Project Manager's* request. The *Contractor* shall provide graphs derived from the baseline Accepted Programme, and latest Accepted Programme (or most recently submitted Programme for review by the *Project Manager).*

The *Contractor* shall provide updated graphs as part of the submission of the Programme for Acceptance by the *Project Manager*. The graphs will show planned, actual, and forecast to go. The format and number of these graphs shall be agreed by the *Project Manager.* The minimum requirements will be:

1. Bulk quantities (e.g. concrete poured, rebar: steel fixed, excavation: muck away).
2. Resource usage graphs; (at PM's request)
3. Cost and cash flow graphs;
4. Earned Value Management graphs (refer to WI540, Earned Value Management);
5. Aggregated Time Risk Allowance usage (refer to WI505(3)).

WI 510.6 ***Contractor's*** **Procurement Schedule**

The *Contractor's* Procurement Schedule identifies each purchase order and subcontract to be placed by the *Contractor*. The Procurement Schedule is the most detailed procurement programme in the hierarchy and shall support the requirements of the Accepted Programme. Each item in the schedule is tracked from the issue of a requisition or design package through

various control points concluding with delivery to site. Typical control points may include; produce bid documents; issue to tender (ITT); bids received; contract award; subcontract design complete; start manufacture; factory test; first shipment; site delivery; and final shipment. Information from the Procurement Schedule is summarised by the *Contractor* for inclusion in the *Contractor*'s programme.

WI 510.7 *Contractor*'s Commissioning & Start up Programme

The *Contractor* shall produce a detailed Commissioning & Start-up Programme to illustrate, in detail the sequence and operations required to complete the commissioning (inclusive of document preparation) and Handover stage of the contract. These programmes shall be submitted by the *Contractor* in logic linked CPM format produced in Primavera. Initial versions of the Commissioning & Start up Programme, if required by the *works*, shall be submitted to the *Project Manager* for review and acceptance at least 6 months prior to the first commissioning activity starting.

WI 510.8 *Contractor's* Possession Programmes

Detailed programmes shall be produced by the *Contractor* for all *works* undertaken during possessions, closures or blockades of the operational railway. These programmes shall have a maximum time unit of 1.0 hour unless agreed otherwise with the *Project Manager*. These programmes shall also be subjected to risk analysis by the *Contractor* to ensure that work is completed during the possession/closure or that alternative action can be taken to ensure that infrastructure is handed back on time.

WI 515 Weekly Work Plan

(1) For each element of work in hand, the *Contractor* issues a Work Plan(s), no later than 0900 on Monday of each week. The Work Plan comprises a four week rolling programme (one week look back, and three weeks look ahead) covering day to day activities. This Work Plan is in Gantt chart format and is to be resource loaded with critical labour resources, Equipment, Plant and Materials by discipline. The *Contractor* uses the Work Plan to plan and schedule its work on a weekly basis.

(2) Each activity within the Work Plan is derived from, and can be related back to, an activity which exists within the *Contractors* Accepted Programme (or most recently submitted programme for review by the *Project Manager*).

(3) The headings include Safety, Progress, Programme, Design, Quality, Access, Environment, Commercial, and Issues.

(4) The Work Plan indicates the timing of all proposed hold points in the inspection and test plans identified by the *Project Manager,* for inspection by the *Project Manager* or the *Supervisor* or by Others who have the right of inspection.

(5) There is a narrative report on each section/discipline of the work describing the progress over the week look back and planned for the three weeks look ahead.

(6) The *Contractor* identifies all work planned to be completed within the previous week, at the time of production of the last Work Plan programme, and what has actually been achieved.

(7) The *Contractor* clearly shows any reduction in aggregated Time Risk Allowance (Refer to WI505(3)).

(8) The *Contractor* provides details of all activities planned to be started within the previous week, at the time of production of the last Work Plan programme, and whether they have actually achieved their start date. Any variance is identified.

(9) The *Contractor* provides reasons for not achieving any planned activity start dates. Reasons for not achieving planned activity start dates are categorised, in line with a list of categories to be agreed by the *Project Manager,* and dependant upon the stage the project is currently within*.*

(10) The number of activity start dates not achieved, falling within each category, are listed, and summarised as a percentage of the total number of planned activity starts for the previous week.

(11) The data collected is used by the *Contractor* to identify any constraints which are preventing him from working to schedule.

(12) The *Contractor* provides details of all actions that he intends to take to recover any lost time.

(13) The format of the Work Plan is to be agreed by the *Project Manager*, and the Work Plan is submitted in electronic format and hard copy.

(14) The work plan is discussed at a Work Plan meeting to be held at the time of issue of the Work Plan (refer to WI810 Progress meetings, Management of the Works). The *Project Manager* is to be invited to attend the Work Plan meeting. The *Project Manager* requires the *Contractor's* section managers accountable for the delivery of the *works* to present their section and account for the performance and the Work Plan.

WI 520 Revised programmes

(1) Revised programmes submitted for acceptance include the information listed in clause 32.1 of the *conditions of contract* together with the following information:

- change log detailing all new activities
- changed durations (proposed v accepted)
- changed calendar assignments
- changed dependencies
- changed assumptions – either amended, removed or added

(2) The *Contractor* submits an updated programme in Primavera .xer, as well as .pdf format on the first Tuesday of week of the *Employer's* reporting period with the Data Date in the programme set to 00.01 hours on the Sunday (beginning) of week 1. (Refer to WI800, Management of the Works, 13 period calendar reporting cycle).

(3) Physical progress is reported and recorded (updated) on programme activities by the *Contractor* during each *Employer* reporting period using physical percentage complete and activity remaining duration as the basis for 'progress status'.

(4) The *Contractor* implements earned value management within the programme by applying the actual and remaining costs each period at an acceptable level of detail as agreed with the

Project Manager. Refer to WI540.

WI 525 Inspection, Test and Sample Schedule

The *Contractor* identifies on the programme the nature and purpose of all dates or constraints in relation to inspections, tests and sampling that require to be notified and co-ordinated with the *Employer.*

WI 530 Earned Value Management

WI 530.1 General

The *Contractor* shall carry out detailed performance measurement using Earned Value Analysis techniques and produce a four weekly report for review by the *Project Manager (*Refer to WI815.1, Management and Administration of the Works).

This will require the integrated reporting of:

- programme;
- cost;
- quantities;
- man hours; and
- earned value.

At each periodic update, in line with the 13 period calendar reporting cycle, the following items shall be progressed:

- activities which have actually started, shall have the actual start date input;
- activities which have actually finished, shall have the actual finish date input, the physical percent complete shall be set to 100% and the remaining duration shall be 0;
- activities in progress shall have their physical percentage complete updated based upon cumulative Earned Value relating to physical work complete;
- For activities relating to design works, the physical percentage complete shall be determined by achievement of control points, as agreed by the Project Manager (Refer to WI510(1);
- the programme shall then be scheduled to the progress cut-off date. Significant changes to the critical path, re-sequenced work and significant float erosion and any negative float shall be clearly explained in the programme narrative; and
- the effects of resolved trends on current and future activities.

Templates for Earned Value reporting will be agreed with the *Project Manager* and provided by the *Contractor* electronically, within two weeks of the *starting date*.

WI 530.2 Resource and Cost Loading the Programme

The *Contractor* shall ensure that the programme submitted for acceptance is fully loaded with man hours, the total of the prices and quantities for performance measurement purposes using suitable resource profiles, agreed with the *Project Manager,* which reflect the work-off for each activity.

For the purposes of performance reporting and measurement, the Accepted Programme shall only be adjusted by agreement between the *Contractor* and *Project Manager*, to reflect the effects of implemented compensation events and/or significant changes to planned work sequences. The emphasis is to establish an accurate baseline from which to measure subsequent performance.

WI 530.3 Cost Loading

The *Contractor* shall cost load the programme and align it with the WBS at a suitable level, to be agreed by the *Project Manager*

Sufficient cost shall be allocated to tail-end and finishing activities including Defects and completion package preparation, in order avoid overvaluing work in the earlier stages.

Each four weekly reporting period, the *Contractor* shall update, in his revised programme, submitted for acceptance by the *Project Manager*, the cost loading to reflect actual PWDD and the *Contractor'*s assessment of forecast costs to go, including the impact of trends and implemented compensation events.

WI 530.4 Resource Loading

The *Contractor* shall resource load the programme with resources and quantities, at a suitable level, to be agreed by the *Project Manager*.

Each four weekly reporting period, the *Contractor* shall update, in his revised programme submitted for Acceptance, the resource loading to reflect actual resources used to date and the *Contractor'*s assessment of forecast to go, including the impact of trends and implemented compensation events.

WI 530.5 Budget Maintenance Within Primavera

If the *Contractor* wishes to change or move cost resources between activities on a programme submitted for acceptance, he will highlight this to the *Project Manager.*

WI 530.6 Planned Expenditure (BCWS: Budgeted Cost for Work Scheduled)

The Contractor's Accepted Programme will be the basis of the Planned Expenditure unless approved by the Project Manager.

Each four weekly reporting period, data shall be exported from Primavera at a summary level (the appropriate level to be agreed by the *Project Manager*) and formatted into a Performance Measurement Data Summary (PMDS) which will then translate the data into graphs for comparison with earned value, PWDD and forecast Defined Cost to completion data. The Earned Value graphs shall show the early start and late start BCWS profile envelope, which shall be generated from data downloaded from Primavera to the PMDS within Excel

WI530.7 Earned Value (BCWP: Budgeted Cost for Work Performed)

The Earned Value shall be calculated by the *Contractor* for each four weekly reporting period

following a quantitative analysis of physical work completed to date. This analysis shall be translated into physical percentage complete for each programme activity and cost component, consolidated to summary activities agreed by the *Project Manager,* and incorporated into a Cost Value Report (CVR) for comparison with PWDD (refer to CVR Template, Appendix A500.2).

WI 530.8 Price for Work Done to Date (PWDD) (ACWP: Actual Cost for Work Performed)

The PWDD (including monies paid and accruals for work performed up to the cut off date of each four weekly reporting period) shall be generated by the *Contractor* for each element of the Activity Schedule (London Underground QAB (to the lowest level)). (Refer to WI505 (8)).

