

Queen Elizabeth Olympic Park Road Signage Renewal

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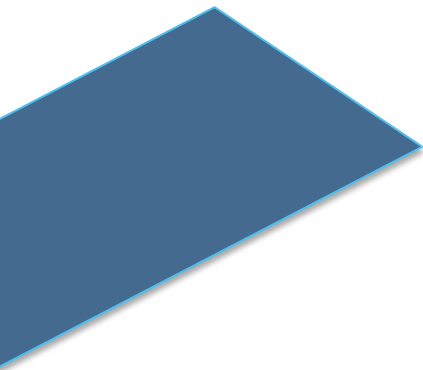
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SECTION PRELIMINARIES

1



00-05-10 Project Definition

101 Project description

- **Project reference:** BG30555.
- **Project title:** Road Signage Renewal.
- **Project description:** Road signage renewal at Queen Elizabeth Olympic Park.

Site information

115 Utilities and services survey

- **Details:** Utility Plan (Appendix E).
- **Reference:** LC810-TAM-UCW-U-DGA-0003-P02
- **Format:** Electronic.
- **Provision:** To be provided, subject to signing Non-Disclaimer Notice.

Ground information

125 Ground investigation report

- **Details:** Asbestos Report (Appendix F).
- **Reference:** REP-ATK-CM-ZZZ-OLP-XXX-E-0008-Rev04.
- **Format:** Electronic.
- **Provision:** Provided.

125 A Ground investigation report

- **Details:** UXO Report (Appendix G).
- **Reference:** REP-MOR-CE-ZZZ-OLP-SP1-E-0001.
- **Format:** Electronic.
- **Provision:** To be provided upon request.

Design information

165 Drawings

- **Details:** Tender Drawings (Appendix A).
- **Reference:**

30555-T00	Site Location Plan
30555-T01-Rev01	Signage Location Plan - Zone 1
30555-T02-Rev02	Signage Location Plan - Zone 2
30555-T03-Rev03	Signage Location Plan - Zone 3
- **Format:** Electronic.
- **Provision:** Provided.
- **Contract drawings:**
 - **Generally:** The same as the tender drawings.

170 Preconstruction information

- **Scope:** Integral with the project specification, including but not restricted to the following:
 - Description of project.
 - Client's consideration and management requirements.
 - Environmental restrictions and on-site risks.
 - Significant design and construction hazards.
 - The Health and Safety File.

00-05-15 Works Terminology

110 Terminology

- **Meaning:** Terms, derived terms and synonyms used are as defined in this section or in the appropriate referenced document.

210 Description terminology

- **Attendance:** Includes
The use of the Main Contractor's temporary roads, pavings and paths, standing scaffolding, standing power operated hoisting plant;
The provision of temporary lighting of an equivalent brightness to the finished lighting brightness;
The provision of water;
The clearing away of rubbish and paying all charges in connection with its disposal, the provision of secure hard standing space for the sub-contractor's own offices, plant and material storage;
The use of standing mess rooms, sanitary accommodation and welfare facilities and
The provision of all Health and Safety facilities and all Fire Safety precautions, services, equipment, signage, facilities, marshals and the like necessary to comply with the relevant parts of the Joint Fire Code.
Additional requirements should be described as 'Special attendance'.
- **Building Manual:** A document containing information of use to subsequent building owners, occupiers and users about the requirements and procedures for effective operation, maintenance, decommissioning and demolition of the building.
- **Construction Work:** Permanent work together with temporary work.
- **Contractor:** The party who undertakes to perform the services, supply goods or carry out work defined in a contract. Includes Main Contractor, Prime Contractor, Supplier, Service provider, Builder, Subcontractor, etc. as the context dictates, which may be defined terms in certain standard contract forms.
- **Contractor's choice:** Selection delegated to the Contractor, but liability to remain with the specifier.
- **Contractor's design:** Design to be carried out or completed by the Contractor, supported by appropriate contractual arrangements, to correspond with specified requirements.
- **Cost:** The amount paid or given by one party to another in exchange for goods, work or services.
- **Designer:** A person carrying out design on a project.
- **Deviation:** Difference between a specified dimension or position and the actual dimension or position.
- **Employer:** The party to the Contract for whom the goods, work or services are provided. Includes Client (in consultancy contracts and CDM Regulations), the Employer, Building owner or Purchaser (in construction contracts), the Developer (in development agreements and funding agreements), or the 'Main' contractor in contractor/

subcontractor agreements - which may be defined terms in certain standard contract forms

- **Estimate:** An approximate evaluation of quantity, number, extent, time or cost of part or the whole of a project.
- **Execute:** To complete a task fully and put into effect. To fix, apply, install or lay products securely, accurately, plumb and in alignment.
- **Existing:** Items retained in place to receive new work.
- **Fastener:** Device for mechanically attaching something to something else.
- **Manufacturer and Product reference:** Manufacturer – the person or legal entity under whose name or trademark the particular product, component or system is marketed. Product reference – the proprietary brand name and/ or identifier by which the particular product, component or system is described. References are as specified in the manufacturer's technical literature current on the date specified.
- **Manufacturer's standard:** Where used in conjunction with a specified proprietary product, accessories to be those recommended by the product manufacturer.
- **Permanent Work:** Work to be constructed and completed in accordance with the Contract.
- **Price:** An indication of the amount required to be paid by one party to another in exchange for goods, work or services.
- **Product:** Material, both manufactured and naturally occurring, goods and accessories for permanent incorporation into the Works.
- **Requirements:** A description in outline or detailed form of the development, or a part of it, which one party wants another to undertake, design and/ or construct.
- **Schedule of rates:** The subdivision of product and execution prices by a pre-determined unit basis.
- **Schedule of Work/ Work Schedule:** The subdivision of work items by a pre-determined classification. Can form the basis of a pricing document where Bills of Quantities are not used.
- **Schematic:** A drawing of a system showing components, products, systems and their interconnections.
- **Site equipment:** The Contractor's apparatus, appliances, machinery, vehicles or things of whatsoever nature required in or about the construction for the execution and completion of the Works and the remedying of defects. Includes Appliances, vehicles, consumables, tools, temporary work, scaffolding, cabins and other site facilities. Excludes: Temporary work, Employer's products and equipment or anything intended to form or forming part of the permanent Works.
- **Specification:** Written description of requirements.
- **System:** Products, components, equipment, accessories, controls, supports and ancillary items, including installation, necessary for that section of the work to function.
- **Temporary work:** Incidental work to undertaken during construction but not intended to form part of the completed work.

310 Activity terminology

- **Advise:** See 'Communicate'.
- **Agree:** See 'Communicate'.
- **Approve:** Record conformance of work to specified criteria by giving formal or official sanction.
- **Communicate:** Includes advise, inform, agree, confirm, notify, seek or obtain information, consent or instructions, or make arrangements.
- **Confirm:** See 'Communicate'.
- **Ease:** Adjust moving parts of designated products, systems or work to achieve free movement and good fit in open and closed positions.
- **Fix:** Receive, unload, handle, store, protect, place and fasten in position; dispose of waste and surplus packaging; to include labour, materials and site equipment for that purpose.
- **Give notice:** Communicate in writing to the person administering the Contract at the address listed therein.
- **Inform:** See 'Communicate'.
- **Keep for recycling:** As 'keep for use' but relates to a naturally occurring material rather than a manufactured product.
- **Keep for reuse:** Do not damage designated products, systems or work. Clean off bedding and jointing materials. Stack neatly, adequately protect and store until required by the Employer or Purchaser, or for use in the Works as instructed.
- **Make good:** Execute local remedial work to designated work. Make secure, sound and neat.
- **Match existing:** Provide products and work of the same appearance and features as the original, excluding ageing and weathering. Make joints between existing and new work as inconspicuous as possible.
- **Notify:** See 'Communicate'.
- **Quote:** Use 'Estimate'.
- **Recycle:** Collect, sort, process and convert discarded or recovered components into raw materials for use in the creation of new products.
- **Refix:** Fix previously removed products.
- **Remove:** Disconnect, dismantle as necessary and take out the designated products or work, together with associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials.
Removal of an item excludes removal and disposing of associated pipework, wiring, ductwork or other services.
Removal of a system includes this work.
- **Remediate:** Action or measures taken to lessen, clean-up, remove or mitigate the existence of hazardous materials existing on a property; in accordance with standards, specifications or requirements as may be required by statutes, rules, regulations or specification.
- **Repair:** Execute remedial work to designated products. Make secure, sound and neat. Excludes redecoration and replacement.

- **Replace:** Supply and fix new products matching those removed. Execute work to match the original new state of that removed.
- **Reuse:** Recover components to be fixed or used in the project or other buildings without the requirement for recycling.
- **Submit:** Deliver an item in a specified format to a specified person within a specified timeframe.
- **Submit proposals:** Submit information in response to specified requirements.
- **Supply and fix:** Supply of products, components or systems to be fixed, together with their fixing.

00-05-20 Project Participants

Management and delivery roles

120 Client

- **Name:** London Legacy Development Corporation
- **Address:** Level 10, 1 Stratford Place, Montfichet Road, London E20 1EJ
- **Contact:** Louise Jeffery
- **Telephone:** 020 3288 1800
- **Email address:** LouiseJeffery@londonlegacy.co.uk

160 Project Manager

- **Name:** Baily Garner LLP
- **Address:** 146-148 Eltham Hill, Eltham, London SE9 5DY
- **Contact:** June Park
- **Telephone:** 020 8294 1000
- **Email address:** June.Park@bailygarner.co.uk

Statutory roles

205 Principal Designer

- **Name:** TBC.
- **Address:** TBC.
- **Contact:** TBC.
- **Telephone:** TBC.
- **Email address:** TBC.

210 Principal Contractor

- **Name:** TBC.
- **Address:** TBC.
- **Contact:** TBC.
- **Telephone:** TBC.
- **Email address:** TBC.

00-05-70 Project Location

110 Project location

- **Details:** Various locations within Queen Elizabeth Olympic Park, London E20 2ST, as noted within the Site Location Plan and the Signage Location Plans (Appendix A).

150 Surrounding land and building uses

- **Surrounding land uses or activities:** Various public leisure facilities.

170 Access

- **Details:** Public access is available for tenderers to undertake required inspections. The Contractor is to submit Traffic Management Plans as part of the tender submission, and subsequently access to working areas and permit to work are to be discussed and agreed with the Client at post tender stage.

00-10-70 Works Contract Content

120 The Works

- **Details:** To supply and replace the road signage and undertake associated ground and making good works.

00-20-70 Works contract

NEC3 Engineering and construction short contract

- **The Conditions of Contract:** The core clauses, conditions and secondary Options indicated, for the NEC3 Engineering and Construction Short Contract (April 2013).
- **Housing Grants Construction and Regeneration Act 1996 (as amended by the Local Democracy, Economic Regeneration and Construction Act 2011):** Applies.
- **Requirement:** Allow for the obligations, liabilities and services described.

Contract data

The Employer

- **The Employer:** London Legacy Development Corporation.

The Works

- **The Works:** Road signage renewal.

The Site

- **The site:** Various locations within Queen Elizabeth Olympic Park.

Starting date

- **Starting date:** To be agreed, anticipated September 2018.

Completion date

- **Completion date:** To be agreed, anticipated 12 weeks from the commencement date.

Period for reply

- **Period for reply:** 2 weeks.

Defects date

- **Defects date:** 12 months from the completion and handover.

Defects correction period

- **Defects Correction Period:** 2 weeks.

Delay damages

- **Delay damages:** £500 per day.

Assessment day

- **Assessment day:** 4 weeks from the commencement date, the recurring dates thereafter, and the Completion Date.

Retention

- **Retention:** 0%.

Adjudicator

- **The Adjudicator:**
 - **Name:** To be agreed.
 - **Address:** To be agreed.
 - **Telephone:** To be agreed.
 - **Email address:** To be agreed.

Interest on late payment

- **Interest due:** On late payment per complete week of delay.
- **Amount:** 2%.

Limitation of liability

- **Limit of Contractor's liability:** For loss of or damage to the Employer's property for any one event.
- **Amount:** £5,000,000.

Insurance

- **Employer provided insurance:** For existing structures, including those not being worked on by the Contractor, in the joint names of the Employer and Contractor.

Insurance cover

- **Cover for the third insurance stated in the Insurance Table:**
 - **Amount (minimum):** £5,000,000.
- **Cover for the fourth insurance stated in the Insurance Table:**
 - **Amount (minimum):** £5,000,000.

Adjudicator nominating body

- **Adjudicator nominating body:** The President or Vice President or other duly authorised officer of the London Court of International Arbitration.

Tribunal

- **The tribunal:** The courts.

Arbitration

- **Arbitration procedure:** Does not apply.

Price list

Price list

- **Pricing the Works:** By Schedules of Work.
- **Basis for valuation of variations:** At the discretion of the Project Manager's reasonable assessment.

Works information

Description of the Works (1)

- **The Works comprise:** To supply and replace road signage including electrical works.

Drawings (2)

- **Drawings applicable to this contract:** Site Location Plan & Signage Location Plans (Appendix A).

Specifications (3)

- **The Specification documents:** Specification of Works.
- **Preconstruction information:** Refer to Pre-Construction Information.

Constraints on how the Contractor provides the Works (4)

- **Construction hazards:** Refer to Pre-Construction Information.
- **Material hazard:** Refer to Pre-Construction Information.
- **Considerate Constructors Scheme:** Not applicable.

Requirements for the programme (5)

- **Programme:** Required.

Services and other things provided by the Employer (6)

- **Employer provided:**
 - **Facilities:** Access to publically available cafes and toilet facilities, and the facilities within the Park HQ, subject to pre-arrangement.
- **Date supplied:** In accordance with the timescales detailed within the Contract Data.

Site information

Site information

- **Information:** Refer to Pre-Construction Information.
- **Publicly available information:** No.

00-30-70 Works Contract Procurement

110 Compliance with Tender rules

- **Compliance:** Failure to comply may result in Tenders being rejected at the sole discretion of the Employer.
- **Costs:** No liability is accepted for costs incurred in the preparation of a Tender.

120 Preliminary Enquiry

- **Details:** Project overview.

130 Tenders to be invited

- **Number of tenders to be invited (maximum):** Unknown.

150 Tender Programme

- **Details:** As per the contract data.
- **Key dates:** As detailed in the ITT document.

160 The Invitation to Tender

- **Form:** Covering letter.
- **Location of Tender documents:** Contracts Finder.

165 Tender acceptance

- **Tender acceptance period:** Tenders must remain open for acceptance, unless previously withdrawn, for a minimum of 13 weeks from the date for return of Tender.
- **Assurance:** Nothing contained in this Document or its application should be inferred to guarantee that a Tender will be recommended for acceptance or be accepted, or that reasons for non-acceptance will be given.

170 The Tender documents

- **The Tender documents:** As described in the Project Definition section.

180 Tender queries

- **Notification requirements:** Give notice in writing to the Issuing Authority or the Architect (with a copy to the Quantity Surveyor) as soon as possible and not less than 5 working days before the date for return of Tenders

190 Tender instructions

- **Qualifications:** Do not amend or alter documents without written instruction.
- **Confidentiality:** Do not reveal details of parts of the Tender or supporting documents (except for the necessary purposes of preparing that Tender) without the Employer's express written permission.

210 Pricing

- **Pricing:** Price and extend each item individually as instructed. Do not group items together.
- **Currency:** Pounds sterling.

