

**COMPTON VERNEY HOUSE TRUST**

**GROUNDS LIGHTING**

**NBS PRELIMINARIES & SPECIFICATION**

**our ref:** 19135 / EH / NBS001  
**date:** 29<sup>th</sup> October 2020  
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## A10 PROJECT PARTICULARS

### 110 THE PROJECT

- Name: *Grounds Lighting.*
- Nature: *External Electrical lighting system installation.*
- Location: *Compton Verney Art Gallery & Park.*
- Timescale for construction work: *To be completed by March 31st 2021.*

### 120 EMPLOYER (CLIENT)

- Name: *Compton Verney House Trust.*
- Address: *Compton Verney, Warwickshire, CV35 9HZ.*
- Contact: *Porfiris Kefalas.*
- Telephone: *01926 645515.*
- E-mail: *porfiris.kefalas@comptonverney.org.uk.*

### 140 ARCHITECT/ CONTRACT ADMINISTRATOR

- Name: *Bea Landscape Design Limited.*
- Address: *132A, The Westlands, Compton Road, WV3 9QB.*
- Contact: *Edmund Hobday.*
- Telephone: *01902 424950 / 07968 273163.*
- Email: *edmund@bealandscape.co.uk.*

### 150 PRINCIPAL DESIGNER

- Name: *Bea Landscape Design Limited.*
- Address: *132A, The Westlands, Compton Road, WV3 9QB.*
- Contact: *Edmund Hobday.*
- Telephone: *01902 424950 / 07968 273163.*
- E-mail: *edmund@bealandscape.co.uk.*

## A11 TENDER AND CONTRACT DOCUMENTS

### 110 TENDER DRAWINGS

- The tender drawings are:

19-135-01D	Lighting Zone Plan
19-135-04D	Lighting Zones 1&2
19-135-06C	Lighting Zones 3&4
19-135-07C	Lighting Zones 5&6
19-135-08C	Tree Protection Plan
19-135-09C	Tree Protection Plan
19-135-10	Wifi Electrical Supply .

### 120 CONTRACT DRAWINGS

- The Contract Drawings: The same as the tender drawings.

### 160 PRECONSTRUCTION INFORMATION

- Format: The Preconstruction information is described in these preliminaries in Section A34. It refers to information given elsewhere in the preliminaries and other tender documents.

## A12 THE SITE/ EXISTING BUILDINGS

### 110 THE SITE

- Description: *The site is Compton Verney Art Gallery & Park a Grade II\* Registered Park & Garden set within the Combrook and Compton Verney Conservation Area..*

### 120 EXISTING BUILDINGS ON/ ADJACENT TO THE SITE

- Description: *The Welcome Centre, Grade II\* & SAM Adam Bridge, Grade I Mansion house, Grade I Chapel and Grade II listed Ice House are in vicinity of the works.*

### 140 EXISTING UTILITIES AND SERVICES

- Drawings: (Information shown is indicative only): *to be supplied with the Pre-Construction Health & Safety Information issued under separate cover for consideration with the Tender documents.*
- Other information: *n/a.*

### 200 ACCESS TO THE SITE

- Description: *The site is accessible from the B4086 Kineton Road Monday to Friday 8.00am to 5.30pm.*
- Limitations: *The drive from the main road, through the car park to the residents car park to the North of the Mansion House is open to private residents all year round. The secondary access to the West of the estate is open to residents of the Walled Garden all year round..*
- Access for inspections: *Provide access at reasonable times for both on-site and off-site work.*

### 210 PARKING

- Restrictions on parking of the Contractor's and employees' vehicles: *use existing car park.*

### 220 USE OF THE SITE

- General: *Do not use the site for any purpose other than carrying out the Works.*
- Limitations: *Site compound & storage of materials to be located within the car park to the South of the Welcome Centre.*

### 230 SURROUNDING LAND/ BUILDING USES

- General: *Adjacent or nearby uses or activities are as follows:*
  - *The site is an Art Gallery and Park. The Welcome Centre, car park and grounds are open to the general public all year round from 10am to 4.30pm. The Art Gallery is open Thursday to Saturday from January to February and Monday to Sunday March to December. The drive to the mansion house is used by private residents 365 days of the year.*