Coding of each activity within the programme to the London Underground QAB, shall allow all costs to be summarised by Programme summary activities (as agreed with the *Project Manager*) and cost component (e.g. People, Equipment, etc.).

This data shall then be incorporated by the *Contractor* into the CVR for comparison with Earned Value.

WI 530.9 Cost to Completion (ETC: Estimate to Completion)

The Cost to Completion/Defined Cost to Completion will be agreed jointly between the *Contractor* and *Project Manager* every 4 weekly period. The *Contractor* shall estimate at each reporting period what he considers the Cost to Completion to be. This shall take into account trends and the *Contractor*'s latest cost forecasts of the Defined Costs. The *Contractor* shall resource and cost-load the programme with the agreed Defined Cost to Completion data. This shall be consolidated by the *Contractor* into period spend data at the same level of detail as agreed for BCWS.

WI 530.10 Performance Measurement Analysis

The Current Performance Indicators are:

Cost Variance = BCWP – ACWP
Schedule Variance (Cost) = BCWP - BCWS
Cost Performance Index (CPI) = BCWP / ACWP
Schedule Performance Index (SPI) = BCWP / BCWS

NB: CPI or SPI greater than 1 is Favourable, whereas less than 1 is Unfavourable.
The Forecast Completion Performance Indicators are:

Cost Variance at Completion = EAC - BAC
Schedule Variance at Completion = Planned - Forecast Completion Date

The *Contractor* shall present the relevant Performance Measurement Data with accompanying performance curves for inclusion within the four Weekly Progress Report (WI800) .

FINSBURY PARK PHASE 2B WORKS

WORKS INFORMATION

WI 600

QUALITY AND ASSURANCE

CONTENTS

WI 605 **Terminology**

(1) The following are Quality and Assurance System terms;

Term	Meaning
Assurance	Process of ensuring and providing evidence that the *works* have been designed and constructed in compliance with the *Employer's* Requirements.
Conformity	Fulfilment of specified requirements.
Contractor's Quality and Assurance Plan	A document setting out how the quality requirements of the contract will be achieved, controlled, assured, demonstrated and managed.
Corrective Action Request (CAR)	A statement prepared to record a failure to implement a specified process or contractual requirement. Generally identified during an audit.
Employer's Requirements	The output from the *works* in respect of spatial and operational improvements documented in the *Employer's* Requirement Statement in Works Information Chapter 1A, and the Standards and legislation applicable.
Handback	Refer WI440.4(2) for definition.
Handover	Refer WI440.4(2) for definition.
Hold Point	A point in time in the construction of an element of the *works* at which the *Project Manager* is invited to inspect the *works* to verify quality or completeness prior to the work progressing. The *Project Manager* will identify these points during his review of the Inspection and Test Plans.
Inspection and Test Plans (ITPs)	Plans specifying the activities required to establish how Conformity is to be verified. They identify the responsibilities for executing the activities, the documents controlling them and the records required to provide Assurance. These are prepared for a particular element of the *works* to support the *Contractor's* Quality and Assurance Plan.
Non Conformance Report (NCR)	A statement raised to record a Non-conformity (Defect) in the product, workmanship, or system.
Nonconformity	A Defect - as defined in clause 11.2 (5) of the *conditions of contract*. (The term "Non-conformity" is used to be consistent with industry practice and includes System Defects as defined below.)
Outstanding Work List	A list generated at an inspection or acceptance stage to identify Defects which must be remedied before an asset can be put into operational use.

Quality and Assurance Management System	The *Contractor's* management system for achieving the quality requirements described in this Works Information and for demonstrating that achievement, including the provision of documentary evidence and supporting records.
Quality Control Procedures (QCPs)	Documents that specify operational techniques or activities that are used to fulfil requirements for quality, and as such support the contract quality plan.
Site Query (SQ)	A request for information, clarification or agreement to a proposed action.
System Defect	A failure to comply with the quality and Assurance management requirements specified in this Works Information.
Verification Activity Plan	Document prepared and owned by the *Employer* in accordance with LUL Standard S1538.

WI 610

WI 615 Quality Statement

(1) The *Employer* requires the *Contractor* to adopt and apply effectively and efficiently Quality Management Principles [*ISO 9000*] for the *works* that enables:

- achievement of all the *Employer's* objectives,
- sustainable culture of Continual Improvement and innovation to correct and prevent non-conformances, and
- Enables a robust and adequate application of Quality and Assurance Management Systems [*ISO 9001*].

(2) The approach to be taken is based on the eight Quality Management Principles as set out in ISO 9000, these being Customer Focus, Leadership, Involvement of People, Process Approach, System Approach to Management, Continual Improvement, Factual Approach to Decision Making and Mutually Beneficial Supplier Relationships.

(3) The *Contractor* will show in their Quality and Assurance Plan(s) [*ISO 10005*] how these eight principles are applied and validated by the *Contractor's* self Assurance, processes and controls and validation.

WI 615.1 *Contractor's* Quality Management System Requirements

(1) The *Contractor's* Quality System complies with the following requirements;

(i) For contractors without existing quality management system certification: the *Contractor* at all times manages quality using suitably scaled and defined management system(s) that meet(s) the requirements as a minimum contained in ISO 9001 or similar.

(ii) For contractors with existing quality management system certification: The *Contractor* at all times manages quality using suitably defined management

system(s) that meet(s) the requirements of standards ISO 9001 or similar.

(iii) Third party registration of assessed capability (i.e. approval to BS EN ISO 9000:2005, BS EN ISO 9001:2008 and BS EN ISO 9004:2000) is not considered to be demonstrated and that any specified quality and Assurance requirements of the contract have been met.

WI 620 Quality and Assurance Management System

WI 620.1 Quality and Assurance Management Systems requirements

(1) The *Contractor* provides a Quality and Assurance Management System which meets the requirements of LU Standard S1538 including appropriate quality management plans.

(2) The systems identify how the *Contractor,* by audit, inspection, self certification, collation and provision of evidence, demonstrates that the *works* are designed and constructed in compliance with all the requirements of the contracts and relevant Standards and applicable law.

(3) The *Contractor* submits plans and procedures for acceptance by the *Project Manager* to demonstrate how he will satisfy these requirements.

(4) The *Contractor's* Quality and Assurance documentation are designed to minimise the duplication of information between plans and procedures.

WI 620.2 Additional Quality Management System Requirements

(1) The *Contractor* and his Subcontractors establish and implement Quality Management Systems which comply with BS EN ISO 9001:2008.

(2) The *Contractor* submits his Quality plans and procedures for acceptance by the *Project Manager* to demonstrate how he will satisfy these requirements.

(3) The *Contractor's* Quality documentation is designed to minimise the duplication of information between plans and procedures.

(4) The *Contractor* provides access to his quality system documentation for review, inspection, and audit by the *Project Manager*, to support the requirements of the *Employer's* Verification Activity Plan.

(5) Any intervention by the *Project Manager* in Hold Point inspections, and critical interventions, in audits, or in oversight of the progress of the *works*, does not relieve the *Contractor* of his obligations under this contract.

(6) Quality system documentation which supports Subcontractor and supplier activities in the *works* is reviewed and accepted by the *Contractor* before work starts on the relevant activities. The *Contractor* makes the documentation available to the *Project Manager* for audit.

(7) The *Employer*, the *Project Manager* and Others including statutory authorities and Statutory Undertakers have the right to observe, witness, conduct audits, inspections and tests of all *works* that are being executed by the *Contractor* and his Subcontractors.

(8) The *Contractor* provides all inspection and testing necessary to demonstrate compliance with the requirements of this contract. All non-conformities are resolved before final acceptance of the whole of the *works* or any *section* thereof.

WI 620.3 **Quality and Assurance Manager**

(1) The *Contractor* appoints a Quality and Assurance Manager to be responsible for all quality and Assurance matters on this contract. The Quality and Assurance Manager is suitably empowered and supported to enable the quality of work on the contract to be managed effectively.

(2) The Quality and Assurance Manager is independent of the design and construction functions, and has an independent link to senior director level. The Quality and Assurance Manager is full-time for the duration of the contract, dedicated to quality and Assurance matters on this contract, and is provided with adequate resources and authority to enable the quality of work on this contract to be managed effectively.

(3) The Quality and Assurance Manager:

- develops and implements a Project Quality and Assurance Plan as detailed in WI 625 below;
- Ensures the Contractor's Quality and Assurance Plan complies with BS/ ISO 1005 and LU Standard S1538
- develops and provides quality training for all personnel to include induction and training for staff with specific quality responsibilities
- manages all quality personnel
- approves the quality elements of the *Contractor's* method statements
- ensures compliance with legal and contractual requirements
- provides advice and instruction to construction teams to deal rapidly and effectively with quality non-conformities and complaints
- analyses individual quality non-conformities and complaints to identify trends, root causes and the corrective and preventive actions needed
- ensures the provision and review of ITPs
- undertakes audits of the *Contractor* and his Subcontractors including compliance with legal and contractual requirements
- produces information for the Management Review with senior management, that as a minimum should comply with ISO 9001 Para 5.6, and attend the Management Review meeting to ensure that the quality management system remains suitable, adequate and effective, and
- reports to the *Project Manager* on all quality issues in line with the reporting requirements in WI800.

(4) The Quality and Assurance Manager has the following key competencies:

- appropriate experience of quality management and the delivery functions of the *Contractor* and his Subcontractors under self certification contracts;
- good knowledge and practical experience of developing, implementing and improving quality management systems;
- be a member of the Chartered Quality Institute (or an equivalent recognised quality body) be a competent auditor or have access to competent auditors (e.g. IRCA registered).

(5) Subcontractors and any sub-tiers thereof each provide a quality assurance representative with adequate resources and appropriate authority to ensure the quality of work on the contract. These representatives are confirmed by the Quality and Assurance Manager as competent.

WI 620.4 **Samples for submission**

(1) The *Employer*, the *Project Manager*, and authorised Others including statutory authorities and Statutory Undertakers, have the right to observe, witness, conduct audits, inspections and tests of all *works* that are being executed by the *Contractor*~~,~~ his Subcontractors.