220 Site visit

- **Nature of the site:** Ascertain before Tendering, including access thereto and local conditions and restrictions likely to affect the execution of the Work.
- **Arrangements for visit:** As the sites are within public areas, the tenderers are to make their own arrangements to undertake inspections at tender stage.

230 Return of Tender

- **Return of Tender:**
 - **Destination:** In accordance with Contracts Finder requirements.
 - **Time and date:** As stipulated in the ITT.
 - **Format:** Electronic.
 - **Special procedures:** In accordance with Contracts Finder rules and requirements.
- **Documents to be returned with the Tender:** The contractor is to return a fully priced copy of the tender documentation and a compliant Form of Tender, no later than the date identified above.
- **Inability to tender:** Advise immediately if the work as defined in the Tender documents cannot be tendered.
Define those parts, stating reasons for the inability to tender.

310 Assessment

- **Assessment of Tenders:**
 - **Number to be assessed in detail:** 1.
 - **Assessment criteria:** JCT Tendering Practice Note 2016.
 - **Assessment model details:** Alternative 1 (Stand by price or withdraw).
- **Alternative Tenders:**
 - **Submission:** Permitted in conjunction with compliant tender.
 - **Basis:** Time based alternatives.

320 Error resolution

- **Arithmetical errors:** Tender price will prevail. An opportunity will be given to confirm the Tender or withdraw.
- **Technical errors:** The Tender is deemed to meet or exceed the requirements of the Tender documents. Amendment of the Tender to reflect this will not constitute a variation and no claim for additional costs will be accepted.
- **Corrections:** An endorsement will be added to the priced documents indicating that rates or prices (excluding preliminaries, contingencies, Prime cost and Provisional sums) inserted therein will be adjusted in the same proportion as the corrected total differs from that stated incorrectly.

340 Post-Tender negotiations

- **Negotiations:** May be required.
- **Details:** To be notified following the date for tender return.

410 Notification to Tenderers

- **Notification method:** By way of formal letter.

00-40-70 Works Contract Establishment

ACCESS

110 Access to the site

- **Details:** To be discussed and agreed with the Client at pre-tender stage.
- **Limitations:** Subject to traffic management plans and the working areas in accordance with phasing of the works.

120 Use of the site

- **General:** Do not use the site for any purpose other than carrying out the contract work.

145 Traffic and vehicles

- **Limitations:** Provision of traffic circulation is to be provided at all times with minimal restrictions.

150 Storage, accommodation, mechanical plant, temporary works and services

- **Position:** Submit proposed details of intended siting.
- **Maintenance:** Alter, adapt and move as necessary.
Remove when no longer required and make good.

GENERAL INFORMATION

180 Site Waste Management Plan

- **Development:** The person responsible for developing the plan will be the Contractor.
- **Content:** Identity of proposed Principal Contractor.
Location of the site.
Description of the project.
Estimated project cost.
Types and quantities of waste that will be generated.
Resource management options for these wastes including proposals for minimization, reuse and/or recycling.
The use of appropriate and licensed waste management contractors.
Record keeping procedures.
Waste auditing protocols.
- **Submittal date:** With pre-construction stage Health and Safety plan.

190 Environmental policy

- **Employer's Environmental Policy:**
 - **Availability:** To be held on site.
 - **Evidence of compliance:** Evidence of compliance: BS EN ISO 14001.
- **Project Environmental Management System:**
 - **General:** Develop a system compatible with the Employer's policy.
 - **Format:** Develop a system compatible with the Employer's policy.

PROGRAMME

250 Programme

- **Master programme:** When requested and before starting work on site, submit in an approved form a master programme for the Works.
- **Include:**
 - **Stages:** Work stages or elements of the construction as appropriate for the Works.
 - **Information:** Design, production information and proposals provided by the Contractor, subcontractors or suppliers, including inspection and checking.
- **Dates:** Earliest start and finish dates for each activity and identification of critical activities.
- **Planning:** Planning and mobilization by the Contractor.
- **Engineering services:** Running in, adjustment, commissioning and testing of engineering services and installations.
- **Concurrent work:** Work by or on behalf of the Employer and concurrent with the contract. The nature and scope of which, the relationship with preceding and following work and relevant limitations are suitably defined in the Contract Documents.
- **Exclusions:** Work which is not well defined: where and to the extent that the programme implications for this work are impossible to assess, the Contractor should exclude it and confirm this when submitting the programme.
- **Number of copies:** Electronic. XX
- **Submittal date:** At the first pre-commencement meeting.

280 Commencement of work

- **Notice:** Before the proposed date for commencement of work on site give minimum notice of 1 month.

HEALTH AND SAFETY INFORMATION

300 Health and Safety information

- **Content:** Describe the proposed organization and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.
- **Policy document:** A copy of the Contractor's health and safety policy documents, including risk assessment procedures.
 - **Records:** Accident and sickness records for the past five years and of any previous Health and Safety Executive enforcement action.
 - **Training:** Records of training and training policy.
 - **Personnel:** The proposed number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
- **Submittal date:** With pre-construction stage Health and Safety plan.

320 Outline Construction Phase Health and Safety Plan

- **Content:**
 - **Risk assessment:** Method statements on how risk from hazards identified in the pre-construction information and other hazards identified by the Contractor will be addressed. Procedures for carrying out risk assessment and for managing and controlling the risk.
 - **Management system:** Details of the proposed management structure, responsibilities and arrangements for issuing health and safety directions. Include procedures for informing other contractors and employees of health and safety hazards.
 - **Selection:** Proposed procedure for ensuring competency of other contractors, the self-employed and designers.
 - **Communication:** Procedures for communications between the project team, other contractors and site operatives. Include arrangements for cooperation and coordination between contractors.
 - **Emergency:** Procedures including those for fire prevention and escape.
 - **Records:** Arrangements for ensuring that accidents, illness and dangerous occurrences are recorded.
 - **Personnel:** Procedures for ensuring that persons on site have received relevant health and safety information and training. Include arrangements for consulting with and taking the views of people on site, for preparing site rules and drawing them to the attention of those affected and ensuring compliance.
 - **Monitoring:** Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements. Review procedures to obtain feedback.
- **Submittal date:** A minimum of 2 weeks prior to the date of commencement.

330 Health and safety hazards

- **Hazards:** Refer to pre-construction information.
- **Limitations:** The nature and condition of the site and/ or buildings cannot be fully ascertained before they are opened up.
- **Information:** The accuracy and sufficiency of this information provided about existing hazards is not guaranteed by the Employer/Purchaser or their representative. Ascertain if additional information is required to ensure the safety of persons and the Works.
- **Training:** Ensure that all relevant personnel are aware of the hazards listed and have received appropriate training to deal with them.

340 Preconstruction information

- **Availability:** Integral with the project specification, including but not limited to:
 - Description of project.
 - Client's consideration and management requirements.
 - Environmental restrictions and on-site risks.
 - Significant design and construction hazards.
 - The Health and Safety File.

350 Execution hazards

- **Common hazards:** Not listed. Control by good management and site practice.
- **Significant hazards:** Queen Elizabeth Olympic Park is a fully operational site of mixed use (parkland, recreational, residential, commercial etc.) therefore the Contractor is to be aware of the Health and Safety risks posed by such a site and exercise due care and consideration.

360 Product hazards

- **Hazardous substances:** Site personnel levels must not exceed occupational exposure standards and maximum exposure limits stated in the current version of HSE document EH40: Guidance Notes: Environmental Hygiene (EH): Workplace exposure limits. Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended).
- **Common hazards:** Not listed. Control by good management and site practice.

370 Construction phase health and safety plan

- **Delivery to the Client:** A minimum of 2 weeks prior to the date of commencement.
- **Confirmation:** Do not start construction work until written confirmation is received that the Construction Phase Health and Safety Plan includes the procedures and arrangements required by the CDM Regulations.
- **Content:** Develop the plan from and draw on the Outline Construction Phase Health and Safety Plan and the Preconstruction information.

MANAGEMENT AND STAFF

400 Management and staff – Contract minimum requirement

- **Details:** Allow for compliance with contract obligations.
- **Cost significant items:** A minimum of two weeks prior to the date of commencement.

TEMPORARY ACCOMMODATION

430 Temporary accommodation – Contract minimum requirement

- **Details:** Allow for compliance with the Contract obligations.

460 Temporary accommodation made available

- **Accommodation made available by the Employer:** The following may be used for the duration of the Contract without charge provided that:
It is used solely for the purposes of carrying out the Works.
The use to which it is put does not involve undue risk of damage.
Temporary adaptations are approved by or on behalf of the Employer before being carried out.
It is vacated on completion of the Works or determination of the Contract.
When vacated, its condition is at least equivalent to its condition at the start of the Contract.
- **Details:** Welfare facilities within the Park HQ.
- **Provider:** Employer.

- **Available services and facilities:** The Contractor will have access to suitable rest areas, providing appropriate welfare provisions. The Contractor is to ensure no dirt is tracked into internal areas and all facilities are to be maintained in a clean and tidy condition. Any non-compliance will result in the removal of Employer provided facilities and provision of new facilities at the Contractor's expense.

480 Parking

- **Requirement:** Provide and maintain exclusively for use by Employer/ Purchaser and their representatives and consultants.
- **Details:** The Contractor will be permitted reasonable use of the secured site at the Park HQ. Access to the site is to be arranged with the Employer in advance of the works.

TEMPORARY SERVICES

500 Temporary Services – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.
- **Restrictions:** No petrol generators to be used on site.

510 Water

- **Supply:** The Employer's mains may be used for the Works as follows:
- **Metering:** Free of charge (subject to reasonable use).
- **Source:** Contractor to determine on site and submit proposal.
- **Point of supply:** Contractor to determine on site and submit proposal.
- **Conditions and restrictions:** Reasonable use only for the Works.
- **Continuity:** No liability will be accepted for the consequences of failure or restriction in supply.

550 Telephones

- **Temporary on site telephone:** Provide as soon as practicable after the start on site for joint use by the Contractor, Subcontractors and those acting on behalf of the Employer.
- **Responses:** Make arrangements (e.g. call diverts) to ensure that incoming calls are answered promptly.
- **Employer's call charges:** Allow for the cost of a modest number of calls made by those acting on behalf of the Employer.

580 E-mail and internet facility

- **General:** As soon as practicable after the start on site provide a suitable e-mail facility on site, with a separate dedicated connection, for the use of the Contractor, Subcontractors and those acting on behalf of the Employer.
- **Use on behalf of Employer:** Allow for the cost of a reasonable number of transmissions made by those acting on behalf of the Employer.

TEMPORARY SECURITY

600 Security – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.
The Contractor is to take all necessary steps and provide adequate measures to ensure safeguarding of the working areas, particularly from the road users, reflecting that the works are to be undertaken to public roads.

TEMPORARY SAFETY AND CONTROL

630 Safety and environmental protection – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

650 Temporary protection to existing trees and vegetation

- **Trees and vegetation:**
 - **Requirement:** Provide protection before starting work.
 - **Protective barriers and physical protection:** Relevant measures to BS 5837.
- **Areas of structural landscaping to be protected from construction operations:**
 - **Requirement:** Protect from effects of construction operations.
- **Integrity of protection:** Maintain for the duration of the Works.
- **Completion:** Remove on completion of the Works and make good disturbed areas.

670 Control and protection – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

710 Beneficial use of installed systems

- **Permanent systems:** Do not use for any purpose other than running in, testing and commissioning.
- **Other uses:** If permission is given for any other use of a system before the Works are accepted as complete, enter into a separate written agreement recording details of the terms and conditions of use.

730 Mechanical plant – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

TEMPORARY WORKS

760 Temporary works – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

780 Roads

- **Use of permanent hard surface provision:** The Contractor may use hardstanding areas confirmed by the Client, however is to ensure all damage is made good and the area returned to its original condition following completion of the works.
- **Restrictions on use:** No not apply point loads of abrasive materials.

- **Protective or remedial measures:** Hard surfacing as required to form protection.

790 Name boards and advertisements

- **Name boards and advertisements:** Not permitted.

820 Thermometers

- **General:** Provide on-site and maintain in accurate condition a maximum and minimum thermometer. Measure atmospheric shade temperature in an approved location.

830 Surveying equipment

- **General:** Provide on-site and maintain in accurate condition the following:
- **Equipment:** As necessary to set out the car park area and demarcation.

840 Personal protective equipment

- **General:** Provide for the sole use of those acting on behalf of the Employer, in sizes to be specified, the following:
- **Safety helmets:** Provide.
 - **Standard:** To BS EN 397, neither damaged nor time expired.
 - **Number required:** 3.
- **High visibility waistcoats:** Provide.
 - **Standard:** To BS EN ISO 20471, Class 2.
 - **Number required:** 3.
- **Eye protection:** Provide.
 - **Standard:** To BS EN 166.
- **Ear protection:** Provide.
 - **Standard:** Muffs to BS EN 352-1, plugs to BS EN 352-2.
- **Hand protection:** Provide.
 - **Standard:** To BS EN 388, 407, 420 or 511 as appropriate.

00-50-70 Works Contract Management

GENERALLY

130 Supervision

- **Requirement:** The whole of the contract work and any significant parts must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality, progress and coordination.
- **Evidence:** Submit, including details of the person proposed; their relevant skills, training and knowledge; practical experience; qualifications; membership or registration with professional bodies; employment history; work related assessments and management structure.
- **Replacement of supervisory personnel:** Give maximum possible notice before changing supervisory personnel.

PROGRESS

150 Monitoring

- **Progress:**
 - **Records:** Record on a copy of the programme kept on site.
 - **Delays:** Minimize. Take appropriate action to recover lost time.
 - **Corrective action:** Where progress falls below target, Submit proposals.
 - **Submittal date:** As soon as possible.
 - **Completion forecast:** Submit on the last working day of each week.

160 Progress meetings

- **General:** Meetings will be held to review progress and other matters arising from administration of the Contract.
- **Frequency:** Every 2 weeks.
- **Venue:** On site.
- **Accommodation:** Ensure availability at the time of such meetings.
- **Attendees:** Employer, Premises Management, Contractor and Project Manager.
- **Chairperson:** Project Manager.
 - **Duties:** The Chairperson will send invitations, receive apologies, distribute agendas, take and distribute minutes.

190 Photographs

- **Frequency of intervals:** Daily to record work progress.
- **Image format:** JPEG.

OPERATION

200 Employer's representatives inspections

- **Access:** Provide at reasonable times.
- **Inspections:** Agree dates and times several days in advance, to enable affected parties to be present.
- **Safety:** Submit details in advance of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require compliance of the Employer and Employer's representatives when visiting the site.
- **Provide:** Protective clothing and/ or equipment site for the Employer, the Employer's representatives and other visitors to the site.

210 Removal or replacement of existing work

- **Extent and location:** Agree before commencement.
- **Execution:** Carry out in ways that minimize the extent of work.

220 Ownership of materials

- **Alteration or clearance work:** Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

230 Measurement

- **Covered work:** Give notice before covering work required to be measured.

240 Service runs

- **General:** Provide adequate space and support for services, including unobstructed routes and fixings.
- **Ducts, chases and holes:** Form during construction rather than cut in situ.
- **Coordination with other works:** Submit details of locations, types and methods of fixing of services to fabric and identification of runs and fittings.