### 250 SITE VISIT

- Assessment: *Ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the execution of the Works.*
- Arrangements for visit: *contact Profiris Kefalas - Facilities Manager (01926 645515).*

## A13 DESCRIPTION OF THE WORK

### 120 THE WORKS

- Description: *The installation of recessed ground lights to the drive and footpaths from the Car Park and Chapel to the Mansion House, including an illuminated handrail to the cafe steps and an electrical supply box to the East park. .*

### 130 WORK BY OTHERS CONCURRENT WITH THE CONTRACT

- Description: *works to Play Ground and setting up of an exhibition within the Art Gallery.*

## **A20 JCT MINOR WORKS BUILDING CONTRACT WITH CONTRACTOR'S DESIGN (MWD)**

JCT MINOR WORKS BUILDING CONTRACT WITH CONTRACTOR'S DESIGN

- The contract: JCT Minor Works Building Contract with Contractor's Design 2016 Edition.
- Requirement: Allow for the obligations, liabilities and services described.

### **THE RECITALS**

First - THE WORKS AND THE CONTRACT ADMINISTRATOR

- The work comprises: *The installation of external lighting and electrical supply systems to the drive and footpaths between the Welcome Centre, Chapel and Mansion House..*
- Architect/ Contract Administrator: See clause A10/140.

Second - CONTRACTOR'S DESIGNED PORTION

- The Works include the design and construction of:
  - *The completion of the lighting installation design and electrical connections.*

Third - CONTRACT DOCUMENTS

- Contract drawings: As listed in clause A11/120.  
Contract documents: The following have been prepared which show and describe the work to be done *A specification.*

Fourth - PRICED DOCUMENTS

- Documents to be priced or provided by the Contractor: *Work schedules.*

### **ARTICLES**

3 - ARCHITECT/ CONTRACT ADMINISTRATOR

- Architect/ Contract Administrator: See clause A10/140.

4 and 5 - PRINCIPAL DESIGNER/ PRINCIPAL CONTRACTOR

- Principal Designer: See clause A10/150.
- Principal Contractor: See clause A10/130.

### **CONTRACT PARTICULARS**

Fifth Recital and Schedule 2 - BASE DATE

- Base date: *16th November 2020.*

Fifth Recital and clause 4.2 - CONSTRUCTION INDUSTRY SCHEME (CIS)

- Employer at base date *is not* a 'contractor' for the purposes of the CIS.

Sixth Recital - CDM REGULATIONS

- The project *is not* notifiable.



Seventh Recital - FRAMEWORK AGREEMENT

- Framework agreement: *Does not apply.*
- Details:
  - Date: *n/a.*
  - Title: *n/a.*
  - Parties: *n/a.*

Eighth Recital and Schedule 3 - SUPPLEMENTAL PROVISIONS

- Collaborative working: Supplemental Provision 1 *applies.*
- Health and safety: Supplemental Provision 2 *applies.*
- Cost savings and value improvements: Supplemental Provision 3 *applies.*
- Sustainable development and environmental considerations: Supplemental Provision 4 *applies.*
- Performance indicators and monitoring: Supplemental Provision 5 *does not apply.*
- Notification and negotiation of disputes: Supplemental Provision 6 *does not apply.*  
Where Supplemental Provision 6 applies, the respective nominees of the parties are:
  - Employer's nominee: *n/a*
  - Contractor's nominee: *n/a*Or such replacement as each party may notify to the other from time to time.

Article 7 - ARBITRATION

- Article 7 and Schedule 1 *apply.*

Clause 2.3 - COMMENCEMENT AND COMPLETION

- Works commencement date: *works to commence January 2021.*
- Date for Completion: *12th March 2021.*

Clause 2.9 - LIQUIDATED DAMAGES

- At the rate of *500 per calendar week or pro-rata thereto.*

Clause 2.11 - RECTIFICATION PERIOD

- Period: *Six months* from the date of practical completion.