(2) The *Contractor* provides all inspection and testing necessary to demonstrate that all the requirements of the Works Information and the law have been met. All non-conformities are resolved before final acceptance of the *works* or any *section* of the *works*.

(3) All on-Site and off-Site testing is carried out by laboratories accredited by UKAS or by a similar national body or by persons accredited to a similar standard and are subject to acceptance by the *Project Manager*. The quality system provides procedures for witnessing the manufacturing, construction, installation, testing and commissioning of the *works*.

(4) A reason for not accepting the laboratory is that it will not give the *Project Manager* the necessary assurance that the works will be constructed in accordance with this contract or is not sufficiently aligned with UKAS.

WI 625 **Assurance management**

WI 625.1 **General**

(1) *Contractor* Assurance requires the *Contractor* to provide sufficient evidence to demonstrate to the *Project Manager* that the general and specific requirements of the Works Information and the Standards have been complied with.

(2) The *Project Manager* monitors Assurance by a process of sampling and critical intervention. The extent of sampling and intervention is risk and confidence based and recorded in the *Employer's* Verification Activity Plan (VAP) which will be issued to the *Contractor* from time to time. The VAP is not Works Information or Site Information.

(3) The *Contractor* monitors, inspects, audits and verifies that his Subcontractors are providing acceptable Assurance, through procedures and evidence, in compliance with general and specific requirements and the relevant Standards.

(4) The *Employer* employs the Pathway process which maps out typical generic processes for all projects from inception to completion. Pathway sets out all *Employer* project processes and includes copies of standard forms and templates, many of which shall be used by the *Contractor* in compliance with the constraints and standards of this contract.

(5) The *Contractor* shall work in accordance with the LUL Project Management Framework.

(6) Details of Pathway, Product Matrix and Guides can be found on

http://onespace.tfl.gov.uk/lu_/cms/pmf/Pages/PMFPortalDashboard.aspx

WI 625.2 **Design Assurance**

(1) The *Contractor* provides Assurance to the *Project Manager*, that the proposed design is compliant with all relevant LU requirements and Standards (subject to any concessions granted by the *Employer*), and reduction of all risks associated with the assets to as low as reasonably practicable (ALARP). The *Contractor* obtains the *Project Manager's* acceptance for his Assurance Plan prior to the design works commencing. The *Contractor's* processes for achieving Assurance are identified in the *Contractor's* Project Quality and Assurance Plan.

(2) Where there is a Defect, the *Contractor* carries out such redesign as may be necessary (and appropriate having regard to the extent of the *Contractor's* design obligations under the contract) to correct, rectify or prevent a recurrence of such Defect. Any such redesign ensures that the performance and operation of the *works* and the relevant part thereof is not degraded or reduced by virtue of such redesign from the Standards specified in the Works Information and/or in this contract or if no Standard is so specified, from the Standard reasonably inferred from this contract.

(3) As a minimum, the design management process is documented in the *Contractor's* management system to meet both LU Standard S1538 and ISO 9001 Para 7.3.

(4) The *Contractor* ensures that his Subcontractors undertaking any design have the appropriate professional qualifications to achieve the design assurance requirements.

WI 625.3 **Construction (including Testing and Commissioning) Assurance**

(1) The *Contractor* assures the *Employer,* through submissions to be detailed in the Assurance Plan, to the *Project Manager,* that the *works* have been constructed in accordance with the contract. The *Contractor* prepares, retains and provides evidence to the *Project Manager* to that effect.

(2) The *Contractor* implements self certification processes to ensure that the *works* have been constructed in accordance with this contract and submits this to the *Project Manager* for acceptance. Such self certification processes include demonstrably independent scrutiny, monitoring, checking and audit regimes in accordance with the contract requirements. The *Contractor* ensures independence in assessment, and certification in the quality assurance, quality control and building control processes. The processes are identified in the *Contractor's* Project Quality and Assurance Plan which will indicate the relevant processes and procedures used.

WI 625.4 **Handover and Takeover Assurance**

(1) The process of access to the Underground Network and Handback at the end of engineering hours or a closure and Handover of new and altered assets are dealt with within WI 200 and WI 400 of this Works Information.

(2) The *Contractor* submits a strategy, for acceptance of the *Project Manager*, to provide Assurance when it is necessary to take existing assets out of service and to bring new or altered assets into use.

A reason for not accepting the strategy is that it will not give the *Project Manager* the necessary assurance that the works will be constructed in accordance with the

contract.

WI 630 ***Contractor's*** **Quality and Assurance Plan**

(1) The *Contractor* submits a Quality and Assurance Plan to the *Project Manager* for acceptance within four weeks of the *starting date*. The *Contractor* reviews and updates the plan no less frequently than at six monthly intervals or sooner if significant changes occur to the processes, organisation or requirements and at the commencement of any new stage of the *works*.

(2) The *Contractor's* Quality and Assurance Plan is supported by applicable QCPs, ITPs, safe systems of work and references to and extracts from LUL Standards.

(3) The *Contractor's* Quality and Assurance Plan include the controls to be applied by Subcontractors, both directly and by identifying the Quality and Assurance System documentation that designers, Subcontractors, suppliers and sub-tiers thereof are required to produce.

(4) The *Contractor* does not commence any activity on any part of the *works* for which the *Contractor's* Quality and Assurance Plan, applicable QCPs and ITPs, have not been accepted by the *Project Manager*.

(5) The *Contractor's* Quality and Assurance Plan, as a minimum, complies with the requirements of LUL Standard S1538, addresses the guidelines set out in BS EN ISO 10005:2005 and, as appropriate:

- covers the relevant phases of the contract (design, assessments, procurement, manufacture, condition/defect surveys, construction, installation, monitoring, testing, commissioning and maintenance)
- complies with BE EN ISO 9000, BS EN ISO 9001 and BS EN ISO 9004 (as applicable)
- incorporates comprehensive quality system procedures for all identified risk and processes associated with this contract
- identifies clear and robust QCPs to provide independence of all inspection and checking processes to ensure that self certification is in place and evidence provided to assure the design and construction
- indicates the relationship of the *Contractor's* Quality and Assurance Plan with other associated documentation of the *Contractor*
- describes the relationship between the partners' quality systems in any joint venture or consortium
- describes the relationships and activities of the *Contractor* and his Subcontractors including organograms
- specifies the requirements of the quality systems to be operated by the *Contractor's* Subcontractors
- includes *Contractor's* Subcontractors' design control systems/procedures
- identifies the requirements for self certification, audit, intervention and inspection of all Subcontracted processes
- incorporates a monitoring system for procurement, maintenance and

condition of Plant and Materials to ensure that contract objectives can be fulfilled

- allows for external second and third party audits to be carried out as required by the *Project Manager* and Others as described above
- incorporates comprehensive Quality and Assurance System audit procedures including the preparation of audit reports
- specifies procedures to rectify Nonconformities raised, including System Defects raised as a result of both internal and external audits
- describes the statistical process techniques to be used to prevent the occurrence of Nonconformities
- provides for regular management reviews of this contract's Quality and Assurance Management System;
- includes records management procedures including for review and verification of records by the *Contractor's* quality assurance manager and compilation of Assurance packages at Handover of new and altered assets
- identifies quality related key performance indicators, and
- how the requirements of the Quality Statement as per WI 615 will be achieved.

(6) The *Contractor* prepares, and updates as required, QCPs to support the *Contractor's* Quality and Assurance Plan for the *works*. The *Contractor* incorporates requirements for review and update of the QCPs in the *Contractor's* Quality and Assurance Plan. The *Project Manager* identifies those QCPs which require *Project Manager* acceptance.

A reason for not accepting QCPs is that they do not allow the *Contractor* to Provide the *works* in accordance with this Works Information.

(7) The primary activities addressed by QCPs and to be implemented by the *Contractor* are to include:

- preparation of QCPs for design (including temporary works)
- procurement, manufacture, construction, installation and testing along with all quality control processes
- design control including verification, validation, approval and acceptance by Others where relevant
- design change control
- preparation of safe systems of work
- preparation, review and approval of ITPs
- preparation of Materials requisitions and approval of purchase orders in accordance with accepted specifications
- performance of quality verification inspections
- control and calibration of measuring and test equipment;
- scheduling of necessary testing
- interim inspection of work including Equipment and temporary works

- monitoring against safe systems of work
- monitoring the activities of Subcontractors to ensure their compliance with this contract
- review of Material suppliers' and Subcontractors' quality verification documentation
- administration of Nonconformity and reporting to the *Project Manager*
- certification control and co-ordination
- quality verification inspection of the completed *works* and collation delivery of quality control records
- collation delivery of design and construction compliance verification and Assurance records
- administration of design, procurement, manufacture, construction, installation, test and functional Nonconformities and concessions and reporting of them to the *Project Manager*
- production of four-weekly reports of quality issues including Nonconformity records and Key Performance Indicators, and
- verification of Plant and Materials and system compliance through conducting inspection, testing and commissioning.

(8) The *Contractor*, and his designers, Subcontractors comply at all times with the accepted Quality and Assurance Plan and QCPs.

WI 635 Surveillance and Audits

WI 635.1 Surveillance

(1) The *Contractor's* Quality Management System provides a process and procedure for surveillance of the design and construction of the *works* by a process of audits, certification and self certification. The *Contractor* collates all the quality documentation from his inspection and testing processes and other verification activities, and keeps it available for inspection by the *Project Manager* at all times.

WI 635.2 Audit Programme

(1) The *Contractor* submits, with his *Contractor's* Project Quality and Assurance Plan, a twelve month rolling schedule of internal and Subcontractor audits that will be conducted by the *Contractor's* personnel. The schedule, scope and method of the audits enable the *Contractor* to verify that all aspects of the *works* are undertaken in accordance with requirements of this contract.

(2) The twelve month rolling schedule and any amendments are subject to acceptance by the *Project Manager*. The twelve month rolling audit schedule is reviewed by the *Contractor* with the *Project Manager*, every four weeks, to reflect all relevant aspects and the developing and changing nature of the project and the construction programme. This review will consider trends from audit findings and the adequacy of preventative measures put in place.