260 Security

- **Protection:** Safeguard the site, the Works, products, materials, and existing buildings affected by the Works from damage and theft.
- **Access:** Take reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.

280 Stability

- **Responsibility:** Maintain the stability and structural integrity of the Works and adjacent structures during the Contract.
- **Design loads:** Obtain details, support as necessary and prevent overloading.

290 Occupied site

- **Extent:** Existing site will be used during the Contract.
- **Details:** The site will be active at all times throughout the contract period, and the Contractor is to be vigilant at all times to ensure suitable segregation is provided between works areas and the road users.

- **Works:** Carry out without undue inconvenience and nuisance and without danger to members of the public and road users.
- **Overtime:** No claims for overtime will be accepted, contractor to include for all overtime for out of hours working within their tender submission.

310 Occupier's rules and regulations

- **Occupier's rules and regulations:** Comply.

320 Mobile telephones and portable electronic equipment

- **Restricted area:** The use of mobile telephones and electronic equipment is restricted to within the contractor's accommodation/welfare areas provided by the client.
- **Restriction:** The use of mobile phones is permitted within the contractor's compound only.

330 Working precautions and restrictions

- **Hazardous areas:**
 - **Description:** As per Pre-Construction information.
 - **Precautions:** Proportionate to risk.
- **Permit to work:**
 - **Area:** All working areas subject to post tender agreement with the client.
 - **Procedures:** The Contractor is to submit proposals for traffic management plans and liaise with the client to arrange road closures, permit to work, etc.

340 Livery

- **Requirements:**
 - **Operatives:** Liveried hi-visibility clothing and badge identification.
 - **Vehicles:** Required.

PROTECTION FROM

390 Noise and vibration

- **Noise control:** In accordance with BS: Code of practice for noise and vibration control on construction and open sites. Noise,
- **Noise levels from the Works:** Noisy work is defined as work activities which exceed 80db.
- **Measurement area:** At and around the working areas.
- **Equipment:** Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
- **Restrictions:** Obtain consent before using percussion tools and other noisy appliances. Do not use radios or other audio equipment or permit employees to use in ways or at times that may cause nuisance.

400 Pollution

- **Prevention:** Protect the site, the Works and the general environment including the atmosphere, land, and water courses against pollution.
- **Contamination:** If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.

420 Pesticides

- **Use:** Not permitted.

430 Nuisance

- **Duty:** Prevent nuisance from smoke, dust, rubbish, vermin and other causes.
- **Surface water:** Prevent hazardous build-up on site, in excavations and to surrounding areas and roads.

440 Asbestos containing materials

- **Requirement:** Report immediately suspected materials discovered during execution of the Works. Do not disturb and agree methods for safe removal or encapsulation.

450 Fire prevention

- **Requirement:** Prevent personal injury or death, and damage to the Works or other property from fire.
- **Standard:** Comply with 'Fire prevention on construction sites' - the joint code of practice on the protection from fire of construction sites and buildings undergoing renovation.

460 Smoking on site

- **Smoking on site:** Not permitted.

470 Burning on site

- **Burning on site:** Not permitted.

480 Moisture

- **Wetness or dampness:** Prevent, where this may cause damage to the Works.
- **Drying out:** Control humidity and the application of heat to prevent:
Blistering and failure of adhesion.
Damage due to trapped moisture.
Excessive movement.

500 Infected timber and contaminated materials

- **Removal:** Where instructed to remove material affected by fungal and/or insect attack from the building, minimize the risk of infecting other parts of the building.
- **Testing:** Carry out and keep records of appropriate tests to demonstrate that hazards presented by concentrations of airborne particles, toxins and other micro-organisms are within acceptable levels.

510 Waste

- **Includes:** Rubbish, debris, spoil, containers and surplus material.
- **Requirement:** Keep the site and Works clean and tidy. Remove rubbish, dirt and residues before closing voids and cavities in the construction.
- **Waste:** Remove frequently and dispose off-site in a safe and competent manner as approved and directed by the Waste Regulation Authority.
- **Recyclable material:** Sort and dispose at a Materials Recycling Facility approved by the Waste Regulation Authority.
- **Documentation:** Retain waste transfer documentation on site.

520 Electromagnetic interference

- **Duty:** Prevent excessive electromagnetic disturbance to apparatus outside the site.

530 Laser equipment

- **Construction laser equipment:** Install, use and store in accordance with BS EN 60825-1 and the manufacturer's instructions.
- **Class 1 or Class 2 laser equipment:** Ensure laser beam is not set at eye level and is terminated at the end of its useful path.
- **Class 3A and Class 3B laser equipment:** Do not use without approval and subject to submission of a method statement on its safe use.

540 Powder actuated fixing systems

- **Use:** Not permitted.

550 Invasive species

- **General:** Prevent the introduction or spread of species (e.g. plants or animals) that may adversely affect the site and the Works economically, environmentally or ecologically.
- **Requirement:** Report immediately suspected invasive species discovered during execution of the Works. Do not disturb and agree methods for safe eradication or encapsulation.

PROTECTION OF

580 Existing services

- **Confirmation:** Notify service authorities, statutory undertakers and/ or adjacent owners of proposed work not less than one week before commencing site operations.
- **Identification:** Before starting work, check and mark positions of mains and services. Where positions are not shown on drawings obtain relevant details from service authorities, statutory undertakers or other owners.
- **Work adjacent to services:** Comply with service authority's or statutory undertaker's recommendations.
Adequately protect, and prevent damage to services.
Do not interfere with their operation without consent of service authorities, statutory undertakers or other owners.
- **Identifying services:**

- **Below ground:** Use signboards, giving type and depth.
- **Overhead:** Use headroom markers.
- **Damage to services:**
 - **Action:** Immediately give notice and notify appropriate service authority or statutory undertaker.
 - **Repair:** Make arrangements for making good without delay to the satisfaction of service authority, statutory undertaker or other owner as appropriate.
- **Liability:** Measures taken to deal with an emergency will not affect the extent of the Contractor's liability.
- **Marker tapes or protective covers:** Replace, if disturbed during site operations, to service authority's or statutory undertakers recommendations.

590 Roads and footpaths

- **Duty:** Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.
- **Damage:** Make good if caused by site traffic, or otherwise consequent upon the Works, to the satisfaction of the Employer, Local Authority or other owner.

600 Existing topsoil and subsoil

- **Duty:** Prevent over compaction of existing topsoil and subsoil in those areas which may be damaged by construction traffic, parking of vehicles, temporary site accommodation or storage of materials and which will require reinstatement prior to completion of the Works.
- **Protection:** Submit proposals.
- **Submittal date:** Before starting work.

610 Retained trees, shrubs and grassed areas

- **Protection:** Preserve and prevent damage.
- **Replacement:** Mature trees and shrubs if uprooted, destroyed, or damaged beyond reasonable chance of survival in their original shape, as a consequence of the Contractor's negligence, must be replaced with those of a similar type and age at the Contractor's expense.

620 Retained trees

- **Protected area:** Unless agreed otherwise, do not dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk.
- **Roots:** Do not sever if exceeding 25mm in diameter. If unintentionally severed give notice and seek advice.
- **Ground levels:** Do not change within an area 3m beyond branch spread.

630 Existing features

- **Protection:** Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.

640 Existing work

- **Protection:** Prevent damage to existing work, structures or other property during the execution of the Works.
- **Removal:** Minimum amount necessary.
- **Replacement work:** To match existing.

650 Building interiors

- **Protection:** Prevent damage from exposure to the environment, including weather, flora, fauna, and other causes of material degradation during the execution of the Works.

660 Existing furniture, fittings and equipment

- **Protection:** Prevent damage or move as necessary to enable the Works to be executed. Reinstall in original positions.

680 Especially valuable or vulnerable items

- **Protection:** Ensure provision and maintenance of special protective measures to prevent damage.
- **Method statement:** Submit within one week of request describing special protection to be provided.

METHOD AND SEQUENCE

740 Adjoining property restrictions

- **Precautions:** Prevent trespass of workpeople and take precautions to prevent damage to adjoining property. Pay charges. Remove temporary protection and make good on completion or when directed.
- **Damage:** Bear cost of repairing damage arising from execution of the Works.

750 Existing structures

- **Duty:** Check proposed methods of work for effects on adjacent structures inside and outside the site boundary.
- **Supports:**
 - **Standards:** In accordance with BS 5975 and BS EN 12812.
 - **Requirements:** Provide and maintain incidental shoring, strutting, needling and other supports as may be necessary to preserve stability of existing structures on the site or adjoining, which may be endangered or affected by the Works. Do not remove until new work is strong enough to support existing structure. Prevent overstressing of completed work when removing supports.
- **Adjacent structures:** Monitor and immediately report excessive movement.

780 Use or disposal of materials

- **Specific limitations:** The contractor is to ensure all surplus materials are removed from site in a timely manner, and the clearance of all skips and the like are phased in accordance with the works item being carried out and spoil associated with such tasks.

790 Working hours

- **Specific limitations:** The Works are not to start before 8.00am, and to be undertaken between the hours of the local authority's restrictions.

00-60-70 Works Contract Verification

STANDARDS OF PRODUCTS AND EXECUTIONS

110 Substitute products

- **Details:** If products of different manufacture to those specified are proposed, submit details with the tender giving reasons for each proposed substitution. Substitutions which have not been notified at tender stage may not be considered.
- **Compliance:** Substitutions accepted will be subject to verification requirements detailed in the specification.

120 Substitution of products

- **Products:** If an alternative product to that specified is proposed, obtain approval before ordering the product.
- **Reasons:** Submit reasons and relevant information for the proposed substitution.
- **Information to be submitted:** Manufacturer and product reference.
Cost.
Availability.
Relevant standards.
Performance.
Function.
Compatibility of accessories.
Proposed revisions to drawings and specification.
Compatibility with adjacent work.
Appearance.
Copy of warranty or guarantee.
- **Alterations to adjacent work:** If needed, advise scope, nature and cost.
- **Manufacturers' guarantees:** If substitution is accepted, submit before ordering products.

130 Equivalent products

- **Inadvertent omission:** Wherever products are specified by proprietary name the phrase 'or equivalent' is to be deemed included.

140 Substitution of standards

- **Specification:** To British Standard or European Standard.
- **Substitution:** May be proposed complying with a grade or category within a national standard of another Member State of the European Community or an international standard recognized in the UK.
- **Ordering:** Submit notification of all such substitutions before ordering.
- **Documentary evidence:** Submit for verification when requested. Submitted foreign language documents must be accompanied by certified translations into English.

DOCUMENTS AND INFORMATION

150 Currency of documents

- **Currency:** References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.

160 Incomplete documentation

- **Products and executions:** Where and to the extent that products or executions are not fully documented, they are to be as follows.
- **Requirements:**
 - **Standard:** Of a kind and quality appropriate to the nature and character of that part of the Works where they will be used.
 - **Suitability:** Suitable for the purposes stated or reasonably to be inferred from the project documents.
- **Contract documents:** Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from obligations or liabilities under the Contract.

210 Record drawings and information

- **Record drawings:**
 - **Drawings scope:** Contractor to mark up 'Construction Stage' drawings with as built changes (if any) for the Architect to finalise as record drawings.
 - **Drawings format:** DWG.
- **Record specification:**
 - **Specification format:** NBS.
 - **Submittal date:** One week prior to completion and handover.

220 Technical information

- **Retain:** Available on site for reference by supervisory personnel.
- **Information:** Manufacturer's current information and relevant British Standards, relating to products to be used in the Works.

230 Compliance

- **Compliance:** Retain on site evidence that the proprietary product specified has been supplied.
- **Submit:** Evidence of compliance with performance specifications, including test reports indicating properties tested, pass or fail criteria, test methods and procedures, test results, identity of testing agency, test dates and times, identities of witnesses and analysis of results.

PRODUCTS AND EXECUTION

240 Workmanship skills

- **Operatives:** Appropriately skilled and experienced for the type and quality of work.
- **Registration:** With Construction Skills Certification Scheme.
- **Evidence:** Operatives must produce evidence of skills and qualifications when requested.

250 Quality of products

- **Generally:** New.
- **Supply:** Each product from the same source or manufacturer.
- **Quantity:** Whole quantity of each product required to complete the Works of a consistent kind, size, quality and overall appearance.
- **Tolerances:** Where critical, measure a sufficient quantity to determine compliance.
- **Deterioration:** Prevent, order in suitable quantities to a programme and use in appropriate sequence.
- **Recycling:** Proposals for recycled products may be considered.

260 Quality of execution

- **Generally:** Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- **Colour batching:** Do not use different colour batches where they can be seen together.
- **Dimensions:** Check on-site.
- **Finished work:** Not defective, damaged, disfigured, dirty, faulty, or out of tolerance.
- **Appearance:** Adjust joints open to view so they are even and regular.

270 Inspections

- **Standard:** Inspection, or other action, of products or executions must not be taken as approval unless confirmed in writing including the following:
Date of inspection.
Part of the work inspected.
Respects or characteristics which are approved.
Extent and purpose of the approval.
Associated conditions.

280 Related work

- **Details:** Provide trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is approximately complete, in accordance with the project documents, to a suitable standard and in a suitable condition to receive new work.
- **Preparatory work:** Ensure necessary preparatory work has been carried out.

290 Manufacturer's recommendations and instructions

- **General:** Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to Tender.
- **Submit:** Details of changes to recommendations or instructions.
- **Execution:** Use ancillary products and accessories supplied or recommended by main product manufacturer.
- **Products:** Comply with limitations, recommendations and requirements of relevant valid certificates.

300 Water for the Works

- **Mains supply:** Clean and uncontaminated.
- **Suitability:** Do not use until evidence is provided.

SAMPLES AND APPROVALS

340 Approval of products

- **Programme:** Undertake or arrange submissions, samples, inspections and tests to suit the Works programme.
- **Approval:** Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.
- **Retain:** Complying sample in good, clean condition on site. Remove when no longer required.

350 Approval of execution

- **Programme:** Undertake or arrange submissions, samples, inspections and tests to suit the Works programme.
- **Approval:** Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.
- **Retain:** Complying sample in good, clean condition on site. Remove when no longer required.

ACCURACY AND SETTING OUT GENERALLY

370 Accuracy of instruments

- **Measurement:** Use instruments and methods described in BS 5606, Appendix A.
- **Accuracy:** Maintain

380 Setting out

- **General:** Submit details of methods and equipment to be used in setting out the Works.
- **Levels and dimensions:** Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding.
- **Completion of setting out:** Give notice before commencing construction.

400 Critical dimensions

- **Critical dimensions:** Set out and construct the Works in accordance with the critical dimensions and tolerances stated.

410 Setting out records

- **Record drawings:** Include details of grid lines, setting-out stations, benchmarks and profiles. Retain on site throughout the Contract and hand over on completion.

SERVICES GENERALLY

430 Services regulations

- **Services:** New and existing services must comply with the Byelaws or Regulations of the relevant Statutory Authority.

440 Water regulations and byelaws notification

- **Requirements:** Notify Water Undertaker of work carried out to or which affects new or existing services. Submit required plans, diagrams and details.
- **Consent:** Allow adequate time to receive Undertaker's consent before starting work. Inform immediately if consent is withheld or is granted subject to significant conditions.

460 Electrical installation certificate

- **Certification:** The original certificate is to be lodged in the Building Manual at the completion of relevant electrical work.