Clause 4.3 - INTERIM PAYMENTS

- Interim Valuation Dates:
  - The first Interim Valuation Date is: *2 weeks from commencement of contract.*
  - Thereafter at intervals of: *4 weeks.*
- Payments due prior to practical completion:
  - Percentage of total value of the work etc.: *95 per cent.*
- Payments becoming due on or after practical completion:
  - Percentage of the total amount to be paid: *97½ per cent.*

Clause 4.3 and 4.8 - FLUCTUATIONS PROVISION

- The following fluctuations provision applies: *No fluctuations provision applies.*
- Where Schedule 2 applies, the percentage addition (paragraph 13) is *n/a.*

Clause 4.8.1 - SUPPLY OF DOCUMENTATION FOR COMPUTATION OF AMOUNT TO BE FINALLY CERTIFIED

- Period: *Three months* from the date of practical completion.

Clause 5.3 - CONTRACTOR'S PUBLIC LIABILITY INSURANCE - INJURY TO PERSONS OR PROPERTY

- The required level of cover for any one occurrence or series of occurrences arising out of one event:
  - Not less than: *10 million*.

Clauses 5.4A, 5.4B and 5.4C - INSURANCE OF THE WORKS, ETC. - ALTERNATIVE PROVISIONS

- Clause 5.4A applies.
- Where clause 5.4A or 5.4B applies, percentage to cover professional fees: *15 per cent*.
- Where clause 5.4C applies, insurance arrangements - details of the required policy or policies: *n/a*.

Clause 7.2 - ADJUDICATION

- The Adjudicator is: *tbc*.
- Nominating body: *Royal Institution of Chartered Surveyors*.

Schedule 1 paragraph 2.1 - ARBITRATION

- Appointor of Arbitrator (and of any replacement): President or a Vice president of the: *The Royal Institution of Chartered Surveyors*.

**THE CONDITIONS**

SECTION 1: DEFINITIONS AND INTERPRETATION

SECTION 2: CARRYING OUT THE WORKS

SECTION 3: CONTROL OF THE WORKS

SECTION 4: PAYMENT

SECTION 5: INJURY, DAMAGE AND INSURANCE

SECTION 6: TERMINATION

SECTION 7: SETTLEMENT OF DISPUTES

EXECUTION

- The contract: Will be executed *under hand*.

**A30 TENDERING/ SUBLETTING/ SUPPLY****MAIN CONTRACT TENDERING****110 SCOPE**

- General: These conditions are supplementary to those stated in the Invitation to Tender and on the form of tender.

**145 TENDERING PROCEDURE**

- General: In accordance with the principles of: *JCT Tendering Practice Note 2017*.
- Arithmetical errors: *Overall price* is dominant.

**160 EXCLUSIONS**

- Inability to tender: Immediately inform if any parts of the work as defined in the tender documents cannot be tendered.
- Relevant parts of the work: Define those parts, stating reasons for the inability to tender.

**170 ACCEPTANCE OF TENDER**

- Acceptance: No guarantee is offered that any tender will be recommended for acceptance or be accepted, or that reasons for non acceptance will be given.
- Costs: No liability is accepted for any cost incurred in the preparation of any tender.

**190 PERIOD OF VALIDITY**

- Period: After submission or lodgement, keep tender open for consideration (unless previously withdrawn) for not less than 6 weeks.
- Date for possession/ commencement: See section A20.

**PRICING/ SUBMISSION OF DOCUMENTS****210 PRELIMINARIES IN THE SPECIFICATION**

- The Preliminaries/ General conditions sections (A10-A56 inclusive) must not be relied on as complying with SMM7/ NRM2.

**250 PRICED DOCUMENTS**

- Alterations: Do not alter or qualify the priced documents without written consent. Tenders containing unauthorised alterations or qualifications may be rejected.
- Measurements: Where not stated, ascertain from the drawings.
- Deemed included: Costs relating to items, which are not priced, will be deemed to have been included elsewhere in the tender.
- Submit: *With tender*.