A reason for not accepting the audit schedule is that they do not allow the *Contractor* to Provide the Works.

WI 635.3 **Audit participation**

(1) The *Contractor* allows the *Employer*, the *Supervisor*, the *Project Manager*, and authorised Others to observe or participate in these audits and to conduct additional independent audits, as they consider appropriate, to provide Assurance that the *Contractor* is Providing the Works in accordance with this contract. The *Contractor* provides the facilities and access necessary for these audits to be carried out effectively.

(2) The *Contractor* places similar requirements on his Subcontractors, and all tiers thereof.

WI 635.4 **Audit process and outputs**

(1) All audits performed by the *Contractor* are carried out as described in BS EN ISO 19011: 2011 and all reports are, unless otherwise agreed by the *Project Manager*, to be submitted for acceptance.

A reason for not accepting the audit reports is that they do not allow the *Contractor* to Provide the Works.

(2) The *Contractor* maintains an audit/CARs/preventative action reports database for use by the *Contractor* and the *Project Manager*.

WI 640 ***Contractor's*** **resources**

WI 640.1 **Resources**

(1) The *Contractor's* Quality and Assurance Plan includes organisation charts for the *Contractor* and all Subcontractors to show the reporting structure of those personnel responsible for quality with regard to the *works* and particularly those personnel responsible for self certification activities.

(2) The *Contractor's* Quality and Assurance Plan includes curriculum vitae for all such quality personnel, including those of any Subcontractors and particularly those nominated for self certification activities.

(3) The *Contractor* demonstrates that adequate resources are provided to fulfil the contract requirements for quality and Assurance, audits, inspection and testing and self certification.

(4) The *Contractor* provides appropriate training to all personnel in the operation of the Quality Management System and maintains training records.

WI 645 **Self Certification**

WI 645.1 **Self certification requirements**

(1) The *Contractor* implements a quality control system for the contract to include monitoring, inspection and corrective action to ensure that the specified requirements of the contract are achieved.

(2) The *Contractor* submits, to the *Project Manager* for acceptance, his proposals for self certification within the *Contractor's* Quality and Assurance Plan. This self certification plan demonstrates the processes to be employed and proformas to be used to verify

compliance with the specified requirements. The plan is based on the *Contractor's* existing company management system procedures and proformas. The *Contractor* submits the plan to the *Project Manager* for acceptance before commencement of the *works*.

A reason for not accepting the proposals for self certification is that they will not give the *Project Manager* the necessary assurance that the *works* will be constructed in accordance with the contract.

(3) The plan identifies the means provided to achieve self certification of all Subcontractors. The plan states when Subcontractors' own systems will be employed, and where the *Contractor* will exercise quality control over his Subcontractor.

(4) There are specific requirements within section WI 600 of this Works Information for independent checking and inspection of elements of the *works*.

(5) The *Contractor* ensures that all quality control of the construction of the *works* is independent of the production control of the *works*.

(6) The *Contractor* submits, to the *Project Manager* for acceptance, the ITPs and inspection check lists for the elements of the *works*. The *Project Manager* may identify Hold Points at which *Project Manager* inspection and acceptance is required before work proceeds.

(7) The *Contractor* produces appropriate self certification records to demonstrate that the supporting documents (*inter alia:* ITPs, inspection check lists, supplier compliance certificates, concrete and other Site measurement commissioning records, audit records, "red-line" mark-ups, and "as-built" details) have been completed in accordance with contract requirements.

(8) The *Contractor* raises a NCR whenever corrective action for an identified Defect cannot be implemented within the shift.

(9) The *Contractor* submits NCR corrective proposals to the *Project Manager* for acceptance (if appropriate the *Project Manager* consults the infrastructure owner or maintainer). The work does not proceed until the *Project Manager* has accepted the relevant NCR corrective proposal. Records showing the successful corrective and preventative action are included in the quality control records.

(10) The *Contractor* maintains the quality control records in an accepted database to verify Assurance at Completion. The *Project Manager* may access and interrogate the database and records at any time during the progress of the *works*. The database is indexed and formally transferred to the *Project Manager* at Completion of a *section* of the *works*.

(11) The *Contractor* carries out scheduled, structured audits on specific elements of quality control for the *works*, by trade or by location, to verify that the records are prepared and maintained in an acceptable form. The *Project Manager* may attend these audits.

(12) The *Project Manager* audits the records and NCR registers and reports during the progress of the *works.*

(13) The *Project Manager* monitors the effectiveness of the *Contractor's* self certification system through:

- surveillance

- witnessing appropriate key activities
- review of certification and records
- monitoring and participation in the *Contractor's* audit schedule, and/or
- independent auditing.

(14) If the *Contractor* fails to demonstrate that the requirements of this contract are being met, the *Project Manager* may notify the *Contractor* that the quality management system is ineffective.

An ineffective quality management system is demonstrated by the following, although this list is not exhaustive:

- Non-conformities not being identified by the *Contractor* in a timely manner
- Non-conformities not being resolved in a timely manner
- failure to prevent recurring Non-conformities
- consistent failure to provide required certification and records as the *works* are executed
- audits by the *Contractor*, the *Project Manager* or any other party identifying significant inadequacies in the quality management system; or
- identified inadequacies in the quality management system not being resolved in a timely manner.

(15) If, following notification by the *Project Manager* of an ineffective quality management system, the *Contractor* fails to correct the quality management system within one week from notification, the *Project Manager* may either implement his own quality control regime on the *works* to correct the quality control or may instruct the *Contractor* to stop or not to start any further work. If the *Project Manager* implements his own quality control / quality Assurance the costs thereof will be recoverable from the *Contractor*.

WI 650 Materials and Construction

WI 650.1 Materials Proposal Schedule and general requirements

(1) The *Contractor* develops a Materials Proposal Schedule (MPS) listing all proposed permanent works materials and products and indicating any variances from the specified materials. The MPS identifies:

- architectural & non-architectural items
- samples/ mock-ups/ prototypes/ test panels required
- specification and technical reference numbers
- material approvers (*Contractor* /subcontractor organisations/persons, including applicable BREEAM specialists); and
- target dates (approval, delivery, over-dues).

(2) The *Contractor* regularly submits the Materials Proposal Schedule and a matrix of approvers for all materials and products, commencing within 6 weeks following the *starting date.*

(3) The *Contractor* ensures that the *works* quality certification requirements are established in the preparation of material requisitions and orders for manufactured goods and materials.

(4) Unless otherwise accepted by the *Project Manager,* Plant and Materials forming part of the permanent works or temporary works incorporated into the *works* are procured from sources that hold appropriate certification from a United Kingdom Accreditation Service (UKAS) accredited certification body (or one that has mutual recognition with UKAS). The existence of UKAS or similar acceptable accreditation does not relieve the *Contractor* from ensuring the quality of the products.

(5) The *Contractor* makes available certification to demonstrate that Plant and Materials used comply with the relevant legal requirements and standards. Material quality and traceability requirements for *Employer* designed parts of the *works* are described on the drawings and in the materials and workmanship specifications in WI 2000 of this Works Information. For *Contractor* designed parts of the *works* the material quality and traceability requirements are indicated on applicable drawings or materials and workmanship specifications or by reference to appropriate codes of practice.

(6) Verification of the quality and material traceability of each element of the works is the responsibility of the *Contractor* and is achieved through checks, tests, inspections, audits and reviews, planned and implemented in accordance with the Quality and Assurance Plan and ITPs developed by the *Contractor*.

(7) Unless otherwise accepted by the *Project Manager*, the *Contractor* and his Subcontractors use the *works* proformas for inspection & test records and construction certificates (refer WI710 of the Works Information).

(8) The *Contractor* provides representative samples of proposed manufactured items, mock-ups/ prototypes of proposed fabricated or constructed items, and test panels of standard finishes, including concrete, to be achieved during construction as required by the drawings and materials and workmanship specifications in WI 2000 of the Works Information and applicable drawings or materials and workmanship specifications produced by the *Contractor* as part of his design obligations. Each sample is offered for inspection and acceptance from the *Supervisor* prior to construction of the parts of the *works* represented. The sample is subsequently protected and retained by the *Contractor* and made available as an inspection reference until the completion of the *works*.

(9) The *Contractor* maintains for *Project Manager's* acceptance*,* a schedule of all samples, mock-ups, prototypes, test panels and Quality Benchmarks within the Materials Proposal Schedule which identifies for each:

- the planned date at which each sample will be made available for inspection by the *Supervisor*
- the planned date at which the *Supervisor's* acceptance will be needed;
- the part of the Works Information that requested it
- the part(s) of the *works* that it represents
- a unique reference number
- the secure location (accepted by the *Project Manager*) where the item is stored or located; and
- the acceptance status of the sample by *Contractor* and by the *Supervisor.*

The preliminary schedule is submitted for *Project Manager's* acceptance within 12 weeks of the *starting date*, and is subsequently regularly updated and resubmitted to incorporate changes and updates.

A reason for not accepting the proposals for preliminary schedule is that it will not give the *Project Manager* the necessary assurance that the *works* will be constructed in accordance with the contract.

WI 655 Schedule of *Contractor's* Pathway Products

WI 655.1 Management Plans and other procedural (NR) requirements

(1) The following schedule of Pathway Products must be in place and accepted by the *Project Manager* prior to commencement of the *works* and during the *works*.

A schedule of these deliverables is to be issued to the *Project Manager* for acceptance within four weeks of the *starting date*.

Network Rail deliverables which are shown at the bottom of the below schedule are appended within folder A600.1.