480 Mechanical and electrical services

- **Final tests and commissioning:** Carry out so that services are in full working order at completion of the Works.
- **Confirmation:** Provide a Building Regulations notice, signed by a suitably qualified person, to Building Control that systems have been commissioned in accordance with approved procedures.
- **Records:** A copy to be lodged in the Building Manual.

QUALITY CONTROL

540 Proposals for rectification of non-compliant products and executions

- **Non-compliant items:** Submit proposals for opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution.
 - **Opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution:** Submit proposals.
 - **Submittal date:** As soon as possible after discovery of items which are or appear to be non-compliant.
- **Acceptability:** Such proposals may be unacceptable and contrary instructions may be issued.

550 Measures to establish acceptability

- **General:** Wherever inspection or testing shows that the work, materials or goods are not in accordance with the Contract and measures (e.g. testing, opening up, experimental making good) are taken to help in establishing whether or not the work is acceptable, such measures will be at the expense of the Contractor and will not be considered as grounds for revision of the completion date.

DAYWORK

600 Daywork

- **Labour, plant and materials definitions:** As described in 'Definition of Prime Cost of Daywork carried out under a Building Contract' published by the RICS and the Construction Confederation.

630 Daywork vouchers

- **Notice:** Give reasonable notice to person countersigning daywork vouchers before starting work to be recorded.
- **Information requirements:**
 - **Details:** Include a full description of the work undertaken time spent on individual tasks.
 - **Reference:** To the instruction under which the work is authorized.
 - **Signature:** Sign by Contractor's person in charge as evidence that the operatives' names, the time spent by each, the plant and materials shown are correct.
 - **Submittal date:** No later than the end of week in which the work has been completed.

00-70-70 Works Contract Administration

USE OF DOCUMENTS

100 Freedom of information

- **Records:** Retain, make available for inspection and supply on request information reasonably required to allow response to requests made under the provisions of the Freedom of Information Act.
- **Received requests:** Obtain instruction before proceeding.
Do not supply information to those who are not project participants without express written permission.
- **Confidentiality:** Maintain at all times.

110 Drawings

- **Definitions:** Building Applications Guide:
Design framework for building services.
A design framework for building services 4th edition.
Design activities and drawing definitions.
- **CAD data:** In accordance with BS 1192.

120 Cross references

- **Accuracy:** Check remainder of the annotation or item description against the terminology used in the cited section or clause.
- **Related terminology:** Where a numerical cross-reference is not given the relevant sections and clauses of the Specification will apply.
- **Relevant clauses:** Clauses in the cited specification section dealing with general matters, ancillary products and execution also apply.
- **Discrepancy or ambiguity:** Before proceeding, obtain clarification or instructions.

130 Referenced documents - conflicts

- **Precedence:** Specification prevails over referenced documents.

140 Dimensions

- **Dimensions:** Do not scale.

150 Rules of measurement

- **Method of measurement:** RICS New Rules of Measurement: Detailed measurement for building works. NRM 2 1st Edition.

160 Measured quantities

- **Measured quantities:** When ordering products and constructing the Works, the accuracy and sufficiency of the measured quantities is not guaranteed.
- **Precedence:** The Specification and drawings shall override the measured quantities.

DOCUMENTS PROVIDED BY CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS

290 Standard Price Book

- **Basis for valuation:** A standard price book will be used.
- **The book:** SPONS Architects and Builders Price Book.
- **Date of publication:** 2018.
- **Include:**
 - **Price adjustment:** As defined.

350 Programme

- **Programme of work:** Prepare a summary showing the sequence and timing of the principal parts of the Works and periods for planning and design. Itemize any work which is excluded.
- **Submittal date:** As defined prior to commencement, during the contract period should any programme alterations arise, prior to each progress meeting and on request of the Project Manager.

380 Method statements

- **Method statements:** Prepare describing how and when the following procedures are to be carried out. Site specific RAMS must be submitted, generic RAMS are not acceptable.
- **Procedures:** As required by CDM Regulation 2016 and to the satisfaction of the Principal Designer.
- **Submittal date:** Within 1 week of request.

400 Alternative method proposals

- **General:** In addition to and at the same time as tendering for the Works as defined in the tender documents, alternative methods of construction and installation may be submitted for consideration. Alternatives, which would involve significant changes to other work, may not be considered.
- **Alternative method proposals:** Include a complete and precise statement of the effects on cost and programme.
- **Safety method statement:** Carry out a health and safety risk assessment for each alternative and where appropriate provide a safety method statement suitable for incorporation in the Health and Safety Plan.
- **Full technical data:** Submit for each alternative together with details of any consequential amendments to the design and/ or construction of other parts of the Works.
- **Submittal date:** With tender.

450 Health and safety information

- **Content:** Describe the proposed organization and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.

- **Include:**
 - **Policy document:** A copy of the Contractor's health and safety policy documents, including risk assessment procedures.
 - **Records:** Accident and sickness records for the past five years and of any previous Health and Safety Executive enforcement action.
 - **Training:** Records of training and training policy.
 - **Personnel:** The proposed number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
- **Submittal date:** Within 1 week of request.

470 Outline construction phase health and safety plan

- **Content:**
 - **Risk assessment:** Method statements on how risk from hazards identified in the pre-construction information and other hazards identified by the Contractor will be addressed. Procedures for carrying out risk assessment and for managing and controlling the risk. Site specific RAMS must be submitted, generic RAMS are not acceptable.
 - **Management system:** Details of the proposed management structure, responsibilities and arrangements for issuing health and safety directions. Include procedures for informing other contractors and employees of health and safety hazards.
 - **Selection:** Proposed procedure for ensuring competency of other contractors, the self-employed and designers.
 - **Communication:** Procedures for communications between the project team, other contractors and site operatives. Include arrangements for cooperation and coordination between contractors.
 - **Emergency:** Procedures including those for fire prevention and escape.
 - **Records:** Arrangements for ensuring that accidents, illness and dangerous occurrences are recorded.
 - **Personnel:** Procedures for ensuring that persons on site have received relevant health and safety information and training. Include arrangements for consulting with and taking the views of people on site, for preparing site rules and drawing them to the attention of those affected and ensuring compliance.
 - **Monitoring:** Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements. Review procedures to obtain feedback.
- **Submittal date:** Within 1 week of request.

INFORMATION

730 Notification of compensation event

- **Content:** Notwithstanding the Contractor's obligations under the Contract written notice must also be given of other causes which apply concurrently.

740 Quotations for proposed instructions or compensation events

- **Include:**
 - **Cost breakdown:** A detailed breakdown of cost, including allowance for direct loss and expense.
 - **Resources:** Details of additional resources required.
 - **Programme:** Details of adjustments to be made to the programme for the Works.
 - **Other:** Other information as is reasonably necessary to fully assess the implications of issuing such an instruction.
- **Inability to comply:** Inform immediately if it is not possible to comply with any of the above requirements.

820 Insurance claims

- **Notice:** If an event occurs which may give rise to a claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the Employer, the person administering the contract on behalf of the Employer and the Insurers.
- **Failure to notify:** Indemnify the Employer against loss, which may be caused by failure to give such notice.

870 Overtime working schedule

- **Requirement:** Prior to overtime being worked, submit notice of times, types and locations of work to be done.
- **Notice period (minimum):** 1 week prior to overtime being worked.
- **Concealed work:** If executed during overtime for which notice has not been submitted, it may be required to be opened up for inspection and reinstatement at the Contractor's expense.

880 Defects in existing work report

- **Undocumented defects:** When discovered, immediately give notice. Do not proceed with affected related work until response has been received.
- **Documented remedial work:** Do not execute work which may hinder access to defective products or executions, or be rendered abortive by the remedial work.

890 Tests and inspection schedule

- **Timing:** Agree and record dates and times of tests and inspections to enable affected parties to be represented.
- **Confirmation:** Provide one working day prior to each test or inspection. If sample or test is not ready, agree a new date and time.
- **Records:** Submit a copy of test certificates and retain copies on site.

900 Commissioning programme

- **Submittal date:** 1 week (minimum) before commissioning commences.
- **Format:** Electronic.
- **Commissioning manager:** The Principal Contractor.

920 Maintenance instructions and guarantees

- **Components and equipment:** Obtain or retain copies, register with manufacturer and hand over on or before completion of the Works.
- **Information location:** In Building Manual.
- **Emergency call out services:**
 - **Telephone numbers:** Provide for use after completion.

00-80-70 Works Contract Completion

NOTIFICATION

100 Notice of completion

- **Requirement:** Give notice of the anticipated dates of completion of the whole or parts of the Works.
- **Associated work:** Ensure necessary access, services and facilities are complete.
- **Period of notice (minimum):** 2 weeks.

COMPLETION WORK

170 Work before completion

- **General:** Make good damage consequent upon the Works. Remove temporary markings, coverings and protective wrappings unless otherwise instructed.
- **Cleaning:** Clean the Works thoroughly inside and out, including accessible ducts and voids. Remove splashes, deposits, efflorescence, rubbish and surplus materials.
- **Cleaning materials and methods:** As recommended by manufacturers of products being cleaned, and must not damage or disfigure other materials or construction.
- **COSHH dated data sheets:** Obtain for materials used for cleaning and ensure they are used only as recommended by their manufacturers.
- **Minor faults:** Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.
- **Moving parts of new work:** Adjust, ease and lubricate as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.

180 Security at completion

- **General:** Leave the Works secure with, where appropriate, accesses closed and locked.
- **Keys:** Account for and adequately label keys. Hand over to the duly authorized person with an itemized schedule. Retain a duplicate schedule signed by that person as a receipt.

190 Rectification and defects

- **Notice:** Give reasonable notice for access to the various parts of the Works.
- **Access arrangements:**
- **Completion:** Give notice when remedial works have been completed.

INFORMATION

240 The Building Manual

- **Responsibility for production:** The Contractor.
- **General:** Obtain and provide comprehensive information for owners and users of the completed Works. Include an overview of the main design principles and describe key components and systems within the finished Works to enable proper understanding, efficient and safe operation and maintenance.
- **Format:** Electronic and 2 hard copies.
- **Delivery to:** The Principal Designer.
- **Latest date for submission:** 2 weeks before the date for completion stated in the contract.

310 Content of the Building Manual

- **General:** Details of the property, the parties, fire safety strategy, operational requirements and constraints of a general nature.
- **Building fabric:** Design criteria, maintenance details, product details, and environmental and trafficking conditions.
- **Building services:** Description and operation of systems, diagrammatic drawings, record drawings, identification of services, product details, equipment settings, maintenance schedules, consumable items, spares and emergency procedures.
- **Documentation:** Guarantees, warranties, maintenance agreements, test certificates and reports.

320 Presentation of Building Manual

- **Format:** A4 size, plastics covered, loose leaf, four ring binders with hard covers, each indexed, divided and appropriately cover titled
- **Selected drawings:** Where these are needed to illustrate or locate items mentioned in the Manual: if larger than A4, to be folded and accommodated in the binders so that they may be unfolded without being detached from the rings.
- **As-built/ record drawings:** The main sets may form annexes to the Manual.

340 Information for commissioning of services

- **General:** Submit relevant drawings and preliminary performance data to enable the building user's staff to familiarise themselves with the installation.
- **Submittal date:** At commencement of commissioning.

350 Training

- **Objective:** Before completion, explain and demonstrate to designated maintenance staff the purpose, function and operation of the installations including items and procedures listed in the Building Manual.
- **Level of training:** As required for full and expert operation of system.
- **Time Allowance (minimum):** 2 days.

400 Schedule for spare parts

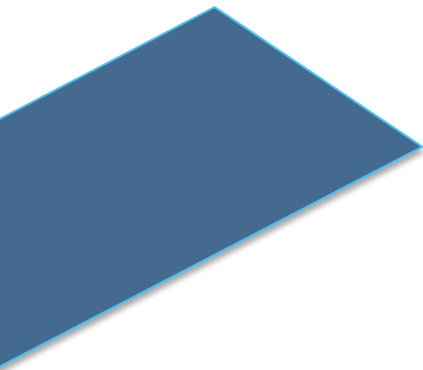
- **General:** Before Completion, submit a priced schedule of spare parts that the Contractor recommends should be obtained and kept in stock for maintenance of the services installations.
- **Content:** Include in the priced schedule for:
Manufacturers' current prices, including packaging and delivery to site.
Checking receipts, marking and numbering in accordance with the schedule of spare parts.
Referencing to the plant and equipment list in Part 3 of the Building Manual.
Painting, greasing, etc. and packing to prevent deterioration during storage.
- **Latest date for submission:** With Operation and Maintenance manual.

410 Tools and consumables

- **General:** Provide tools and portable indicating instruments for the operation and maintenance of all services plant and equipment (except any installed under Named Subcontracts) together with suitable means of identifying, storing and securing.
- **Quantity:** Two complete sets.
- **Consumables:** Supply a complete list of all consumables necessary for the operation.
- **Submittal date:** At completion.

SECTION MATERIALS AND WORKMANSHIP

2



10-35-35/125 Earthworks excavating system

System outline

10-35-35/125 Earthworks excavating system

- **Execution:** 10-35-35/626 Excavations next to existing foundations;
10-35-35/616 Removal of excavated hardstanding;
10-35-35/622 Removal of excavated subsoil; and
10-35-35/632 Formations to receive concrete.

Execution

10-35-35/616 Removal of excavated hardstanding

- **Required actions:** Remove surplus hardstanding from site.

10-35-35/622 Removal of excavated subsoil

- **Required actions:** Remove surplus subsoil from site.

10-35-35/626 Excavations next to existing foundations

- **Required actions before excavation:** Excavate and inspect trial pits next to existing foundations to determine extent and formation levels.
- **Amendments to new foundation next to existing foundations:** As per the manufacturer's requirements and recommendations.
- **Timing for submission of proposals:** Submit within 2 working days of discovery.

10-35-35/632 Formations to receive concrete

- **Condition prior to filling:** Free from loose soil, topsoil, organic material, rubbish and standing water.

Ω End of system

15-05-50/120 In situ unreinforced concrete foundation system for cast in products

System outline

15-05-50/120 In situ unreinforced concrete foundation system for cast in products

- **System performance:** As per the manufacturer's requirements and recommendations.
- **Blinding:** As per the manufacturer's requirements and recommendations.
- **Concrete:** As per the manufacturer's requirements and recommendations.
- **Cast in accessories:** As per the manufacturer's requirements and recommendations.
- **Execution:** 15-05-50/620 Preparation of surfaces to receive concrete;
15-05-50/630 Installing substructure formwork;
15-05-50/655 Adverse temperature conditions;
15-05-50/660 Casting concrete against faces of excavations; and
15-05-50/705 Site-mixed concrete.
- **System completion:**
15-05-15/810 Post completion structural testing of concrete structures; and
15-05-15/820 Surface cracking of concrete structures

Execution

15-05-50/620 Preparation of surfaces to receive concrete

- **Preparation of services to receive concrete generally:**
 - **Cleaning of formwork:** Ensure that formwork or other surfaces are clean of debris, tying wire clippings, fastenings and free water.
 - **Timing of cleaning of formwork:** Immediately before placing concrete.

15-05-50/630 Installing substructure formwork

- **Edges of substructure formwork:** Cut around penetrations and downstands.
- **Laying substructure formwork:**
 - **Joints:** Butt edges tightly.
Seal joints to prevent penetration of concrete.