**310 TENDER**

- General: Tenders must include for all work shown or described in the tender documents as a whole or clearly apparent as being necessary for the complete and proper execution of the Works.

**440 SCHEDULE OF RATES**

- Content: Provide rates for all significant items of work including at least the following:
  - *as scheduled within 19135/EH/SQ001*.
- Fully priced copy: Submit *with the tender*.

**500 TENDER STAGE METHOD STATEMENTS**

- Method statements: Prepare, describing how and when the following is to be carried out:
  - *Working within the root protection areas of the retained trees.*
- Statements: Submit *with the tender*.

**550 HEALTH AND SAFETY INFORMATION**

- Content: Describe the 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:
  - A copy of the health and safety policy document, including risk assessment procedures.
  - Accident and sickness records for the past five years.
  - Records of previous Health and Safety Executive enforcement action.
  - Records of training and training policy.
  - The number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
- Submit: *With the Tender*.

**570 OUTLINE CONSTRUCTION PHASE HEALTH AND SAFETY PLAN**

- Content: Submit the following information within one week of request:
  - Method statements on how risks from hazards identified in the pre-construction information and other hazards identified by the contractor will be addressed.
  - Details of the management structure and responsibilities.
  - Arrangements for issuing health and safety directions.
  - Procedures for informing other contractors and employees of health and safety hazards.
  - Selection procedures for ensuring competency of other contractors, the self-employed and designers.
  - Procedures for communications between the project team, other contractors and site operatives.
  - Arrangements for cooperation and coordination between contractors.
  - Procedures for carrying out risk assessment and for managing and controlling the risk.
  - Emergency procedures including those for fire prevention and escape.
  - Arrangements for ensuring that all accidents, illness and dangerous occurrences are recorded.
  - Arrangements for welfare facilities.
  - Procedures for ensuring that all persons on site have received relevant health and safety information and training.
  - Arrangements for consulting with and taking the views of people on site.
  - Arrangements for preparing site rules and drawing them to the attention of those affected and ensuring their compliance.
  - Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements.
  - Review procedures to obtain feedback.

## **A31 PROVISION, CONTENT AND USE OF DOCUMENTS**

### **DEFINITIONS AND INTERPRETATIONS**

#### **110 DEFINITIONS**

- Meaning: Terms, derived terms and synonyms used in the preliminaries/ general conditions and specification are as stated here or in the appropriate referenced document.

#### **120 COMMUNICATION**

- Definition: Includes advise, inform, submit, give notice, instruct, agree, confirm, seek or obtain information, consent or instructions, or make arrangements.
- Format: In writing to the person named in clause A10/140 unless specified otherwise.
- Response: Do not proceed until response has been received.

#### **130 PRODUCTS**

- Definition: Materials, both manufactured and naturally occurring, and goods, including components, equipment and accessories, intended for the permanent incorporation in the Works.
- Includes: Goods, plant, materials, site materials and things for incorporation into the Works.

#### **135 SITE EQUIPMENT**

- Definition: Apparatus, appliances, machinery, vehicles or things of whatsoever nature required in or about the construction for the execution and completion of the Works but not materials or other things intended to form or forming part of the Permanent Works.
- Includes: Construction appliances, vehicles, consumables, tools, temporary works, scaffolding, cabins and other site facilities.
- Excludes: Products and equipment or anything intended to form or forming part of the permanent works.

#### **145 CONTRACTOR'S CHOICE**

- Meaning: Selection delegated to the Contractor, but liability to remain with the specifier.

#### **150 CONTRACTOR'S DESIGN**

- Meaning: Design to be carried out or completed by the Contractor and supported by appropriate contractual arrangements, to correspond with specified requirements.

#### **155 SUBMIT PROPOSALS**

- Meaning: Submit information in response to specified requirements.