Pathway products for Detail Design and Build Deliverables				
Product	**Pathway Stages**	**Plan to Produce**	**LU or Contractor to produce**	**Comments**
Project Execution Plan (PEP)	4 & 5	Yes	Contractor	
Design Management Plan (DMP)	4 & 5	Yes	Contractor	
Power Loading Application	4 & 5	Maybe - To cover temporary works	Contractor produces and LU submits	
Safe System of Work	4 & 5	Yes	Contractor	
Access Plan	4 & 5	Yes	Contractor	
Site Noise and Vibration Evaluation and Control	4 & 5	Yes	Contractor	Should also include Section 61 application
Asset Hierarchy Change Submission	4 & 5	Yes	Contractor	
Concessions Request	4 & 5	Yes	Contractor	
Operational Assurance Notification (OAN) (1-538)	4 & 5	Yes	Contractor	
Storage Licenses	4 & 5	Yes	Contractor	
Site Survey	4 & 5	Yes	Contractor	
Site Emergency Preparedness Plan	4 & 5	Yes	Contractor	
QUENSH Menu	4 & 5	Yes	Contractor	
Quantitative Risk Assessment	4 & 5	Yes	Contractor	
Stakeholder Engagement Plan	4 & 5	Yes	Contractor	
Consents Plan	4 & 5	Yes	Contractor	
Risk Register	4 & 5	Yes	Contractor	
Risk Management Strategy	4 & 5	Yes	Contractor	
Concessions Request	4 & 5	Yes	Contractor	
Site Waste Management Plan (SWMP)	4 & 5	Yes	Contractor	
Issue Register	4 & 5	Yes	Contractor	
Requirements Management Plan	4 & 5	Yes	Contractor	
Safe Load Assessment	4 & 5	Yes	Contractor	

Pathway products for Detail Design and Build Deliverables				
Product	**Pathway Stages**	**Plan to Produce**	**LU or Contractor to produce**	**Comments**
Inspection & Testing Strategy / Plan	4 & 5	Yes	Contractor	
Fire Safety & Evacuation Strategy	4 & 5	Maybe	Contractor	
Schedule	4 & 5	Yes	Contractor	
Estimate	4 & 5	Yes	Contractor	
Health & Safety File Information	4 & 5	Yes	Contractor	
Construction Phase Plan and Environmental Management Plan	4 & 5	Yes	Contractor	
TLF 447 - (MAID)	5 & 6	Yes	Contractor	
Lessons Learned Report	6	Yes	Contractor	
Engineering Safety & Assurance Case (ESAC)	4 & 5	Yes	Contractor	
Site Obstructions / Utility Relocation Plan	4 & 5	Yes	Contractor	
Building Control Group Application	4 & 5	Yes	Contractor	
Project Close Report	6	Yes	Contractor	
Design Check Certificates (1-538)	5 & 6	Yes	Contractor	
Quality Inspection Completion Certificate (QICC)	5 & 6	Yes	Contractor	
Completion & Consent To Operate Report (S1538)/Engineering Completion Declaration	5 & 6	Yes	Contractor	
Contract Management Plan	4 & 5	Yes	Contractor	
Technical Requirements Specification	4	Yes	Contractor	
Cutting, Drilling & Fixing Assessment	4 & 5	Yes	Contractor	
Design Review	4 & 5	Yes	Contractor	
Verification & Validation Plan	4	Yes	Contractor	
Fire Safety Compliance Report	4 & 5	Maybe	Contractor	Should also include Bb224 for temporary
Notification of Works Ready for Inspection(NOWRI)	5	Yes	Contractor	
Asset Database Change Submission	4 & 5	Yes	Contractor	
Carbon and Energy Efficiency Plan	4 & 5	Yes	Contractor	

Pathway products for Detail Design and Build Deliverables				
Product	**Pathway Stages**	**Plan to Produce**	**LU or Contractor to produce**	**Comments**
Change Control Register	4 & 5	Yes	Contractor	
Meeting Minutes	Throughout works	Yes	Contractor	
Progress Report	Throughout works	Yes	Contractor	
Traffic Management Plan	4 & 5	Yes	Contractor	
Track Clearance Approval	4 & 5	Yes	Contractor	
BIM Execution Plan	4 & 5	Yes	Contractor	
Temporary works CDS Submission	4 & 5	Yes	Contractor	
Migration Strategy Plan	4 & 5	Yes	Contractor	
Compliance report/Declarations	4 & 5	Yes	Contractor	
Staged completion report	4 & 5	Maybe	Contractor	Contractor to advise if there will be a stage completion of works.
Snagging register	5 & 6	Yes	Contractor	
ATU (Authority to Use)	5 & 6	If required	Contractor	
Health and Safety File Memorandum agreement	4	Yes	Contractor	Required for Network Rail
Level 2 NR/L2/INF/02202	4	Yes	Contractor	Required for Network Rail
Level 2 NR/L2/INF/02018	4	Yes	Contractor	Required for Network Rail
Network Rail Document Matrix	5 & 6	Yes	Contractor	Required for Network Rail

FINSBURY PARK PHASE 2B WORKS

WORKS INFORMATION

WI 700

TESTS AND INSPECTIONS

CONTENTS

WI705 Tests and inspections

WI705.1 Test and inspection schedule

(1) An ITP schedule shall be developed by the *Contractor* for acceptance by the *Project Manager* to ensure that each and all of the relevant stages of the *works* are checked and signed-off to ensure the quality and compliance of the *works*. All tests and required approvals shall be documented and shall identify all activity Witness (W) and Hold (H) Points both the *Project Manager* and *Contractor*, together with reference to the appropriate 'Specification' and traceability to the 'Verification' deliverable / record / document reference. The ITP shall be sent to the *Project Manager* for acceptance. The ITP may be written to correspond to the particular task specific Method Statements.

(2) The ITP should ensure that the works are built to design intent, conforming to the specification, drawings and standards and should be viewed as a form of acceptance criteria, including any required Site Acceptance Tests and Factory Acceptance Tests certificates.

WI705.2 Terminology

(1) The following are terms used in this section of the Works Information;

Term	Meaning
Assurance	Process of ensuring and providing evidence that the *works* have been designed and constructed in compliance with the *Employer's* Requirements.
Conformity	Fulfilment of specified requirements.
Employer's Requirements	The output from the *works* in respect of spatial and operational improvements.
Hold Point	A point in time in the construction of an element of the *works* at which the *Project Manager* is invited to inspect the *works* to verify quality or completeness prior to the work progressing. The *Project Manager* will identify these Hold Points during his review of the Inspection and Test Plans.
Inspection and Test Plans (ITPs)	Plans specifying the activities required to establish how Conformity is to be verified. They identify the responsibilities for executing the activities, the documents controlling them and the records required to provide Assurance. These are prepared for a particular element of the *works* to support the *Contractor's* Quality and Assurance Plan.
Non Conformance Report (NCR)	A statement raised to record a Non-conformity (Defect) in the product, workmanship, or system.
Nonconformity	A Defect - as defined in clause 11.2 (5) of the *conditions of contract*. (The term "Non-conformity" is used to be consistent with industry practice and includes System Defects as defined below.)
Outstanding Work List	A list generated at an inspection or acceptance stage to identify Defects which must be remedied before an asset can be put into operational use.

Quality Control Procedures (QCPs)	Documents that specify operational techniques or activities that are used to fulfil requirements for quality, and as such support the contract quality plan.
Site Query (SQ)	A request for information, clarification or agreement to a proposed action.
Verification Activity Plan	Document prepared and owned by the *Employer* in accordance with LUL Standard S1538.

WI710 Management of tests and inspections

WI710.1 Inspection and testing requirements

(1) The *Contractor*, his designers, Subcontractors and suppliers engaged in design, supply, manufacture, construction, installation, commissioning and testing or any other service connected with the *works*, maintains ITPs to satisfy the requirements of ISO 9001, and other and other relevant Statutory Requirements appropriate for the deliverables being provided, which have been accepted by the *Project Manager*.

(2) These accepted ITPs stipulate the necessary level and frequency of tests and inspections for each aspect of the *works* and also stipulate:

- Item(s) being inspected and tested
- the inspection and test activity
- acceptance criteria
- Involvement of various parties including Hold Points and witness points
- controlling specifications; and
- certification/ documentation/ records required as verification data.

(3) The *Contractor* stipulates, in the ITPs, detailed acceptance criteria. As a minimum the acceptance criteria complies with the requirements specified in this Works Information. Where criteria are not specified the *Contractor* proposes acceptance criteria for the *Project Manager's* acceptance, including the method and frequency of inspection and testing.

(4) The *Contractor* implements QCPs to verify conformance with the contract specifications. Verification is accomplished by examinations, tests, measurement and inspection and by verification records including those of his consultants, Subcontractors and suppliers. Verification procedures (QCPs) are developed using applicable testing and inspection methods along with acceptance criteria from engineering design documents.

(5) All records from the inspection and testing process are referenced to the location of the item in the *works*, and collated and assembled as part of the verification documentation to provide Assurance.

(6) The *Contractor* conducts inspections and tests in accordance with his detailed plans and ITPs. *Contractor* personnel performing key inspection activities are independent of those carrying out the *works*. Key inspection activities are submitted to the *Project Manager* for acceptance prior to construction. The *Contractor* records the completion of inspections and tests and collates comprehensive records of the results.

(7) The *Contractor* raises a NCR where a Nonconformity in a *works* item is noted during inspection, and which cannot be put back in compliance within the same shift.

(8) Where a specified *works* activity has not been carried out in accordance with agreed procedural requirements, a NCR is raised.

(9) Non conforming work is not covered over until evidence is provided that the Non-conformity has been rectified.

(10) The *Contractor* raises Defects and Outstanding Works Lists at appropriate inspection and acceptance stages to record work that has not been completed correctly or is outstanding.

(11) All Defects identified during an inspection and Outstanding Works List are recorded on NCRs.

(12) Defects which have been previously identified and recorded on an NCR, and on inspection have not yet been repaired, are recorded on the Outstanding Works List.

(13) SQs are used by the *Contractor* to formally request information, clarification or agreement to a proposed action from the *Project Manager*.

(14) The *Contractor* submits a SQ for each NCR requiring a concession or design change to the *Project Manager* for acceptance.

(15) The *Project Manager's* acceptance is required where an exception or deviation from specified requirements is proposed by the *Contractor*.

(16) The *Contractor* implements agreed remedial action prior to the starting any further activities that may render the non-conforming item inaccessible or difficult to repair.