15-05-50/655 Adverse temperature conditions

- **Protection of concrete:** As per the manufacturer's requirements and recommendations.

15-05-50/660 Casting concrete against faces of excavations

- **Requirement:** Not permitted.
- **Stability of faces of excavations:** Prevent contamination of concrete by loose soil.

15-05-50/705 Site-mixed concrete

- **Site mixing of concrete:** As per the manufacturer's requirements and recommendations.
- **Standard:** As per the manufacturer's requirements and recommendations.

System completion

15-05-15/810 Post completion structural testing of concrete structures

- **Test required:** As per the manufacturer's requirements and recommendations.
- **Submission:** Within 2 days of testing.

15-05-15/820 Surface cracking of concrete structures

- **Critical crack width (maximum):** As per the manufacturer's requirements and recommendations.
- **Report:** Submit, include findings and recommendations for rectification.

Ω End of system

20-15-05/110 Asphalt concrete paving system

System outline

20-15-05/110 Asphalt concrete paving system

- **Standard:** To BS EN 13108-1 and PD 6691.
- **Subgrade improvement layer:** 45-55-28/360 Type 1 unbound mixture.
- **Granular sub-base:** 45-55-28/360 Type 1 unbound mixture.
- **Base course:** 45-20-00/330 Asphalt concrete (AC) base course.
- **Binder course:** 45-20-00/335 Asphalt concrete (AC) binder course.
- **Surface course:** 45-20-00/340 Asphalt concrete (AC) surface course.
- **Applied surface features:** To match the existing.
- **Samples required:** 20-15-05/305 Product samples.
- **Execution:** 20-15-05/601 Installation control samples;
20-15-05/631 Laying subgrade, sub-bases and road bases to asphalt pavements;
20-15-05/635 Preparation for final surfacing of asphalt road bases which have been used for construction traffic;
20-15-05/641 Laying asphalt pavements generally;
20-15-05/645 Laying hot rolled asphalt (HRA) drainage channels in asphalt roads and pavings;
20-15-05/647 Thickness of asphalt concrete courses; and
20-15-05/661 Abutments in asphalt pavements.
- **System completion:** 20-15-05/820 Declaration of conformity of asphalt pavements.

Products

20-15-05/305 Product samples

- **Supplied by:** Contractor's choice.
- **Submittals:** As per the manufacturer's requirements and recommendations.
- **Purpose:** For use as a reference sample.
- **Labelling:** Clearly label all submitted samples. State full details of composition of mix.
- **Timing:** Prior to placing orders.

45-20-00/330 Asphalt concrete (AC) base course

Shared by: 20-15-05/110 Asphalt concrete paving system; and 20-15-35/160 Resin-bound aggregate paving system.

- **Manufacturer:** Contractor's choice.
- **Standard:** Manufacturer's standard.
- **Target composition:**
 - **Designation:** As per the manufacturer's requirements and recommendations.
 - **Binder grade:** As per the manufacturer's requirements and recommendations.

45-20-00/335 Asphalt concrete (AC) binder course

- **Manufacturer:** Contractor's choice.
- **Standard:** As per the manufacturer's requirements and recommendations.
- **Target composition:**
 - **Designation:** As per the manufacturer's requirements and recommendations.
 - **Binder grade:** As per the manufacturer's requirements and recommendations.

45-20-00/340 Asphalt concrete (AC) surface course

- **Manufacturer:** Contractor's choice.
- **Standard:** As per the manufacturer's requirements and recommendations.
- **Target composition:**
 - **Designation:** As per the manufacturer's requirements and recommendations.
 - **Binder grade:** As per the manufacturer's requirements and recommendations.
- **Colour:** To match the adjacent surfaces.
- **Aggregate properties:**
 - **Resistance to polishing - polished stone value (minimum):** As per the manufacturer's requirements and recommendations.
 - **Resistance to surface abrasion - AAV (maximum):** As per the manufacturer's requirements and recommendations.

45-55-28/310 Fill materials generally

- **Supplied by:** Contractor's choice.
- **Proposed fill materials:**
 - **Documentation:** Type and source of imported fill and test reports to demonstrate acceptability of fill materials.
 - **Submission of test reports:** Prior to placing orders.
- **Prohibited materials:**
 - **Prohibited materials generally:** Do not use materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling.
 - **Specific prohibited materials:** Materials which are frozen or containing ice;
Organic materials;
Contaminated or noxious materials;
Materials susceptible to spontaneous combustion;
Materials which are likely to erode or cause voids;
Materials with excessive moisture content, slurry, mud or from marshes or bogs;
Materials with a clay of liquid limit exceeding 80 and/ or plasticity index exceeding 55;
Unacceptable class U2 as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Unacceptable class U1A as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Unacceptable class U1B as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;

Incompletely burnt colliery shale; and
Gypsum products.

- **Frost susceptible materials:**

- **Requirement:** Fill materials shall be non-frost-susceptible as defined in MCHW Volume 1: Specification for highway works (SHW), clause 801.8.
- **Test reports confirming designated materials are non-frost-susceptible:** Submit.

45-55-28/360 Type 1 unbound mixture

Shared by: 20-15-05/110 Asphalt concrete paving system; 20-15-35/160 Resin-bound aggregate paving system; 20-15-45/120 In situ concrete paving system; and 20-15-90/150 Small unit unbound paving system.

- **General requirements:** 45-55-28/310 Fill materials generally.
- **Supplied by:** Contractor's choice.
- **Standard:** To Highways England MCHW Volume 1: Specification for highway works (SHW), clauses 801 and 803.
- **Constituents:** As per the manufacturer's requirements and recommendations.
- **Execution:** 45-55-28/605 Testing of suitability of fill materials.

Execution

20-15-05/601 Installation control samples

- **Required samples:**
 - **Purpose:** For use as an installation reference sample.
 - **Size (minimum):** 0.5 x 0.5 m.
 - **Location:** To be agreed.
 - **Timing:** Construct during preliminary installation.
Obtain approval of appearance before proceeding.

20-15-05/631 Laying subgrade, sub-bases and road bases to asphalt pavements

- **Standard:** In accordance with Highways England MCHW Volume 1: Specification for highway works (SHW).
- **Subgrade improvement layer:**
 - **Trenches and excavation of soft or loose spots in subgrade:** Grade consistently and accurately. Spread and compact to produce uniform thickness.
 - **Compacted thickness (nominal):** To match the existing.
- **Granular sub-base:**
 - **Compacted thickness (nominal):** To match the existing.
 - **Drainage falls:** To match the existing.
- **Condition of sub-bases before spreading asphalt binder course:**
 - **Prepared sub bases:** Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
 - **Levels and falls:** Accurate and within the specified tolerances.

- **Drainage outlets:** Within 0-10mm of the required finished level.

20-15-05/635 Preparation for final surfacing of asphalt road bases which have been used for construction traffic

- **Preparation for final surfacing:**
 - **Timing:** Defer laying until as late as practicable.
 - **Immediately before laying final surfacing:** Clean and make good the base/binder course. Allow to dry.
- **Finishing:** Allow emulsion to break completely before applying surface.

20-15-05/641 Laying asphalt pavements generally

- **Standard:** To BS EN 13108-1.
- **Adverse weather during laying of asphalt pavements:**
 - **Frozen materials:** Do not use.
 - **Laying not permitted:**

Generally: During freezing conditions. If the air temperature reaches 0°C, or in calm dry conditions -3°C, on a falling thermometer.

Hot rolled asphalt: During periods of continuous or heavy rain or if there is standing water on the base.
- **Placing and compaction:** In accordance with BS EN 13108-1 and Highways England MCHW Specification 900 series.
- **Preparation:** Remove loose material, rubbish and standing water.
- **Setting out:** Start from an edge restraint.
- **Adjacent work:** Form neat junctions. Do not damage.
- **Channels, gullies, etc.:** Keep clear. Prevent damage.
- **New pavements:** Keep traffic free until it has cooled to prevailing atmospheric temperature. Do not allow rollers to stand at any time. Prevent damage.
- **Condition on completion:** Clean and remove excess material.

20-15-05/645 Laying hot rolled asphalt (HRA) drainage channels in asphalt roads and pavings

- **Drainage channel dimensions:**
 - **Base course:** Depth as main carriageway.
 - **Binder course:** Depth as main carriageway.
 - **Surface course:** Depth as surface course, width 300mm.
- **Timing:** Hand lay hot rolled asphalt (HRA), prior to main carriageway.

20-15-05/647 Thickness of asphalt concrete courses

- **Compacted thickness (nominal):**
 - **Base course:** To match the existing.
 - **Binder course:** To match the existing.
 - **Surface course:** To match the existing.

20-15-05/661 Abutments in asphalt pavements

- **Vertical edges of manholes, gullies, kerbs and other abutments:** Clean. Paint with a thin uniform coating.
- **Finishing:** Tamp surface around projections.
- **Level:** Flush or not more than 3mm above projections.

45-55-28/605 Testing of suitability of fill materials

- **Testing house:** UKAS accredited laboratory.
- **Submission of reports:**
 - **Timing:** Prior to placing orders.
- **Test samples:**
 - **Submission of samples:** Supply to laboratory as required.
 - **Additional requirements:** Supply 25 kg samples to offices of structural engineer. On request, collect and dispose.

System completion

20-15-05/820 Declaration of conformity of asphalt pavements

- **Standard:**
 - **Asphalt concrete:** To BS EN 13108-1.
 - **Hot rolled asphalt:** To BS EN 13108-4.
 - **Stone mastic asphalt:** To BS EN 13108-5.
 - **Porous asphalt:** To BS EN 13108-7.
 - **Reclaimed asphalt:** To BS EN 13108-8.
- **Submittals:**
 - **Standard:** In accordance with BS EN 13108-20 and BS EN 13108-21.
 - **Format:** Electronic.
 - **Timing:** At least 1 week prior to date when the Contractor expects work to be complete.

Ω End of system

20-15-35/160 Resin-bound aggregate paving system

System outline

20-15-35/160 Resin-bound aggregate paving system

- **System manufacturer:** Contractor's choice.
- **Subgrade improvement layer:** 45-55-28/360 Type 1 unbound mixture.
- **Granular sub-base:** Type 1 unbound mixture.
- **Base course:** 45-20-00/330 Asphalt concrete (AC) base course.
- **Surface course:** 45-20-00/415 Resin bound mixed aggregate surfacing
- **Edge restraints:** Required.
- **Samples required:** 20-15-35/310 Product samples.
- **Execution:** 20-15-35/609 Laying acrylic and resin based surfaces generally;
20-15-35/621 Subgrade, sub-base and base requirements under bound aggregate surfaces; and
20-15-35/655 Laying resin bound aggregate surfaces.

Products

20-15-35/310 Product samples

- **Supplied by:** Contractor's choice.
- **Submittals:** Submit proposals.
- **Purpose:** For use as a reference sample.
- **Labelling:** Clearly label all submitted samples. State full details of composition of mix.
- **Timing:** Prior to placing orders.

45-20-00/330 Asphalt concrete (AC) base course

Shared by: 20-15-05/110 Asphalt concrete paving system; and 20-15-35/160 Resin-bound aggregate paving system.

- **Manufacturer:** Contractor's choice.
- **Standard:** As per the manufacturer's requirements and recommendations.
- **Target composition:**
 - **Designation:** As per the manufacturer's requirements and recommendations.
 - **Binder grade:** As per the manufacturer's requirements and recommendations.

45-20-00/415 Resin bound mixed aggregate surfacing

- **Manufacturer:** Adbruf.
- **Material:** Resin bound gravel surface course.
- **Grade of Binder:** Adbruf GeoPave resin.
- **Type:** As per the manufacturer's requirements and recommendations.
- **Colour:** To match the existing.
- **Thickness:** 18mm.

- **Surface appearance gravel/rustic nominal aggregate size:** Maximum 6mm (graded).
- **Aggregate:** Amber Gold – (Corn Flint 1-3mm; Amber Gold 2-5mm).
- **Minimum PSV:** 50.
- **Maximum AAV:** 16.
- **Existing surface pre-treatment:**
All loose or existing gravel aggregate to be removed by a process by the Contractor; and
Any areas deemed unsuitable by the Contractor to be removed and replaced with the binder course below.
- **Binder course (if required within flexible pavements only):**
 - **Material:** Open graded surface course.
 - **Grade of Binder:** 100/150.
 - **Thickness:** 30mm.
 - **Mixture design:**
AC 10 open surface 100/150 pen in accordance with BS EB 13108-1:2006 and PD6691:2015.
Aggregate: Crushed rock or slag gravel aggregate not permitted material to be supplied, laid and compacted fully in accordance with BS594987:2015.

45-55-28/310 Fill materials generally

- **Supplied by:** Contractor's choice.
- **Proposed fill materials:**
 - **Documentation:** Type and source of imported fill and test reports to demonstrate acceptability of fill materials.
 - **Submission of test reports:** Prior to placing orders.
- **Prohibited materials:**
 - **Prohibited materials generally:** Do not use materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling.
 - **Specific prohibited materials:** Materials which are frozen or containing ice;
Organic materials;
Contaminated or noxious materials;
Materials susceptible to spontaneous combustion;
Materials which are likely to erode or cause voids;
Materials with excessive moisture content, slurry, mud or from marshes or bogs;
Materials with a clay of liquid limit exceeding 80 and/ or plasticity index exceeding 55;
Unacceptable class U2 as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Unacceptable class U1A as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Unacceptable class U1B as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Incompletely burnt colliery shale; and
Gypsum products.

- **Frost susceptible materials:**
 - **Requirement:** Fill materials shall be non-frost-susceptible as defined in MCHW Volume 1: Specification for highway works (SHW), clause 801.8.
 - **Test reports confirming designated materials are non-frost-susceptible:** Submit.

45-55-28/360 Type 1 unbound mixture

Shared by: 20-15-05/110 Asphalt concrete paving system; 20-15-35/160 Resin-bound aggregate paving system; 20-15-45/120 In situ concrete paving system; and 20-15-90/150 Small unit unbound paving system.

- **General requirements:** 45-55-28/310 Fill materials generally.
- **Supplied by:** Contractor's choice.
- **Standard:** To Highways England MCHW Volume 1: Specification for highway works (SHW), clauses 801 and 803.
- **Constituents:** As per the manufacturer's requirements and recommendations.
- **Execution:** 45-55-28/605 Testing of suitability of fill materials.

Execution

20-15-35/609 Laying acrylic and resin based surfaces generally

- **Adverse weather during laying of granular pavements:**
 - **Frozen materials:** Do not use.
 - **Laying not permitted:** During freezing conditions. If the air temperature reaches 0°C, or in calm dry conditions -3°C, on a falling thermometer and During periods of continuous or heavy rain or if there is standing water on the base.
- **Preparation:** Remove loose material and rubbish.
- **Method:**
 - **Setting out:** Start from an edge restraint.
 - **Adjacent work:** Form neat junctions. Do not damage.
 - **Channels, gullies, etc.:** Keep clear. Prevent damage.
- **Replacement asphalt:** all joints to be cut and pointed and a bond coat applied to the underlying layer in accordance with BS594987:2015.
- **Repairs to concrete:** Using a concrete mix design to minimum strength of C16/20.
- **Localised patch reinstatement of small areas of settlement:** May require SHW Type 1 Sub-base and binder course prior to installing resin bound surface course.
- **Cold milling full width:** In accordance with SHW700 series.
- **Specific Requirements:** Special attention is required 1m adjacent to drainage channels to avoid rising channels or any other fixed level item of street wear. Any porous resin bound material must be laid proud to any drainage channels for sufficient surface water drainage.