**160** TERMS USED IN SPECIFICATION

- Remove: Disconnect, dismantle as necessary and take out the designated products or work and associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials. Excludes removal and disposal of associated pipework, wiring, ductwork or other services.
- Remediate: Action or measures taken to lessen, clean up, remove or mitigate the existence of hazardous materials; in accordance with standards, or requirements as may be set out by statutes, rules, regulations or specification.
- Fix: Receive, unload, handle, store, protect, place and fasten in position; dispose of waste and surplus packaging. To include all labour, materials and site equipment for that purpose.
- Supply and fix: As above, but including supply of products, components or systems to be fixed, together with everything necessary for their fixing. All products, components or systems are to be supplied and fixed unless stated otherwise.
- Keep for reuse: Do not damage designated products or work. Clean off bedding and jointing materials. Stack neatly, protect adequately and store until required by the employer/ purchaser, or until required for use in the works as instructed.
- Keep for recycling: As 'keep for reuse', but relates to a naturally occurring material rather than a manufactured product.
- Make good: Execute local remedial work to designated work. Make secure, sound and neat. Excludes redecoration and/ or replacement.
- Replace: Supply and fix new products matching those removed. Execute work to match original new state of that removed.
- Repair: Execute remedial work to restore something to its original working state. Make secure, sound and neat. Excludes redecoration and/ or replacement.
- Refix: Fix removed products.
- Ease: Adjust moving parts of designated products, or work to achieve free movement and good fit in open and closed positions.
- 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.
- System: Equipment, accessories, controls, supports and ancillary items (including installation) necessary for that section of the work to function.

**170** MANUFACTURER AND PRODUCT REFERENCE

- Definition: When used in this combination:
  - 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.
- Currency: References are to the particular product as specified in the manufacturer's technical literature current on the date of the invitation to tender.

**200** SUBSTITUTION OF PRODUCTS

- Products: If an alternative product to that specified is proposed, obtain approval before ordering the product.
- Reasons: Submit reasons for the proposed substitution.
- Documentation: Submit relevant information, including:
  - 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/ guarantee.
- Alterations to adjacent work: If needed, advise scope, nature and cost.
- Manufacturers' guarantees: If substitution is accepted, submit before ordering products.

**210** CROSS REFERENCES

- Accuracy: Check remainder of the annotation or item description against the terminology used in the section or clause referred to.
- 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 referred to specification section dealing with general matters, ancillary products and execution also apply.
- Discrepancy or ambiguity: Before proceeding, obtain clarification or instructions.

**220** REFERENCED DOCUMENTS

- Conflicts: Specification prevails over referenced documents.

**230** EQUIVALENT PRODUCTS

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

**240** 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 recognised in the UK.
- Before ordering: Submit notification of all such substitutions.
- Documentary evidence: Submit for verification when requested as detailed in clause A31/200. Any submitted foreign language documents must be accompanied by certified translations into English.

**250** CURRENCY OF DOCUMENTS AND INFORMATION

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

**260 SIZES**

- General dimensions: Products are specified by their co-ordinating sizes.
- Timber: Cross section dimensions shown on drawings are:
  - Target sizes as defined in BS EN 336 for structural softwood and hardwood sections.
  - Finished sizes for non-structural softwood or hardwood sawn and further processed sections.

**DOCUMENTS PROVIDED ON BEHALF OF THE EMPLOYER**

**410 ADDITIONAL COPIES OF DRAWINGS/ DOCUMENTS**

- Additional copies: Issued free of charge.

**440 DIMENSIONS**

- Scaled dimensions: Do not rely on.

**450 MEASURED QUANTITIES**

- 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.

**460 THE SPECIFICATION**

- Coordination: All sections must be read in conjunction with Main Contract Preliminaries/ General conditions.

**DOCUMENTS PROVIDED BY CONTRACTOR/ SUBCONTRACTORS/ SUPPLIERS**

**600A CONTRACTOR'S DESIGN INFORMATION**

- General: Complete the design and detailing of parts of the Works as specified.
- Provide:
  - Production information based on the drawings, specification and other information.
  - Liaison to ensure coordination of the work with related building elements and services.
- Master programme: Make reasonable allowance for completing design/ production information, submission (including information relevant to the CDM Regulations), comment, inspection, amendment, resubmission and reinspection.