(17) The *Contractor's* Nonconformity system provides for monitoring and tracking of all Non-conformities that occur within the contract regardless of who identifies the Non-conformity. Copies of all NCRs are submitted to the *Project Manager* for information, when raised and when closed. Non-conformities are recorded within each shift and reported to the *Project Manager* at the start of the following shift.

(18) The *Contractor* maintains an ITP/NCR/SQ database. The database links ITP management and NCRs, and is cross-referenced to SQs raised. The *Contractor* maintains the ITP/NCR database and provides access to the *Project Manager* on request.

(19) The *Contractor* provides copies (two electronic copies and two hard copies) of all test and inspection results to the *Supervisor* undertaken in the course of Providing the Works, unless otherwise stated in the Works Information. A schedule is to be developed and managed by the *Contractor* and accepted by the *Project Manager* prior to commencement of testing and inspection (at least 8 weeks in advance).

WI715 Covering up completed work

(1) *Works* will usually be covered up once the test results are known and are acceptable. *Works* should not be covered before the results of any testing are known except by prior written agreement with the *Project Manager*. Exceptions requiring the covering up of work may exist if it is otherwise unsafe or is detrimental to the *works*.

WI720 *Supervisor*'s procedures for inspections and watching tests

(1) The *Supervisor*'s inspection procedures. The *Supervisor* is responsible for carrying out inspections and watching tests if stated in the Works Information.

1. Delegations may be made by the *Supervisor*, such as to specialist testing firms.
2. The *Supervisor* maintains a record of inspections he has carried out. This record is updated on a regular basis and issued to the *Contractor* and *Project Manager*.

3. Each inspection item on the record is referenced back to the Accepted Programme.
4. The *Supervisor* decides what inspections are necessary to monitor that the works are delivered in accordance with the Works Information.
5. Inspections include, but are not limited to those which the *Contractor* has requested to the *Supervisor* to undertake.
6. The *Supervisor* enters his observations on the record against each item. Where an element of work is clearly not completed and/or the *Contractor* has not requested an inspection the *Supervisor* only includes comments on the record in relation to significant Defects observed.
7. The Supervisor will notify the *Contractor* to be aware of all Defects as they occur and take measures to prevent repeating them.
8. There is no requirement for the *Project Manager* or *Supervisor* to accept / sign off inspection / test sheets that the *Contractor* may wish to submit.
9. In addition to the *Supervisor*, designers or other specialists may carry out inspections. The reports from the inspections may at the discretion of the *Supervisor* be provided to the *Contractor*.

(2) The *Contractor* notifies the *Supervisor* of all unplanned or scheduled tests and inspections he intends to carry out, giving no less than five working days notice. The Contractor will then update the ITP schedule. The *Supervisor* may also:

- Allow designers or other specialists to carry out inspections. The reports from the inspections may at the discretion of the *Supervisor* be provided to the *Contractor*.
- The *Supervisor* maintains a record of inspections he has carried out. This record is updated on a regular basis and issued to the *Contractor* and *Project Manager*.
- Each inspection item on the record is referenced back to the Accepted Programme.
- The *Supervisor* decides what inspections are necessary to monitor that the *works* are delivered in accordance with the Works Information. The *Supervisor* may decline to attend some tests, but will confirm this in writing to the *Contractor*.
- Inspections include, but are not limited to those which the *Contractor* has requested the *Supervisor* to undertake.
- The *Supervisor* enters his observations on the record against each item. Where an element of the *works* is clearly not completed and/or the *Contractor* has not requested an inspection the Supervisor only includes comments on the record in relation to significant Defects observed.
- The period following an inspection, by which time the *Supervisor* will issue the results to the *Contractor* will be agreed between him and the *Project Manager*.
- The *Supervisor* shall make arrangements for notifying the *Contractor* of Defects, and shall include a process for discussing remediation proposals and the subsequent actions, including any forms to be used.
- The *Supervisor's* procedures will include a process for making the *Contractor* aware of all Defects as they occur and take measures to prevent repeating them.
- There is no requirement for the *Project Manager* or *Supervisor* to accept inspection or test sheets that the *Contractor* may wish to submit.

FINSBURY PARK PHASE 2B WORKS

WORKS INFORMATION

WI 800

MANAGEMENT OF THE *WORKS*

CONTENTS

WI 805 **The *Contractor's Representative***

(1) The *Contractor* appoints a *Contractor's Representative* to act on behalf of the *Contractor* throughout the project.

As part of the *Contractor's* mobilisation duties the *Contractor* understands the structure and format of the *Employer's* project team, in particular the appointment of the *Project Manager* and *Supervisor* and any delegations there to and submits to the *Project Manager* for acceptance a communication plan such that there are clear lines of communications between the *Contractor* and the *Employer's* team to facilitate:

- Receipt of instructions
- Understanding of levels of authority to receive instructions by the *Project Manager* or *Supervisor*
- Receipt of other contractual communications

(2) The *Contractor* ensures that his project team and site organisation are established and changed as necessary to facilitate effective communications between the *Employer's* representatives.

(3) The *Contractor's Representative* is the Site Person in Charge as required by Standard 1-552 QUENSH.

WI 810 **Progress meetings**

(1) The *Contractor* is to attend meetings convened by the *Project Manager* at the times and places instructed.

These meetings include reviews on:

- Progress against the Accepted Programme
- health and safety
- environment
- cost
- risk
- performance
- quality
- design
- subcontracting
- third party liaison
- change control (scope, cost, programme etc)
- Issues Register
- Composite Graphical Model
- special subjects as the need arises

(2) The *Contractor's* procurement process must include the requirement for his major Subcontractors to attend these meetings as required by the *Project Manager*.

WI 815 **Reporting**

WI 815.1 **Progress report**

(1) The *Contractor* issues a comprehensive progress report at four week intervals to suit the *Employer's* 13 period calendar reporting cycle. The first progress report is issued at a date to be instructed by the *Project Manager* which will be no more than 28 days after the *starting date.*

(2) The *Contractor* a electronic copy of each progress report to the *Project Manage*r and his document controller.

(3) The detailed format of the report is agreed with the *Project Manager* prior to the submission of the first report but the submission shall include the following as a minimum:

- Executive Summary and Key Issues;
- Health and Safety, Security and loss prevention;
- Progress;
- Programme Narrative;
- Resources (Labour, Plant and Equipment);
- Design/ Composite Graphical Model
- Ground Movement – Monitoring and Control;
- Procurement;
- Commercial;
- Risk and Opportunity Management;
- Quality and Assurance;
- Environment Activities;
- Station and Track Access including possessions;
- Progress photographs (for construction only)
- 3rd party interfaces
- Operational interfaces (including public)
- TfL Pathway products

Details of each part of the report are set out in the following paragraphs.

(4) **Executive Summary and Key Issues**

This part should be no more than two pages summarising the achievements and key issues and interfaces experienced during the period, the safety report, and the commercial position.

(5) **Health and Safety, Security and Loss Prevention**

This part contains a summary of all activities related to health and safety, security and loss prevention, such as meetings, instructions, inductions, and special achievements. Safety defects and security breaches are summarised together with a brief description of any lost time due to injury or damage to property.

Safety statistics, Accident Frequency Rates (AFR) including all Lost Time Incidents (LTI) and RIDDOR in the period and cumulative shall be included.

Trends are provided together with proposed action to improve safety performance.

The health and safety information required to be reported every four weeks in accordance with of the Works Information is included here.

(6) **Progress**

This part comprises a narrative report on the progress achieved against that planned in the period, together with explanations of any delays incurred and details of plans on how the delays are recovered. Progress is reported against the latest accepted programme on a physical percentage complete basis by discipline and overall and on schedule performance indicators (SPIs).

The report describes the work which is on the critical path(s), noting the amount of remaining work.

(7) **Programme Narrative**

This part identifies the current Accepted Programme and summarises the information contained in each programme which the *Contractor* submits for acceptance. The *Contractor* comments on the progress of all aspects of the *works* including design, procurement and construction.

Special emphasis is given to issues notified, or to be notified, as early warnings which may delay Completion or delay achievement of a Key Date.

Any proposed changes to the Accepted Programme must be identified and tabled here.

(8) **Labour, Plant and Equipment Resources (Construction only)**

This part shows in tabular and graphical form the planned and actual hours (by discipline and craft), including Subcontractor resource, deployed for each activity during the period and cumulatively. A narrative describes any items where a shortfall of resource is affecting progress.

Productivity factors by work crews, by discipline and by shift, is analysed and reported with reasons for underperformance including measures being taken to achieve the plan and recover performance.

The *Contractor* reports workforce turnover in the period and cumulative, and the measures being taken to recover and maintain the planned workforce level.

This part also schedules the actual Equipment used, and its performance versus that planned, in the period. Equipment breakdowns impacting on progress during the period is reported. Measures being taken to recover lost production is identified.

(9) **Design**

This part describes the status of the design and engineering of the *works*.

The *Contractor*, from the design sub-network in the Accepted Programme described in WI 510 of this Works Information and reports the status of design relative to the critical path and measures being taken to address any slippage.

(10) **Ground Movement – Monitoring and Control**

This part presents an overview of the status of defects and condition surveys, of monitoring instrumentation, of the movements experienced in the period and to date, and details of any breaches of performance criteria and mitigation measures implemented. Further details on ground monitoring are found within section WI 300 of this Works Information.

(11) **Procurement**

This part describes the status of procurement . It shall highlight those items that have long delivery times or involves purchase of scarce the resources or where the procurement dates have limited float.

(12) **Commercial**

(a) Compensation events

The *Contractor* provides a summary and the current status of all compensation events in the period of report, and to date.

(b) Early Warning Matters

The *Contractor* provides a summary of all early warning matters raised in accordance with clause 16 of the *conditions of contract* giving the date raised, date of any risk reduction meeting held (arranged and recorded by the *Contractor*) and a reference to records made by the *Project Manager.*

(c) Forecast of Defined Cost

The *Contractor* provides to the *Project Manager,* for acceptance*,* a forecast in a proposed format and level of detail. The forecast includes a summary of all expenditure to date, assessment of earned value to date, and shall identify all risk allowances and compensation events and early warnings which the Contractor has allowed for in the forecast. The forecast is updated at intervals no longer than set out in the Contract Data, but in any case no longer than 4 weeks, dates to be agreed with the *Project Manager*

(d) Earned Value Analysis

Earned value analysis techniques are utilised by the *Contractor*. Earned value versus planned earned value and Defined Cost shall be represented in both tabular and graphic formats. Progress measurement methods shall be as submitted to the *Project Manager* for acceptance. Earned value reports are included with each four weekly progress report. Further information on earned value analysis can in section WI 540 of this Works Information.