20-15-35/621 Subgrade, sub-base and base requirements under bound aggregate surfaces

- **Accuracy:** Base/sub-base to permit specified flatness/ regularity of finished surfacing.
- **Falls and cambers:** Accurately incorporated in the base/ sub-base.
- **Drainage falls (nominal):** To match the existing.
- **Compacted thickness (minimum):**
 - **Subgrade improvement layer:** To match the existing.
 - **Sub-base:** To match the existing.
 - **Blinding layer to sub-base:**
 - Vehicular areas:** To match the existing.
 - Pedestrian areas:** To match the existing.
 - **Base course:** To match the existing.
- **Laying blinding layer to sub base:** Compact. Seal interstices. Provide free drainage.

20-15-35/655 Laying resin bound aggregate surfaces

- **Base course:**
 - **Thickness:** To match the existing.
 - **Consolidation:** Before application of surface course, allow surface to dry, then compact.
- **Surface course thickness:** 18 mm.
- **Compaction to all layers:** By heavy roller or other appropriate means, adequate to resist subsidence or deformation of the completed roads/ pavings when in use. Do not crush chippings.
- **Finishing:** Before trafficking, remove excess chippings.

45-55-28/605 Testing of suitability of fill materials

- **Testing house:** UKAS accredited laboratory.
- **Submission of reports:**
 - **Timing:** Prior to placing orders.
- **Test samples:**
 - **Submission of samples:** Supply to laboratory as required.
 - **Additional requirements:** Supply 25 kg samples to offices of structural engineer. On request, collect and dispose.

Ω End of system

20-15-45/120 In situ concrete paving system

System outline

20-15-45/120 In situ concrete paving system

- **Sub-grade improvement layer:** 45-55-28/360 Type 1 unbound mixture.
- **Granular sub-base:** 45-55-28/360 Type 1 unbound mixture.
- **Concrete:**
 - **Type of concrete:** To match the existing.
 - **Colour:** To match the existing.
- **Reinforcement:** Submit proposals.
- **Aggregate:** To match the existing.
- **Finish:**
 - **Imprinted finish:** To match the existing.
- **Designed joints:**
 - **Joint type:** Construction joint.
 - **Joint filler:** Submit proposals.
 - **Joint sealant:** Submit proposals.
 - **Joint accessories:** Submit proposals.
- **System accessories:** Submit proposals.
- **Accessories cast into concrete:** Existing.
- **Execution:** 20-15-45/605 Placing fill in accordance with the Highways England Specification for Highway Works;
20-15-45/622 Forming imprinted patterns in concrete;
20-15-45/675 Preparation of construction joints;
20-15-45/606 Installing unreinforced and reinforced in situ concrete paving systems generally; and
20-15-45/690 Preparation of surfaces to receive concrete.
- **System completion:** 20-15-45/800 Times for opening of in situ concrete roads to traffic.

Products

45-55-28/310 Fill materials generally

- **Supplied by:** Contractor's choice.
- **Proposed fill materials:**
 - **Documentation:** Type and source of imported fill and test reports to demonstrate acceptability of fill materials.
 - **Submission of test reports:** Prior to placing orders.
- **Prohibited materials:**
 - **Prohibited materials generally:** Do not use materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling.
 - **Specific prohibited materials:** Materials which are frozen or containing ice;

Organic materials;
Contaminated or noxious materials;
Materials susceptible to spontaneous combustion;
Materials which are likely to erode or cause voids;
Materials with excessive moisture content, slurry, mud or from marshes or bogs;
Materials with a clay of liquid limit exceeding 80 and/ or plasticity index exceeding 55;
Unacceptable class U2 as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Unacceptable class U1A as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Unacceptable class U1B as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Incompletely burnt colliery shale; and
Gypsum products.

- **Frost susceptible materials:**
 - **Requirement:** Fill materials shall be non-frost-susceptible as defined in MCHW Volume 1: Specification for highway works (SHW), clause 801.8.
 - **Test reports confirming designated materials are non-frost-susceptible:** Submit.

45-55-28/360 Type 1 unbound mixture

Shared by: 20-15-05/110 Asphalt concrete paving system; 20-15-35/160 Resin-bound aggregate paving system; 20-15-45/120 In situ concrete paving system; and 20-15-90/150 Small unit unbound paving system.

- **General requirements:** 45-55-28/310 Fill materials generally.
- **Supplied by:** Contractor's choice.
- **Standard:** To Highways England MCHW Volume 1: Specification for highway works (SHW), clauses 801 and 803.
- **Constituents:** As per the manufacturer's requirements and recommendations.
- **Execution:** 45-55-28/605 Testing of suitability of fill materials.

Execution

20-15-45/605 Placing fill in accordance with the Highways England Specification for Highway Works

- **Standard:** Highways England MCHW Volume 1: Specification for highway works (SHW).
- **Overseeing organization:** The issuer of this specification.
- **Compaction:** As Table 6/4 of the Highways England MCHW Volume 1: Specification for highway works (SHW).

20-15-45/606 Installing unreinforced and reinforced in situ concrete paving systems generally

- **Concrete paving thickness:** To match the existing.

- **Lines and levels of finished surface:** To match the existing.
- **Tolerances:**
 - **Surface level:** ± 6 mm.
 - **Level next to gullies and manhole:** +6 mm and -0.
- **Surface regularity:**
 - **Standard:** To BS 8204-1.
 - **Variation in gap under a 3 m straightedge (with feet) placed anywhere on the surface (maximum):** 5 mm.
 - **Sudden irregularities:** Not permitted.

20-15-45/622 Forming imprinted patterns in concrete

- **Joints:** Submit proposals.

20-15-45/675 Preparation of construction joints

- **Joint surfaces:** Remove surface laitance and expose aggregate finish while concrete is still green.
- **Condition of joint surfaces immediately before placing fresh concrete:** Clean and damp.

20-15-45/690 Preparation of surfaces to receive concrete

- **Preparation of formwork to receive concrete:**
 - **Cleaning of formwork:** Ensure that formwork or other surfaces are clean of debris, tying wire clippings, fastenings and free water.
 - **Timing of cleaning of formwork:** Immediately before placing concrete.
- **Casting concrete against construction joints:**
 - **Preparation of hardened surface:** Remove surface laitance and expose aggregate by lightly brushing and spraying. Curing compounds are not permitted on the faces of construction joints. Clean and dampen immediately before placing fresh concrete.
- **Casting concrete on prepared substrate or steeply sloping surfaces:** Prevent water loss.
- **Casting concrete against the ground:** Prevent contamination of concrete by loose soil.

45-55-28/605 Testing of suitability of fill materials

- **Testing house:** UKAS accredited laboratory.
- **Submission of reports:**
 - **Timing:** Prior to placing orders.
- **Test samples:**
 - **Submission of samples:** Supply to laboratory as required.
 - **Additional requirements:** Supply 25 kg samples to offices of structural engineer. On request, collect and dispose.

System completion

20-15-45/800 Times for opening of in situ concrete roads to traffic

- **Traffic type:**
 - **Light vehicles:** As per the manufacturer's requirements and recommendations.
 - **Heavy vehicles:** As per the manufacturer's requirements and recommendations.

Ω End of system

20-15-90/150 Small unit unbound paving system

System outline

20-15-90/150 Small unit unbound paving system

- **System manufacturer:** Contractor's choice.
- **Standard:** Existing.
- **Subgrade improvement layer:** 45-55-28/360 Type 1 unbound mixture.
- **Preparation products:** Existing.
- **Granular sub-base:** 45-55-28/360 Type 1 unbound mixture.
- **Laying course:** To match the existing.
- **Paving course:**
 - **Paving units:** To match the existing.
 - **Jointing:** To match the existing.
- **Samples required:** 20-15-90/305 Product samples.
- **Execution:** 20-15-90/601 Installation control samples;
20-15-90/603 Protection of paving during works;
20-15-90/605 Adverse weather and unit paving construction;
20-15-90/609 Cutting paving units;
20-15-90/613 Regularity of finished paving surface;
20-15-90/614 Regularity of finished paving surface for accessibility;
20-15-90/619 Disposal of arisings;
20-15-90/625 Laying granular layers over existing bases;
20-15-90/626 Laying subgrade improvement layers and sub-base;
20-15-90/665 Laying unbound concrete block and clay paver pavements; and
20-15-90/781 Final compaction of unbound paving.
- **System completion:** 20-15-90/801 Protection of completed pavements; and
20-15-90/805 Verification of performance.

Products

20-15-90/305 Product samples

- **Manufacturer:** Contractor's choice.
- **Submittals:** Client approval.
- **Purpose:** For use as a reference sample.
- **Labelling:** Clearly label all submitted samples.
- **Timing:** Prior to placing orders.

45-55-28/310 Fill materials generally

- **Supplied by:** Contractor's choice.
- **Proposed fill materials:**
 - **Documentation:** Type and source of imported fill and test reports to demonstrate acceptability of fill materials.

- **Submission of test reports:** Prior to placing orders.
- **Prohibited materials:**
 - **Prohibited materials generally:** Do not use materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling.
 - **Specific prohibited materials:** Materials which are frozen or containing ice;
Organic materials;
Contaminated or noxious materials;
Materials susceptible to spontaneous combustion;
Materials which are likely to erode or cause voids;
Materials with excessive moisture content, slurry, mud or from marshes or bogs;
Materials with a clay of liquid limit exceeding 80 and/ or plasticity index exceeding 55;
Unacceptable class U2 as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Unacceptable class U1A as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Unacceptable class U1B as defined in the Highways England MCHW Volume 1: Specification for highway works (SHW), clause 601;
Incompletely burnt colliery shale; and
Gypsum products.
- **Frost susceptible materials:**
 - **Requirement:** Fill materials shall be non-frost-susceptible as defined in MCHW Volume 1: Specification for highway works (SHW), clause 801.8.
 - **Test reports confirming designated materials are non-frost-susceptible:** Submit.

45-55-28/360 Type 1 unbound mixture

Shared by: 20-15-05/110 Asphalt concrete paving system; 20-15-35/160 Resin-bound aggregate paving system; 20-15-45/120 In situ concrete paving system; and 20-15-90/150 Small unit unbound paving system.

- **General requirements:** 45-55-28/310 Fill materials generally.
- **Supplied by:** Contractor's choice.
- **Standard:** To Highways England MCHW Volume 1: Specification for highway works (SHW), clauses 801 and 803.
- **Constituents:** As per the manufacturer's requirements and recommendations.
- **Execution:** 45-55-28/605 Testing of suitability of fill materials.

Execution

20-15-90/601 Installation control samples

- **Required samples:**
 - **Paving types:** To match the existing.

- **Purpose:** For use as an installation reference sample.
- **Size (minimum):** To match the existing.
- **Features to be included:** To match the existing.
- **Timing:** Construct during preliminary installation. Obtain approval of appearance before proceeding.

20-15-90/603 Protection of paving during works

- **Cleanliness:** Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
- **Materials storage:** Do not overload pavings with stacks of materials.
- **Handling:** Do not damage paving unit corners, arrises, or previously laid paving.

20-15-90/605 Adverse weather and unit paving construction

- **Standard:** In accordance with BS 7533-3.
- **General:**
 - **Temperature:** Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
 - **Frozen materials:** Do not use. Do not lay bedding on frozen or frost covered bases.
- **Kerbs edgings, and channels:** Adequately protect foundations, bedding and haunching against frost and rapid drying by sun and wind.
- **Paving with mortar joints or bedding:** Protect from frost damage, rapid drying out and saturation until mortar has hardened.
- **Paving with fine aggregate bedding and joints:**
 - **Stockpiled laying course material:** Protect from saturation.
 - **Exposed areas of laying course material and uncompacted areas of unbound paving:** Protect from heavy rainfall.
 - **Saturated laying course:** Remove and replace, or allow to dry before proceeding.
 - **Laying dry fine aggregate jointed paving in damp conditions:** Brush in as much fine jointing aggregate as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

20-15-90/607 Laying unit pavings generally

- **Standard:** In accordance with Highways England MCHW Volume 1: Specification for highway works.
- **Setting out:** Start from an edge restraint.
- **Paving units:** Free of damage, mortar and sand stains. Interlocking units to be adequately connected
- **Appearance:** Smooth and even with regular joints. Accurate to line, level and profile.
- **Cut edges:** Turn inwards where possible. Do not position against edge restraints or other features.
- **Laying course:** Grade consistently and accurately. Spread and compact to produce uniform thickness and support for paving units.

- **Bedding of paving units:** Firm so that rocking or subsidence does not occur or develop.
- **Falls:** To match the existing.
- **Laying on slopes:** Lay paving units upwards from the bottom of slopes.

20-15-90/609 Cutting paving units

- **Generally:** Cut units cleanly, accurately and vertically, without spalling, to give neat junctions with edgings and adjoining finishes. Do not mark or damage visible surfaces.
- **Natural stone:** In accordance with BS 7533-3. Cut setts with a disc cutter or masonry saw.
- **Concrete flags:** To Interpave Cutting paving. Cutting precast concrete blocks flags and kerbs - efficient design and managing the risk.

20-15-90/613 Regularity of finished paving surface

- **Standards:** In accordance with BS 7533-3, BS 7533-4 and BS 7533-7.
- **Method of measurement:** Under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
- **Maximum undulations in the pavement surface:**
 - **Precast concrete paving blocks and clay pavers for flexible pavements:** 10mm.
 - **Precast concrete flags or natural stone slabs:** 3mm.
 - **Natural stone setts and cobbles, and rigid construction with precast concrete block pavers:** 3mm.
- **Sudden irregularities:** Not permitted.
- **Difference in level between adjacent paving units (maximum):** 2mm.

20-15-90/614 Regularity of finished paving surface for accessibility

- **Standard:** In accordance with BS 8300-1.
- **Method of measurement:** Under a 1m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
- **Maximum undulations in the pavement surface:** 3mm.
- **Joints between paving units or utility access covers:**
 - **Joints flush with the surface:** Difference in level between adjacent units to be no more than twice the joint width (with a 5mm max difference in level).
 - **Recessed, filled joints:** Difference in level between adjacent units to be no greater than 2mm; the recess to be no deeper than 5mm.
 - **Unfilled joints:** Difference in level between adjacent units to be no greater than 2mm.
- **Sudden irregularities:** Not permitted.

20-15-90/619 Disposal of arisings

- **Biodegradable arisings:** Remove to recycling facility.
- **Tree roots and stumps:** Remove from site.
- **Litter and nonbiodegradable arisings:** Remove from site.

20-15-90/625 Laying granular layers over existing bases

- **Thickness:** To match the existing.

20-15-90/626 Laying subgrade improvement layers and sub-base

- **Standard:** In accordance with Highways England MCHW Volume 1: Specification for highway works.
- **Subgrade improvement layer compacted thickness (nominal):** To match the existing.
- **Granular sub-base:**
 - **Compacted thickness (nominal):** To match the existing.
 - **Drainage falls:** To match the existing.
- **Condition of sub-bases before spreading laying course:**
 - **Prepared sub bases:** Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
 - **Levels and falls:** Accurate and within the specified tolerances.
 - **Drainage outlets:** Within 0-10mm of the required finished level.