**620 AS-BUILT DRAWINGS AND INFORMATION**

- Contractor designed work: Provide drawings/ information:
  - *as requested*.
- Submit: At least two weeks before date for completion.

**630 TECHNICAL LITERATURE**

- Information: Keep on site for reference by all supervisory personnel:
  - Manufacturers' current literature relating to all products to be used in the Works.
  - Relevant British, EN or ISO Standards.



## A32 MANAGEMENT OF THE WORKS

### GENERALLY

#### 110 SUPERVISION

- General: Accept responsibility for coordination, supervision and administration of the Works, including subcontracts.
- Coordination: Arrange and monitor a programme with each subcontractor, supplier, local authority and statutory undertaker, and obtain and supply information as necessary for coordination of the work.

#### 120 INSURANCE

- Documentary evidence: Before starting work on site submit details, and/ or policies and receipts for the insurances required by the Conditions of Contract.

#### 125 PROFESSIONAL INDEMNITY INSURANCE

- Provide and maintain insurance in respect of Contractor Designed Works:
  - Level of cover: *Relates to claims or series of claims arising out of one event.*
  - Period of insurance for these purposes: *one year.*
- Amount of indemnity required: *£ 2 million.*
- Limit of cover for pollution/ contamination claims (If none is stated, the required level of cover shall be the full amount of the indemnity cover stated): *£ 2 million.*
- Expiry of required period of CDP Professional Indemnity insurance: *six years* (If no period is selected, the expiry date shall be 6 years from the date of practical completion of the Works).
- Documentary evidence: Submit details before starting work on site and/ or policies and receipts for the insurances required.
  - Format: *Digital.*

#### 130 INSURANCE CLAIMS

- Notice: If any event occurs which may give rise to any 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/ client, the person administering the Contract on their behalf and the Insurers.
- Failure to notify: Indemnify the employer/ client against any loss, which may be caused by failure to give such notice.

#### 140 CLIMATIC CONDITIONS

- Information: Record accurately and retain:
  - Daily maximum and minimum air temperatures (including overnight).
  - Delays due to adverse weather, including description of the weather, types of work affected and number of hours lost.

#### 150 OWNERSHIP

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

**PROGRAMME/ PROGRESS****210 PROGRAMME**

- Master programme: Immediately when requested and before starting work on site submit in an approved form a master programme for the Works, which must include details of:
  - Planning and mobilisation by the Contractor
  - Subcontractor's work.
  - Running in, adjustment, commissioning and testing of all engineering services and installations.
  - Work resulting from instructions issued in regard to the expenditure of provisional sums.
  - Work by others concurrent with the Contract.
- Submit one copy.

**245 START OF WORK ON SITE**

- Notice: Before the proposed date for start of work on site give minimum notice of *two weeks*

**260 SITE MEETINGS**

- General: Site meetings will be held to review progress and other matters arising from administration of the Contract.
- Frequency: *Every month.*
- Location: *Employers office.*
- Accommodation: Ensure availability at the time of such meetings.
- Attendees: Attend meetings and inform subcontractors and suppliers when their presence is required.
- Chairperson (who will also take and distribute minutes): *Contract Administrator.*

**290 NOTICE OF COMPLETION**

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

**310 EXTENSIONS OF TIME**

- Notice: When a notice of the cause of any delay or likely delay in the progress of the works is given under the contract, written notice must also be given of all other causes which apply concurrently.
- Details: As soon as possible submit:
  - Relevant particulars of the expected effects, if appropriate, related to the concurrent causes.
  - An estimate of the extent, if any, of the expected delay in the completion of the Works beyond the date for completion.
  - All other relevant information required.

**CONTROL OF COST****420 REMOVAL/ REPLACEMENT OF EXISTING WORK**

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

**430 PROPOSED INSTRUCTIONS**

- Estimates: If a proposed instruction requests an estimate of cost, submit without delay and in any case within seven days.