(e) Cost and Schedule Performance

The report highlights any cost and/or schedule variances between budgeted / forecasted and actual, both in the period and cumulatively and describes the impact of the variances on the final cost and schedule.

Cost performance indicators and schedule performance indicators are developed from the earned value analysis to trend the overall performance under this contract. The numerical analysis is supported by narrative explaining the reasons for any variances and giving the *Contractor's* proposed mitigation plans and actions to correct or minimise any overruns.

(f) Cash flow forecasts

The *Contractor* submits a cash flow forecast broken down to correspond with each

activity within the *activity schedule* incorporating all the latest time and cost adjustments. All forecasts are to be submitted in electronicformat.

(13) **Risk and Opportunity Management**

The *Contractor* identifies in this part of the long form period progress report, the top five risks and opportunities to the *works* as assessed using the risk scoring scheme (post mitigated).

This part addresses the following issues in relation to each of the identified ten risks and opportunities:

- control measures for the risks identified and the cost of mitigation;
- opportunity implementation actions and the benefits;
- action completion dates and owners;
- status of actions;
- any further issues raised/residual risks; and
- closed and new risks.

A narrative is provided in this part of the long form period progress report for each risk identified.

(14) **Quality and Assurance**

This part details:

- the latest revision of the *Contractor's* Project Assurance Plan;
- a summary of changes to the *Contractor's* Project Assurance Plan;
- progress on safe system of works, procedures, inspection and test plans;
- any concerns or difficulties in providing certification or quality records to demonstrate the compliance of completed work;
- a summary of the assessment and monitoring of suppliers and Subcontractor's quality systems that has been carried out;
- summary of recent ongoing and planned quality audits;
- status of all non-conformance reports (NCRs);
- status of all corrective action requests (CARs); and
- any other significant quality issues.

(15) **Environmental Activities**

This part details:

- the latest revision of the Environmental Management Plan;
- status of all environmental consents;
- status of all environmental NCRs;
- record of all environmental audits performed;
- status of all dust monitoring in hand; and
- status of all noise and vibration monitoring in hand.

(16) **Community Relations**

This part details:

- record of all *works* notifications issued and requirements for further notification;
- record of all complaints received and actions taken; and
- record of all community relations initiatives made and contacts made.

(17) **Station and Track Access to both Finsbury Park Underground Station & Finsbury Park National Rail Station**

This part describes:

- the actual access used against that planned with reasons for loss of access or loss of planned access;
- access planned and not used and reasons for not used; and
- access cancelled by the *Employer*.

(18) **Progress photographs**

The *Contractor* provides a sufficient number of progress photographs at each period report, following commencement of site activity.

A representative selection of the photographs is included in the *Contractor's* four-weekly progress report.

The location and direction of photographs will be indicated in the report and indicated on drawings.

The *Project Manager* may specify particular locations and details to be recorded at any time as a record of progress.

The photographs are held in the *Contractor's* central electronic records and accessible to the *Project Manager*.

Photographs are suitable for reproduction at A3 size.

(19) **3rd Party Interfaces**

Issues / Concerns with works of information relating to Network Rail & the TOC/FOC

Incidents and Accidents

Meetings and discussions held with 3rd parties and resulting actions

Required notices, permits and applications.

(20) **Operational Interfaces (Including Public)**

Access Requirements

Closures

Incidents and actions

(21) **Pathway Products**

Current and outstanding products to be submitted and their progress

Information required / requested

Issues / Concerns with products to be provided

WI 820 **Work plan**

(1) For each element of work in hand, the *Contractor* issues a work plan(s), no later than 0900 on Monday of each week. The work plan comprises a four week rolling programme (one week look back and three weeks look ahead) covering day to day activities. This work plan is in Gantt chart format and be resource loaded with labour resources, Equipment, Plant and Materials by discipline.

(2) The work plan indicates the timing of all proposed Hold Points in the ITPs identified by the *Project Manager,* for inspection by the *Project Manager* or the *Supervisor* or by Others who have the right of inspection.

(3) There is a narrative report on each section/discipline of the work describing the progress over the week look back and planned for the three weeks look ahead.

(4) The *Contractor* marks up progress achieved on the look back week with weightings linked to the overall Accepted Programme. Schedule performance indicators (SPIs) and cost performance indicators (CPIs) shall be calculated for the planned and actual work.

(5) The *Contractor* provides details and reasons for targets not being achieved and actions that the *Contractor* intends to take to recover any lost time.

(6) The format of the work plan is to be agreed by the *Project Manager*, and the work plan is submitted in electronic format.

WI 825 **Daily Log**

(1) For each area of work in hand relating to construction works only, the *Contractor* maintains a daily log to be completed and filed no later than 10:00 hours the next day, inclusive of all weekends.

(2) The daily log shall be available to the *Project Manager* and his staff and contains as a minimum:

- Daily resource report: The report states the number of actual personnel on Site during the day against that planned. For manual workers the personnel are grouped by trade and for non-manual workers by work title;
- Daily construction report. The report includes:
  - (i) safety, environment and security. Including a general description of significant events on Site;
  - (ii) a brief description of the *works* carried out that day,
  - (iii) the initiation or completion of any significant event,
- Daily Equipment report: The report indicates all actual items of Equipment on Site against that planned, and their availability for work;
  - (i) Daily construction report. The report includes:
  - (ii) a brief description of the work carried out that day,
  - (iii) the initiation or completion of any significant event,
  - (iv) major items of Equipment received, removed or installed,
  - (v) work stoppages, interruptions, delays and potential causes of delay;

and

(vi) location of the works

- Weather records: The report shall include a general description and any significant weather events during the course of the day.
- Any incidents, accidents or complaints occurring during the shift
- *work* areas
- Summary of progress made during the shift
- Any delays to the *works*

(3) The format of the daily log shall be agreed by the *Project Manager*, and the log(s) are made available by electronic data transfer.

WI 830 ***Contractor's*** **Proposals to change the Works Information**

(1) Any proposal submitted by the *Contractor* to the *Project Manager* to change the Works Information contains:

- A detailed scope of the change, clearly identifying the specific sections of the Works Information which are proposed to be changed;
- A schedule detailing how the proposed change is to be effected, including activities and anticipated durations for any resulting design changes to be undertaken by the *Contractor*, additional or revised consents, additional or revised concessions, amended Completion Date, amended Key Dates and other relevant information;
- A proposed revised programme if the programme for the remaining *work* is affected; and
- Proposed changes to the Prices.

(2) The *Project Manager* replies in accordance with the *conditions of contract*. The reply is:

- A rejection of the proposal; or
- A request to submit more information, stating details of the information required; or
- A request to submit a revised proposal to suit the *Project Manager's* broader considerations, stating details of the amendments; or
- An acceptance of the change to the Works Information which arises from a fault of the *Contractor* and therefore the Prices, the Completion Date and the Key Dates are not changed; or
- An acceptance of the proposal.

(3) The costs of assessment and review of a rejected proposal submitted by the *Contractor* to change the Works Information, which are incurred by the *Project*

Manager and *Employer* and Others shall be recoverable from the *Contractor*.

(4) The *Project Manager* may extend the time allowed for the *Contractor* to submit a revised proposal and the *Contractor* may extend the time for the *Project Manager* to reply to any proposal or revised proposal if the *Project Manager* and the *Contractor* agree to the extension before the submission or reply is due.

(5) The *Contractor* ensures that the submission and review of the proposal to change the Works Information does not adversely affect the Completion Date(s) or Key Dates or Prices.

(6) The *Project Manager* is under no obligation to accept any proposal or revised proposal and does not need to give any reasons for doing so or not doing so. The emphasis on any proposal is on a cost, schedule or risk reduction without impacting on safety.

(7) Acceptance of the proposal by the *Project Manager* is deemed to be implementation of a compensation event under the provisions of clause 65 of the *conditions of contract* (as amended).

WI 835 **Record Drawings**

(1) The *Contractor* keeps a set of all drawings used for construction or fabrication, and associated data and specifications, on the Site marked up to record accurately all changes during construction including any instructions and technical query responses.

(2) Drawings and specifications are to be marked up on a continuous basis by the *Contractor* in a format acceptable to the *Project Manager*. The *Project Manager* has access to these Site records at all times.

(3) Within two weeks of all work shown on a specific drawing, associated data or specification being completed, the *Contractor* produces the as-built drawings and other information which are clearly marked “As Built”. The *Project Manager* may audit the record information.

(4) The *Contractor* includes or references these “As Built” drawings in the documentation to be provided to the *Project Manager* or Principal Designer (as applicable) for inclusion in the health & safety file as part of the MAID.

WI 840 **Risk Management**

WI 840.1 **Requirements**

(1) The *Employer* is committed to identifying and managing risk.

(2) Risk in this context includes (but is not limited to) those events that, if they do occur, could impact on safety, the environment, the *Employer’s* interests or reputation, or the interests of Others.

Contractor’s **Responsibility for Risk & Opportunity Management**

(3) The *Contractor* submits, within four weeks of the *starting date*, for acceptance by the *Project Manager*, a Risk Management Plan. The *Contractor* liaises with the *Project Manager* during this time to identify and agree the parameters to be used in the identification and evaluation of risk (where reference is made to risk this includes opportunities).

(4) The focus of the Risk Management Plan should be reduction of risk exposure. It should be results-oriented and not place undue weighting on analysis at the expense

of action. It is in the interests of the *Employer* and the *Contractor* to share relevant risk information and work together to prevent the realisation of risks where possible.

(5) In conjunction with clause 16 of the *conditions of contract* the *Contractor* identifies any changes or newly identified risks to the *Project Manager.*

(6) The *Contractor* identifies to the *Project Manager* any risks which have been realised and become issues.