20-15-90/665 Laying unbound concrete block and clay paver pavements

- **General requirements:** 20-15-90/607 Laying unit pavings generally.
- **Standard:** In accordance with BS 7533-3.
- **Bond:** To match the existing.
- **Joint width:** 2-5mm.

20-15-90/781 Final compaction of unbound paving

- **Sand dressing:** Leave a thin layer of dry fine aggregate jointing material over the paving, sweep clean before practical completion.
- **Final compaction of the surface course:** As per the manufacturer's requirements and recommendations.

45-55-28/605 Testing of suitability of fill materials

- **Testing house:** UKAS accredited laboratory.
- **Submission of reports:**
 - **Timing:** Prior to placing orders.
- **Test samples:**
 - **Submission of samples:** Supply to laboratory as required.
 - **Additional requirements:** Supply 25 kg samples to offices of structural engineer. On request, collect and dispose.

System completion

20-15-90/801 Protection of completed pavements

- **Mortar bedded paving:**
 - **Protection:** Protect from pedestrian or vehicular traffic for the minimum required periods.
 - **Traffic free periods (minimum):**

Pedestrian traffic: As per the manufacturer's requirements and recommendations.

Vehicular traffic: As per the manufacturer's requirements and recommendations.

- **Grass filled paving:** Protect from traffic for 6–8 weeks or until grass can tolerate traffic.

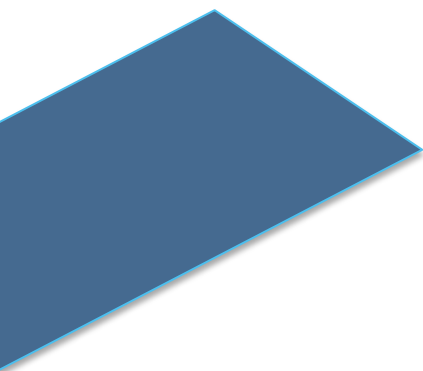
20-15-90/805 Verification of performance

- **Requirement:** Check completed system and provide assurance of compliance with specified performance.
- **Submittals:**
 - **Format:** Description of inspections, remedial works carried out and certification of compliance.

Ω End of system

SECTION GENERAL CONDITIONS

3



Queen Elizabeth Olympic Park Road Signage Renewal

Section 3: General Conditions

3.1 General

- 3.1.1 The Works comprise of the replacement road signage complete with formation of new footings and all associated ground and making good works, in line with the Site Location Plan and the Signage Location Plans (Appendix A) and the Signage Schedule (Appendix B).
- 3.1.2 The Contractor is to undertake all necessary inspections and tests to establish the adequacy of the proposed installations, and report any unforeseen issues together with proposals within 2 days of the inspection.
- 3.1.3 The Contractor will be deemed to have included in the tender for making good all affected surfaces and repairs to components as necessary.
- 3.1.4 The Contractor is to undertake the Works in phases in line with the zones outlined within the Site Location Plan and the Signage Location Plans (Appendix A) and the Signage Schedule (Appendix B). The Contractor is to prepare and submit a detailed programme proposal of the Works as part of the tender submission.
- 3.1.5 The Contractor is to undertake the Works causing minimal disruption to usual traffic circulation of the roads throughout the works, and have adequate and site specific traffic control measures in place to accommodate the Works and to safeguard the workers and road users.
- 3.1.6 The Contractor is to note that the roads are under the ownership of the Client that third party liaison for road closure will not be required.
- 3.1.7 The Contractor is required to liaise with the Client in programming of the Works with due consideration of any events on site, with reference to the Event Schedule (Appendix D). Further information on events on site will be provided by the Client at post contract stage with reasonable notice prior to commencement of the Works.

3.2 Costs Deemed to be Included

- 3.2.1 The Contractor is to include the following when pricing:
- 3.2.2 Provision of traffic management plans as part of the tender submission, and subsequent liaison with the Client to agree the Works programme.
- 3.2.3 All necessary traffic management and equipment required to suitably undertake the Works, subject to agreement with the Client at post tender stage.
- 3.2.4 Setting up, clearance and re-location of site set ups to accommodate phasing of the Works upon agreement with the Client.

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- 3.2.5 Removal of all existing fixtures and fittings necessary to facilitate the Works and re-fix upon completion, and any necessary temporary storage and labelling to ensure items are returned and put back to correct location.
- 3.2.6 All necessary making good and repair works following the Works.
- 3.2.7 Regular cleaning of the working areas keeping the site free of dirt and debris caused by the Works and builder's cleaning upon completion of the Works.
- 3.2.8 All costs in conjunction with the Works, including but limited to materials, plant and labour.
- 3.2.9 Submission of site specific risk assessment and method statement as part of the tender submission.
- 3.2.10 All relevant safe working practices, necessary access equipment provision, etc., necessary to carry out the Works in accordance with the Health and Safety at Work etc. Act 1974 and the Work at Height Regulations 2005.
- 3.2.11 Provisions for safeguarding, barriers and sign posting to protect worker and road users from the Contractor's activities and operations. All safety signage must conform to the Health and Safety (Safety Signs and Signals) Regulations 1996 which involves the use of pictograms in four distinctive colours and shapes.
- 3.3 Schedule of Works and Pricing**
- 3.3.1 This section is to be read in conjunction with Preliminaries (Section 1), Material and Workmanship (Section 2) and Schedule of Works (Section 4) of the Specification of Works, including any appendices thereto. The Contractor is to report any discrepancies to the Project Manager as soon as possible after discovery.
- 3.3.2 The Contractor is to inspect the site prior to tender submission.
- 3.3.3 The Contractor is to undertake the Works whilst ensuring adequate circulation of traffic at minimal disruption to usual traffic.
- 3.3.4 The Contractor is provide all temporary protection, power supply, etc. as necessary, for safe operation of the Works and to leave all working and associated areas safe and secure at the end of each working day.
- 3.3.5 The Contractor is to include cost for setting up working areas, moving and clearing up, etc. as necessary, leaving all areas free of debris and obstructions upon completion of Works at the subject area.
- 3.3.6 The Contractor is to check all dimensions prior to ordering any materials, parts, etc. Any installation/fixing must in accordance with manufacturer's instructions and relevant BS Codes of Practice.
- 3.3.7 The cost against each item within the Specification of Work is to include all associated cost for labour, plant, materials, overheads,

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profit, etc., so that cost recorded is full and fixed for the item.

3.3.8 The Contractor is to return a fully priced specification showing individually price for the corresponding item in the correct pricing column. Failure to comply with the above may result in your tender deemed invalid.

3.3.9 The Contractor is to note that any provisional sums included are strictly not to be expended without the Project Manager's approval. Any expenditure of such sums would be calculated at the rates provided for the related or similar item. Where such items are omitted, the amount shall be deducted from the contract value and no allowance would be made for any consequential loss and expense or alteration to the Specification of Works.

3.3.10 Any variation would be notified to the Contractor by the Project Manager in the form of Contract Instruction. The Contractor shall be aware that instruction received by other parties would not be considered to form a part of the contracted works, and that no loss or expense claims brought to bear by the reduction in work shall be entertained by the Employer.

3.4 Tender Drawings

3.4.1 The Specification of Works should be read in conjunction with the Site Location Plan and the Signage Location Plans (Appendix A).

3.4.2 Any discrepancies are to be raised to the Project Manager at tender stage, for clarification to be provided.

3.5 Principal Contractor

3.5.1 The Principal Contractor is to take full responsibility for the co-ordination, organisation, programming, provision and deployment of all services, and sub-contract labour, together with their liaison in general with the Client and members of the Project Team in relation to the execution of the Works.

3.5.2 All costs associated with the Principal Contractor's roles listed above are deemed included for in their itemised costs.

3.6 Management of the Works

3.6.1 The Contractor shall devote specific levels of personnel and supervisors in order to execute the project to the requirements and satisfaction of the Project Manager and the Client, and as detailed within the Specifications of Works.

3.6.2 The Contractor shall provide sufficient staff, together with permanent site foreman and supervisors to co-ordinate the operatives on site.

3.6.3 The Contractor is to take in to consideration of the nature and use of the site and frequency of traffic at various times, and minimise the disturbance of traffic flow wherever possible.

3.6.4 The Project Manager reserves right to request replacement of any member of the Contractor's management team, any individual or

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group of individuals, whereby a cause for their removal shall be given. Any requests for claims for cost or time with regard to the above will not be entertained and all items and costs shall be deemed included.

3.6.5 All site personnel including sub-contractors are to be issued with security passes which must be worn at all times whilst on site. Non-compliance with this condition will result in the non-admittance or removal of individuals from the site.

3.6.6 The Contractor is to note that a high standard of workmanship is expected. Therefore, it will be the responsibility of the contracts manager or of equivalent representative to inspect the Works prior to the Project Manager's inspection. Where necessary, unsatisfactory work would be requested to be reproduced at the Contractor's own expenses.

3.6.7 The site foreman must report to the Principal Contractor on a regular basis to inform and discuss issues and programming.

3.6.8 The Contractor to allow for liaison with the Client regarding the Works in its programming and access restrictions, etc. throughout the Works.

3.7 Health & Safety Implications

3.7.1 The Contractor is to fully review the Pre-Construction Information at the tender stage in line with the Specification of Works.

3.7.2 The Contractor is to provide a Construction Phase Plan as part of their tender submission and update as necessary throughout the duration of the Works.

3.7.3 The Contractor is to ensure record keeping of all operative and visitors to the site. This is to include representatives from the Client, the Project Manager, quality control inspector, statutory inspector, and the like.

3.7.4 The Contractor is to provide a diary, within which any comments and observations from the Client and/or the Project Manager shall be noted and discussed during the subsequent site meetings.

3.7.5 The Contractor is to note that this project may be notifiable under the Construction (Design and Management) Regulations 2015. The Contractor is to assess the programme and labour required, and to advise the Project Manager whether the works would be notifiable during the tender process. The Contractor is to take into consideration all relevant information and required procedures when programming and include any cost associated in the tender price.

3.7.6 The Contractor is to provide a Construction Phase Health & Safety Plan including site specific risk assessments and method statements for review and approval by the Client.

3.7.7 The Contractor is to provide all suitable safety and security signs for distribution around the site during the course of the Works to

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ensure safeguarding of the worker and road users.

3.8 Programme

3.8.1 The Contractor is to provide the Client and the Project Manager with a project specific programme, detailing lead-in times, site set up periods and site activities, throughout the contract period and advise any changes at the earliest reasonable opportunity.

3.8.2 The Contractor is to take responsibility in submission and revision of programme, especially at all progress meetings together with contractor's progress report.

3.8.3 The Contractor is to provide a proposed programme for review and discussion as part of the tender submission, and to note that failure to do so may invalidate the tender submission.

3.9 Communication and Identification

3.9.1 Ensure all operatives, including any sub-contractors to display identification whilst on site. The site foreman is to record and maintain operatives on site, keeping it available for review by the Client and Project Manager upon request.

3.10 Meetings

3.10.1 The Contractor shall allow for attending all meetings, and organising where required, complying with the requirements as detailed within the Specification of Works.

3.10.2 Attendance by the appropriate Contractor's representative would be required as a minimum for the meetings. Attendance of specific representative shall be consulted with the Project Manager.

3.10.3 In addition, a representative of the Client would be invited to attend the meetings to ensure adequate liaison.

3.11 Site Administration and Storage

3.11.1 Reasonable provision of temporary administration and storage facilities, together with those washing and toilet requirements for welfare can be provided by the Client as detailed in the Preliminaries (Section 1) of this document. The specific requirements of the provisions are to be agreed with the Client and the Project Manager.

3.11.2 The Contractor is to follow all necessary procedure in obtaining necessary statutory approval. All cost associated are deemed included within the cost for the related item.

3.11.3 The Contractor must contain all working activities and storage of materials within designated working areas.

3.11.4 Storage of items outside pre-agreed compound without the Project Manager's approval would not be permitted under any circumstances.

3.11.5 Materials, equipment, etc. must not be left on site causing any hazards for road and park users, and that they are to be kept out of

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sight to prevent any unauthorised use of the materials or accidents arising during the works.

- 3.11.6 The Contractor is to ensure that all stored materials, items or rubbish on site are contained within the working areas, and do not interfere or block any adjacent roads.

3.12 Photographic Schedule of Condition

- 3.12.1 The Contractor shall record full photographic schedule of condition of all areas likely to be affected directly or indirectly by the Works, including the delivery and storage of materials and the removal of waste from or access to working areas.

3.13 Access Provisions

- 3.13.1 The Contractor is to allow for sufficient access equipment to undertake the proposed works, in strict accordance with the current health and safety legislation.

3.14 Licenses

- 3.14.1 Where necessary, the Contractor shall be responsible for obtaining any necessary permission and store or display as required.
- 3.14.2 The Contractor is to include all costs associated with the above, obtaining and maintaining licenses in the tender submission.

3.15 Protection

- 3.15.1 The Contractor is to be reminded that the roads are to be partially closed to accommodate the works, whilst ensuring the minimal disruption to the usual operation of the roads. The Contractor is to take all necessary steps to ensure health and safety of the road users, providing sufficient means of protection.
- 3.15.2 The Contractor is to provide sufficient barriers, warning tapes, signage, etc. to sufficiently guard off the working area by non-operatives and restrict unauthorised access.
- 3.15.3 Any items or materials stored overnight must be securely stored within the Contractor's compound, and must not be left on site unsecured under no circumstances.
- 3.15.4 The Contractor must not dispose any surplus or defective paint, or other liquids by pouring down gullies, WCs, sinks, etc. The Contractor must dispose such waste appropriately off site.

3.16 Cleanliness

- 3.16.1 The Contractor is to take a special notice that the roads are to remain partially open and operational throughout the Works with temporary traffic management. Therefore, an appropriate care and consideration for the road users is expected from the Contractor.
- 3.16.2 At the end of each working day, the Contractor is to ensure that the site is left in the condition and layout found, with no health and safety issues remaining.

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- 3.16.3 The Contractor is to ensure each area is left in a clean condition.
- 3.16.4 All road furniture, fixtures and fittings should be reinstated as found upon completion of the Works in the relevant area.
- 3.16.5 The Contractor is to clear from the site all rubbish, debris, materials, tools, plants, etc. at the end of each working day. No items are to be left unsecured on site under no circumstances.
- 3.17 Parking, Deliveries and Security**
- 3.17.1 The Contractor shall allow within their tender sum for the safe storage of all goods, materials and plant on site. Therefore any loss will not be the subject of any additional claims.
- 3.17.2 The Contractor is to make due allowance and be diligent in executing the Works to maintain the security of the site and safe well-being of the road users.
- 3.17.3 The Contractor is to liaise and agree the provision and arrangement of vehicular access to the site with the Client in advance of undertaking the Works.
- 3.17.4 Subject to giving notice to the Client and having a pre-arrangement in place, delivery of goods can be arranged to be unloaded at the secured site at the Park HQ.
- 3.17.5 Whilst the Works are being carried out, all adjacent areas should be properly protected by providing all temporary protection such as temporary fencing, hoarding, screens, etc. as appropriate to segregate road users from the working areas.
- 3.18 Making Good**
- 3.18.1 The Contact is to make good any damage caused by the Works undertaken to the Client's satisfaction, in relation to the Specification of Works.
- 3.19 Quality Check and Site Clearance**
- 3.19.1 The Contractor is to ensure to complete all specified works to the Specification of Works and to the Project Manager's and the Client's satisfaction, ensuring full compliance with the manufacturer's instructions and recommendations, and that there are no nails or screws proud of any material, unless otherwise specified, leaving trip hazards or left unfinished, for example.
- 3.19.2 The Contractor is to clear tools and equipment from the site and remove all rubbish or debris and dispose off-site, leaving the site clean, safe and tidy.
- 3.19.3 The Contractor is to include all costs associated with the above quality check and site clearance within the tender submission.
- 3.20 Completion and Handover**
- 3.20.1 Two weeks prior to the anticipated completion and handover date, the Principal Contractor must provide the following documentation

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where applicable and hand to the Project Manager:

- Information to update the existing Health and Safety File in accordance with the relevant sections of the Specification of Works. The Contractor shall provide confirmation that all relevant information has been submitted to the Principle Designer for inclusion within the Health & Safety File, otherwise this may result in delay to the certified date of completion and handover.
- All guarantees, warranties, commissioning and completion certificates in relation to products and systems installed.
- All electrical installation certificates for the items installed, refitted and relocated, confirmation that the tests prescribed are in line with the current IEE wiring regulations, and the results recorded.
- Certificates for waste disposal in relation to materials removed from the site.