### **440** MEASUREMENT

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

### **470** PRODUCTS NOT INCORPORATED INTO THE WORKS

- Ownership: At the time of each valuation, supply details of those products not incorporated into the Works which are subject to any reservation of title inconsistent with passing of property as required by the Conditions of Contract, together with their respective values.
- Evidence: When requested, provide evidence of freedom of reservation of title.

## A33 QUALITY STANDARDS/ CONTROL

### STANDARDS OF PRODUCTS AND EXECUTIONS

#### 110 INCOMPLETE DOCUMENTATION

- General: Where and to the extent that products or work are not fully documented, they are to be:
  - Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
  - 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 any obligations or liabilities under the Contract.

#### 120 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/ qualifications when requested.

#### 130 QUALITY OF PRODUCTS

- Generally: New. (Proposals for recycled products may be considered).
- Supply of each product: From the same source or manufacturer.
- Whole quantity of each product required to complete the Works: 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.

#### 135 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 dimensions.
- Finished work: Without defects, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.
- Location and fixing of products: Adjust joints open to view so they are even and regular.

#### 140 EVIDENCE OF COMPLIANCE

- Proprietary products: Retain on site evidence that the proprietary product specified has been supplied.
- Performance specification: Submit evidence of compliance, including test reports indicating:
  - Properties tested.
  - Pass/ fail criteria.
  - Test methods and procedures.
  - Test results.
  - Identity of testing agency.
  - Test dates and times.
  - Identities of witnesses.
  - Analysis of results.

**150 INSPECTIONS**

- Products and executions: Inspection or any other action must not be taken as approval unless confirmed in writing referring to:
  - Date of inspection.
  - Part of the work inspected.
  - Respects or characteristics which are approved.
  - Extent and purpose of the approval.
  - Any associated conditions.

**160 RELATED WORK**

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

**170 MANUFACTURER'S RECOMMENDATIONS/ INSTRUCTIONS**

- General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
- Exceptions: 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.

**SAMPLES/ APPROVALS****210 SAMPLES**

- Products or executions: Comply with all other specification requirements and in respect of the stated or implied characteristics either:
  - To an express approval.
  - To match a sample expressly approved as a standard for the purpose.

**220 APPROVAL OF PRODUCTS**

- Submissions, samples, inspections and tests: Undertake or arrange 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.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

**230 APPROVAL OF EXECUTION**

- Submissions, samples, inspections and tests: Undertake or arrange 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.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

## ACCURACY/ SETTING OUT GENERALLY

### 320 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.
- Inform: When complete and before commencing construction.

## SERVICES GENERALLY

### 410 SERVICES REGULATIONS

- New or existing services: Comply with the Byelaws or Regulations of the relevant Statutory Authority.

### 435 ELECTRICAL INSTALLATION CERTIFICATE

- Submit: When relevant electrical work is completed.
- Original certificate: To be lodged in the Building Manual.

### 445 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.
- Coordination with other works: Submit details of locations, types/ methods of fixing of services to fabric and identification of runs and fittings.

### 450 MECHANICAL AND ELECTRICAL SERVICES

- Final tests and commissioning: Carry out so that services are in full working order at completion of the Works.
- Building Regulations notice: Copy to be lodged in the Building Manual.

## SUPERVISION/ INSPECTION/ DEFECTIVE WORK

### 525 ACCESS

- Extent: Provide at all reasonable times access to the Works and to other places of the Contractor or subcontractors where work is being prepared for the Contract.
- Designate: *Contract Administrator*.

### 530 OVERTIME WORKING

- Notice: Prior to overtime being worked, submit details of times, types and locations of work to be done.
  - Minimum period of notice: *Three days*.
- Concealed work: If executed during overtime for which notice has not been given, it may be required to be opened up for inspection and reinstated at the Contractor's expense.

### 540 DEFECTS IN EXISTING WORK

- 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 work; or
  - Be rendered abortive by remedial work.

**560 TESTS AND INSPECTIONS**

- Timing: Agree and record dates and times of tests and inspections to enable all affected parties to be represented.
- Confirmation: One working day prior to each such 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.