(7) The *Contractor* reports risks and provides risk related information in accordance with the requirements of this contract, the RMP and his risk management plan.

(8) The *Contractor* submits an updated version of their Risks and Issues registers, as separate documents, for approval by the *Project Manager* with the 4 weekly period progress report or earlier as required by the *Project Manager*.

(9) The *Contractor* provides in electronic format, a copy of the *Contractor's* current project risk register for reference at each meeting.

Risk Reduction meetings

(10) The *Contractor* meets with the *Project Manager* not less than once in each four week period to review the Risk Register in accordance with clause 16 of the *conditions of contract*. The *Contractor* provides the appropriate level of representation at the meetings to review and action the identified risks and notified early warnings.

WI 845 Accounts and Records of Defined Cost

WI 845.1 Commercial Administration

(1) The *Contractor* submits, to the *Project Manager* for acceptance, within four weeks of the *starting date*, procedures to be implemented by the *Contractor* to provide maximum confidence that the contract will be properly administered and that the *Employer* will obtain value for money.

(2) The procedures includes detailed measures on how the *Contractor* intends to:

- administer purchase orders, subcontracts and service orders in due time;
- make timely payments to Subcontractors and suppliers;
- maintain a cost and commitment ledger and reporting system;
- monitor Equipment on and off hire dates;
- control utilisation of Equipment;
- maintain and review an Equipment register;
- monitor, check and record deliveries of Plant and Materials;
- provide Equipment and labour returns to the *Project Manager* on a weekly basis;
- verify working hours claimed for all people involved in Providing the Works;
- operate a labour control system based on time-sheets authorised by Site staff and coded according to the agreed code of cost allocations;
- control Materials wastage, reconciliation and management;
- code all costs in accordance with the agreed coding system by each activity and by each main element of the Schedule of Cost Components (People,

Equipment and Plant and Materials etc.);

- code compensation events and Disallowed Costs in accordance with the agreed coding system; and
- carry out any other procedures to ensure that this contract is being adequately administered.

WI 845.2 Contract cost reporting

(1) On a Periodic basis the *Contractor* provides necessary information so as to enable accurate reporting of costs to date and Estimated Final Cost (EFC) between parties. The *Contractor* shall provide a Contract Cost Breakdown, including all accruals, at a predetermined date of each Period, the structure of which shall be agreed in advance with the *Project Manager.*

WI 845.3 Accounting Procedure

(1) The *Contractor* submits, to the *Project Manager* for acceptance, within four weeks of the *starting date*, the procedures by which the *Contractor* intends to carry out the accounting for all aspects of Defined Cost.

WI 850 Procurement Procedures

WI 850.1 General

(1) The *Contractor* submits detailed procurement procedures, to the *Project Manager* for acceptance, within four weeks of the *starting date*. The procurement procedures defines the processes leading to the procurement of Equipment, Plant and Materials, Subcontractors and services including the acceptance by the *Project Manager* of Subcontractors and suppliers in accordance with the accepted Subcontract Procurement Plan. The *Contractor* shall comply with the accepted procedure.

(2) The procedures as a minimum provide the following:

- a detailed Procurement Plan identifying purchase orders, subcontracts and service orders to be placed;
- procedures for the procurement of Plant and Materials, Equipment, subcontracts and services which will achieve best value;
- identifying means of achieving and verifying compliance with the *Employer's* Responsible Procurement Principles;
- procedures for the procurement of Plant and Materials, Equipment, subcontracts and services using accurate documentation and latest information;
- procedures for the procurement of Plant and Materials, Equipment, subcontracts and services using contract conditions which adequately reflect the *Contractor's* obligations under the *conditions of contract*;
- control systems to ensure purchased Plant and Materials are supplied to the specified quality and are delivered to Site at the agreed times; and
- procedures for ensuring that Plant and Materials and Equipment received on Site are properly stored, cared for, and issued for construction.

(3) The *Contractor* submits a Procurement Schedule as described in WI 500.

WI 855 Computer Set-up and Electronic Data Transfer

(1) **IT Plan**

The *Contractor* provides, within four weeks of the *starting date*, an information technology plan describing his computing and communications proposals. This plan includes but not be limited to a description of his major computer systems, hardware/software and communications (data and telephone) installations, including any external links, any software development and training plans.

(2) **Computer Hardware**

The *Contractor* establishes a computer network to service the contract and makes access to certain central records available to the Project Manager and others from the *Project Manager* or *Employer's* teams as notified by the *Project Manager*. The *Contractor* and *Project Manager* provide computer hardware and software for use by their own personnel.

(3) **Data Transfer Methods**

All drawings, CAD Models, setting-out data, correspondence, reports, financial cost data, risk register data and construction programmes are transferable electronically in accordance with PAS 1192-2.

Contractor central records, drawings, specifications, Site queries, photographs, inspection and testing reports, and the ITP/NCR/SQ database and the Audit/CARs database are accessible to the *Project Manager*.

Version control systems are proposed by the *Contractor* to ensure that only intended versions are used.

(4) **Common Data Environment**

Please refer to section WI 305.1 (3)

WI 860 Communications (13.1, 13.2)

WI 860.1 General

(1) The *Contractor* will utilise A-Site, a web based document management system, for the purpose of document and information management with the *Project Manager*. The *Contractor* will provide all necessary licences that the *Employer* requires to utilise A-Site. The *Employer* grants read access to part of this system, and that it may be used as a platform for sharing documentation with the *Contractor*. In order to be granted access, the *Contractor* requires a computer with internet access and Windows XP or later version, and up to date antivirus and MS Office software. The *Contractor* makes allowance for the project's document controller and any other member of staff requiring training to attend a half day session at the *Employer's* offices to receive the training.

(2) All contractual communication management (CCM) required under this contract are to be made under A-site unless the *Project Manager* has suspended use or advised it is not to be used.

The *Contractor* will implement a folder structure management system to be agreed with the *Project Manager*.

(3) Formal correspondence and notices are issued electronically, except where the CCM System is to be used (A-Site), and addressed for the attention of the *Project Manager*.

(4) The A-Site system is a web-based providing a secure basis for holding and communication contract information and instructions.

(5) A-Site's Purpose:

- ensure that *periods for reply* are adhered to
- track actions of both parties
- assists contracts to be administered in accordance with the *conditions of contract*
- maintain contract time frames
- maintains a record of all contract correspondence sent/received via the A-site system

(6) Features of computer application

- free training course given by LU for A-Site – approx. 3 hours
- free licence for the *Contractors* – 'Read & Write' and 'Read Only'
- direct access to information by all relevant parties
- electronic signature – no e mails necessary
- use of standard contract forms
- notices linked to each other
- tracking of actions – traffic light system - gives notice of response required
- only contractually designated persons can send notices
- contemporary record of events & costs is provided

WI 860.2 Document Management

(1) The *Contractor* is required to develop and implement a document management system. The system shall enable the *Contractor* to manage, control and track all documentation and communications in relation to this project. The following minimum requirements shall be met:

- the *Contractor* tracks all incoming and outgoing correspondence on a contracts communication register, which shall be kept up to date and supplied to the *Project Manager* whenever requested
- the *Contractor* additionally keeps a separate record of any early warning, compensation event notice, compensation event quotation and responses by the *Project Manager* (the change control register)
- all communications and documents will have a unique reference number, as per the following format:
    - project code (4-numbers: 2162) – originator code (3 letters) – document code (3 letters) – sequential number (4 digits + 2 digits revision number)
    - an example would be 0000-LUL- DEF-0001, being the first project general communication sent from LUL to ABC.

- the sequential number is specific to the code combination that precedes it
- a list of accepted codes will be provided to the *Contractor* by the *Employer* prior to contract award

- all contract communications are to be signed by the *Contractor*
- all communications are to be delivered via electronic mail, to the document control email account noted on the folllowing page, unless otherwise required by the web-based Live-Link system
- all communications have an issue type (for information, for comment, for action). If the communication is issued for comment, the nature of the comment required (e.g. approval) shall be clearly stated in the communication. If the communication is issued for action, the action(s) required is to be clearly stated in the communication.
- all communications issued in response to a previous communication are to reference the original's reference number.
- should a communication require re-issuing, e.g. to rectify an inaccuracy in the original, a new communication is to be issued, with new identification number, voiding the previous erroneous communication.
- all documents and drawings are to be revision controlled. Any document or drawing that is submitted to the *Employer* following a prior formal submission must have all changes tracked or highlighted (e.g. by using a tracked changes function on a word processor, or using revision clouds on drawings). This will ensure a quicker review period. The *Project Manager* reserves the right to refuse any revised document received without changes tracked.

(2) If a document is re-submitted in response to an *Employer's* review with associated comments log, the document must be accompanied with the original comment log, annotated by the *Contractor*, detailing the response to each comment. The *Project Manager* reserves the right to reject any document submitted without the associated completed comments log.

(3) All documentation and communications shall be sent to finsburypark2162@tfl.gov.uk and any other recipients that the *Project Manager* may, from time to time, instruct.

(4) The *Project Manager* reserves the right to reject any submission intended for onward transmission, e.g. a design change for engineering approval, without comprehensive commentary if, in the *Project Manager's* opinion, it does not meet a minimum quality standard.

WI 865 **Key Persons Succession Plan**

(1) The *Contractor* submits to the *Project Manager* a key person succession plan for acceptance within 4 weeks of the *starting date*. The Employer regards the following roles as key persons;

- Senior project manager
- Project director
- Engineering manager/Supervisor

- Construction manager
- Planner
- Commercial manager
- Design manager / Assurance manager
- SQE manager

(2) A reason for not accepting the key person succession plan is that it does not give sufficient comfort to the *Project Manager* that replacement key people will be properly inducted and their workload handed over to them in a structured and ordered fashion.

(3) The *Contractor* includes, as a minimum, in his key person succession plan the following:

- details of any planned replacement key people
- processes for handing over duties, including length of shadowing time
- submission of CV's,

details of how the *Contractor* proposes to effect any replacement such that there is no impact on the *Contractor* Providing the Works.