3.20.2 The completion will not be certified in the absence of any of the above mentioned items and no Loss and Expenses claims would be considered in this respect.

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Section 3: General Conditions

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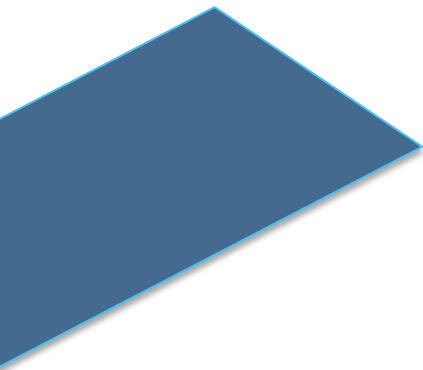
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SECTION SCHEDULE OF WORKS

4



Queen Elizabeth Olympic Park Road Signage Renewal

Section 4: Schedule of Works

4.1 Introduction

- 4.1.1 The Contractor is to refer to the remainder of the Specification of Works, for the full details of the Works.
- 4.1.2 The Contractor is to submit their tender in strict accordance with the Specification of Works. The Contractor may submit proposal of alternative products for the Project Manager's consideration, complete with a technical submittal including full technical details, calculations etc. enabling a detailed comparison.
- 4.1.3 The Contractor is to visit the site during the tender period in order to sufficiently price for the Works.
- 4.1.4 The Contractor is to include for making good and redecoration of all affected areas including of previously decorated and areas of new materials.
- 4.1.5 The Contractor is to note that the roads are under the ownership of the Client that third party liaison for road closure will not be required.

4.2 Site Address

- 4.2.1 The Works are to be undertaken at various locations within Queen Elizabeth Olympic Park, London E20 2ST. The locations of the Works to be undertaken are noted in the Site Location Plan and the Signage Location Plans (Appendix A).

4.3 Access to Site

- 4.3.1 Public access to the site is available for tenderers to undertake required inspections throughout tender and contract periods.
- 4.3.2 The Contractor is to submit Traffic Management Plans as part of the tender submission, and subsequently access to working areas and permit to work are to be discussed and agreed with the Project Manager and the Client at post tender stage.
- 4.3.3 The Contractor is to maintain security and safe access and limit public access to the site whilst undertaking the Works.

4.4 Regulations

- 4.4.1 The Contractor is to identify, ensure full compliance and obtain all necessary permissions and approvals of all applicable and relevant regulations.
- 4.4.2 The listed are a representative list of regulations and guidelines, for the purpose of illustration only.
- 4.4.3 All current and relevant regulations and requirements, including but not limited to:
- Statutory legislations

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- Requirements and guidance of Health and Safety Executive
- The Health and Safety at Work etc. Act 1974
- The Buildings Regulations 2010
- The Construction (Design and Management) Regulations 2015
- The Control of Substances Hazardous to Health Regulations 2002
- Planning Law
- County and Local Authority Byelaws
- The Electricity Supply Regulations 1988
- The Electricity at Work Regulations 1989
- IET Wiring Regulations 17th Edition (BS 7671:2008 incorporating amendment No 3:2015), and all associated IET Guidance Notes
- The Noise at Work Regulations 2005
- The Clean Air Act 1956
- The Petroleum (Consolidation) Regulations 2014
- The Fire Precautions Act 1971
- The Pressure Vessel (Safety) Regulations 1991
- EC Directives and associated Codes of Practices
- CIBSE Guidelines
- Environment Agency Pollution Prevention Guidelines
- British and European Standards & Codes of Practice

4.4.4 The Contractor is to provide a copy of all certificates and approval documents to the Project Manager as soon as practically reasonable, but no later than a week prior to completion and handover. The Contractor is to maintain all documents related to the above documents and keep them available for provision upon request.

4.5 Scope of Works

4.5.1 The Contractor is responsible for the procurement, delivery, off-loading, installation, testing and commissioning of the systems and equipment.

4.5.2 The Works include, but not limited to the following:

- All necessary inspections and testing to establish the adequacy of the proposed installation and condition of the electrical services, and report any unforeseen issues together with proposals within 2 days of inspection.
- Excavations and removal of the existing road signage at the locations noted within the Site Location Plan and the Signage

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Location Plans (Appendix A) and the Signage Schedule (Appendix B) complete with all associated footings, fixtures, fittings, etc.

- Provision and installation of new road signage including associated footings at the locations noted in the Site Location Plan and the Signage Location Plans (Appendix A) and the Signage Schedule (Appendix B) in strict accordance with the manufacturer's instructions and recommendations.
- All necessary connection of services to new road signage, in strict accordance with the manufacturer's instructions and recommendations.
- Cap off any redundant services and leave safe and available for future use.
- Removal of redundant wiring, fixtures, fittings, brackets, etc.
- Testing, commissioning and certification of new installations.
- Provision of manufacturer's warranties, operation and maintenance manuals and record drawings for the new installations.

4.5.3 The Contractor is to notify any out of hours works necessitated by contract programme, and include any costs associated within the tender submission.

4.6 **Contract Drawings**

4.6.1 The Contract Drawings are the tender drawings (Appendix A):

- T00 Site Location Plan
- T01 Signage Location Plan - Zone 1 - Rev01
- T02 Signage Location Plan - Zone 2 - Rev01
- T03 Signage Location Plan - Zone 3 - Rev01

4.6.2 All measurements are to be taken by the Contractor prior to undertaking any works specified.

4.7 **Method of Working**

4.7.1 The Contractor is to review and propose appropriate methods of working in line with the Specification of Works and propose programme.

4.7.2 The Contractor is to make all due allowance for programming, sequencing of the Works throughout completion and handover in order to accommodate the proposed completion date.

4.7.3 The Contractor is to make all due allowance for any change in site set up, access provisions, etc. throughout the Works.

4.8 **Existing Belowground Services, Asbestos and UXO**

4.8.1 The Contractor is to review the Utilities Plan (Appendix E), the Asbestos Survey (Appendix F) and the UXO Report (Appendix G)

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in conjunction with the Works. The UXO Report (Appendix G) is to be provided upon request during the tender period. The Utilities Plan (Appendix E) is to be provided upon request during the tender period, subject to signing Non-Disclaimer Notice.

4.8.2 The Contractor is to notify the Project Manager of any need of further investigation or specialist surveys, as soon as practically reasonable.

4.8.3 Where required, the Contractor is to safely dispose any asbestos containing materials removed from the site, retain any necessary Waste Consignment Notices and provide a copy to the Project Manager.

4.9 Protection

4.9.1 The Contractor is to be reminded that the roads are to be partially closed to accommodate the Works, whilst ensuring that minimal disruption is caused to the usual traffic operations. The Contractor is to take all necessary steps to ensure health and safety of members of the public and road users, providing sufficient means of protection.

4.9.2 The Contractor is to provide sufficient fencing, barriers, closure, warning tapes, signage, etc. to sufficiently guard off the working area to restrict unauthorised access.

4.9.3 Any items or materials stored overnight must be securely stored within the Contractor's compound, and must not be left on site unsecured under no circumstances.

4.9.4 The Contractor must not dispose any surplus or defective paint, or other liquids by pouring down gullies, WCs, sinks, etc. The Contractor must dispose such waste appropriately off site.

4.10 Site Waste

4.10.1 Cart away any dirt and debris from the working areas and regularly remove and dispose off-site as soon as reasonably possible. Care should be taken to ensure that adjacent surfaces are protected from consequential staining. Any soiling resulted by the Works shall be cleaned upon completion and handover of the Works.

4.10.2 The Contractor is to submit, as part of the tender submission, proposals for waste management and removal strategy together with site specific risk assessments and method statements, and obtain the Client's approval prior to commencement of the Works.

4.10.3 The Contractor is to obtain, maintain and display any necessary licenses.

4.10.4 Following removal of waste and any associated facilities undertake repair or make good any affected areas, to flush and match the adjacent surfaces, and to the satisfaction of the Project Manager and the Client.

4.11 Programming and Sequencing

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- 4.11.1 The Works are not to start before 8.00am, and to be undertaken between the hours of the local authority's restrictions.
- 4.11.2 The Contractor is required to liaise with the Project Manager and the Client in programming of the Works with due consideration of any events on site, with reference to the Event Schedule (Appendix D). Further information will be provided by the Client at post contract stage with reasonable notice prior to commencement of the Works.
- 4.11.3 The Contractor is to undertake the works in phases in line with the zones outlined within the Site Location Plan and the Signage Location Plans (Appendix A) and the Signage Schedule (Appendix B). The Contractor is to submit a detailed programme proposal of the Works and traffic management plans as part of the tender submission for review and approval by the Project Manager and the Client.
- 4.11.4 The Contractor is to propose the best possible sequencing and programme of the Works to achieve the minimal disruption to the regular operation of the roads. Upon agreement, the Works are to be undertaken with sufficient traffic management and safeguarding provisions.
- 4.12 **Site Set Up**
- 4.12.1 In accordance with the proposed programme, subject to approval, the Contractor is to provide, maintain and re-locate as necessary all necessary safe guarding provisions of the working areas such as hoarding, fencings, barriers, signs, etc.
- 4.12.2 In accordance with the proposed management plans subject to approval, the Contractor is to provide, maintain and re-locate as necessary all traffic management equipment.
- 4.12.3 The Contractor is to provide temporary power supply necessary to accommodate traffic management equipment and undertaking of the Works. The Contractor is to note that petrol generators are not permitted on site. The Contractor is to submit site specific risk assessments and method statements for their proposal for review and approval by the Client.
- 4.12.4 The Contractor is to ensure that the working area is restricted of any unauthorised access throughout the duration of the Works. The Contractor is to ensure that the working areas are left safe and secure at the end of each working day.
- 4.12.5 The Contractor is to undertake the Works in such way that the site is provided with safe and sufficient means of traffic circulation at all times. Under no circumstances, any areas are to be left insufficiently secured during and at the end of each working day.
- 4.13 **Inspection and Provision of Design Proposals**
- 4.13.1 Prior to removal of the existing installations and throughout the Works, the Contractor is to undertake all necessary inspections and tests to establish adequacy of the proposed installations particularly

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in relation to adjacent installations and services.

- 4.14 The Contractor is to immediately notify the Project Manager of any issues and concerns in the design and installation of the proposed works, together with proposals.

4.15 Strip Out / Removal

- 4.15.1 Dismantle, strip out and remove the existing signage at the locations noted in the Site Location Plan and the Signage Location Plans (Appendix A).

- 4.15.2 Carefully break up, excavate and remove the existing footings associated with the existing signage to be removed, complete with all associated fixings, fixtures, brackets, etc. leaving it ready receive later described works.

- 4.15.3 Care should be taken to minimise any damage to adjacent surfaces and installations. The Contractor is required to make good any damage caused.

4.16 Installation of New Signage

- 4.16.1 To adequately prepare the ground and provide footing required for new signage, in accordance with the manufacturer's instructions and recommendations, and all relevant regulations and statutory requirements.

- 4.16.2 To provide and install new signage in accordance with the Site Location Plan and the Signage Location Plans (Appendix A) and the Signage Schedule (Appendix B), in strict accordance with the manufacturer's instructions and recommendation, and all relevant regulations and statutory requirements.

- 4.16.3 The Contractor is to note that the existing lit units are to be replaced with new lit units, and the existing unlit units are to be replaced with new unlit units, as noted in the Signage Schedule (Appendix B). The Contractor is to notify any deviation to the Project Manager immediately after discovery.

4.17 Making Good Works

- 4.17.1 Upon completion of the Works, remove and dispose off-site, all installations, equipment, fixtures, fittings, etc. associated with the redundant signage.

- 4.17.2 Undertake necessary repairs, make good and reinstate road finishes to all affected areas, to match and flush with the adjacent surfaces.

- 4.17.3 Where reinstatement of the surface finish is not feasible, the Contractor is to provide proposal of alternative method that is the closest match with adjacent surfaces in their materials, colours, textures, profiles, etc.

4.18 Completion

- 4.18.1 Upon completion of the Works, undertake builder's cleaning of all

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working areas to remove any temporary protection, and clear any dust and debris.

- 4.18.2 The Contractor is to demonstrate and explain the operation and control of the new installation to the Client's management team.
- 4.18.3 Upon completion of the Works, undertake all necessary inspections, certify new installation and provide the manufacture's and installer's warranties. Provide certificates and warranties to the Project Manager at least 1 week prior to completion and handover.
- 4.18.4 Submit all information required to update the existing Health and Safety File, including but not limited to as built drawings in PDF and DWG format, user manuals and operation and maintenance manuals of the newly installed services at least 1 week prior to completion and handover.

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Section 4: Schedule of Works

Collection

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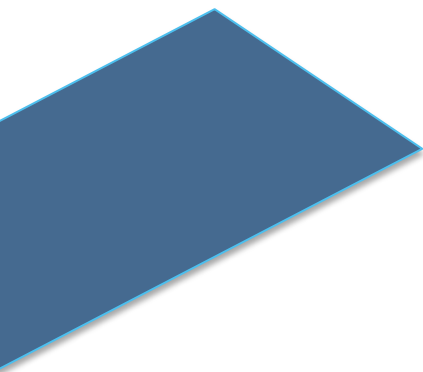
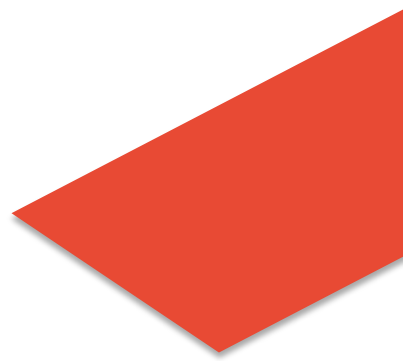
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MAIN SUMMARY



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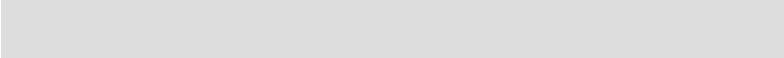
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From Section 2 : Materials & Workmanship (Not Priced)

From Section 3 : General Conditions

From Section 4 : Schedule of Works

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Signed: 

For & on behalf of 

Date: 

Total Main Summary to Form of Tender