**610 DEFECTIVE PRODUCTS/ EXECUTIONS**

- Proposals: Immediately any work or product is known, or appears, to be not in accordance with the Contract, submit proposals for opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution.
- Acceptability: Such proposals may be unacceptable and contrary instructions may be issued.

**WORK AT OR AFTER COMPLETION****710 WORK BEFORE COMPLETION**

- General: Make good all damage consequent upon the Works.
- Temporary markings, coverings and protective wrappings: Remove unless otherwise instructed.
- Cleaning: Clean the Works thoroughly inside and out, including all accessible ducts and voids. Remove all 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 all 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.

**720 SECURITY AT COMPLETION**

- General: Leave the Works secure with, where appropriate, all accesses closed and locked.
- Keys: Account for and adequately label all keys, and hand over together with an itemized schedule, retaining duplicate schedule signed as a receipt.

**730 MAKING GOOD DEFECTS**

- Remedial work: Arrange access with *Client*.
- Rectification: Give reasonable notice for access to the various parts of the Works.
- Completion: Notify when remedial works have been completed.

**A34 SECURITY/ SAFETY/ PROTECTION****SECURITY, HEALTH AND SAFETY****140 CONSTRUCTION PHASE HEALTH AND SAFETY PLAN**

- Submission: Present to the Employer/ Client no later than *two weeks before commencement of work on-site*.
- Confirmation: Do not start construction work until the Employer has confirmed in writing 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, clause A30/570, and the Pre-tender Health and Safety Plan/ Preconstruction information.

**150 SECURITY**

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

**170 OCCUPIED PREMISES**

- Extent: Existing buildings will be occupied and/ or used during the Contract as follows: *The Museum & Art Gallery, Welcome Centre, Coach House, Private residences to secondary access and Walled Garden*.
- Works: Carry out without undue inconvenience and nuisance and without danger to occupants and users.
- Overtime: If compliance with this clause requires certain operations to be carried out during overtime, and such overtime is not required for any other reason, the extra cost will be allowed, provided that such overtime is authorized in advance.

**210 SAFETY PROVISIONS FOR SITE VISITS**

- Safety: Submit details in advance of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require their compliance when visiting the site.
- Protective clothing and/ or equipment: Provide and maintain on site for visitors to the-site.

**PROTECT AGAINST THE FOLLOWING****340 POLLUTION**

- Prevention: Protect the site, the works and the general environment including the atmosphere, land, streams and waterways against pollution.
- Contamination: If pollution occurs inform immediately, including to the appropriate authorities and provide relevant information.

**360 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.



**371 DANGEROUS OR HAZARDOUS SUBSTANCES**

- Duty: Report immediately suspected materials discovered during execution of the works.
  - Do not disturb.
  - Agree methods for safe removal or remediation.

**375 ANTIQUITIES**

- Duty: Report immediately any fossils, antiquities and other objects of interest or value discovered during execution of the works.
- Preservation: Keep objects in the exact position and condition in which they were found.
- Special requirements: *allow for compliance with an Archaeological watching brief during below ground excavations.*

**400 BURNING ON-SITE**

- Burning on-site: Not permitted.

**430 WASTE**

- Waste: Includes rubbish, debris, spoil, containers and packaging, and surplus material requiring disposal.
- Requirement: Minimize production and prevent accumulation of waste. Keep the site and works clean and tidy. Clean out voids and cavities in the construction before closing.
- Disposal: Collect and store in suitable containers. Remove from site and dispose of in a safe and competent manner, as approved and directed by the waste regulation authority.
- Recyclable material: Sort and dispose of at a materials recycling facility approved by the waste regulation authority.
- Documentation: Retain on-site.

**PROTECT THE FOLLOWING****510 EXISTING SERVICES**

- Confirmation: Notify all service authorities, statutory undertakers and/ or adjacent owners of proposed works not less than one week before commencing site operations.
- Identification: Before starting work, check and mark positions of utilities/ 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/ 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: If any results from execution of the Works:
  - Immediately give notice and notify appropriate service authority/ statutory undertaker.
  - Make arrangements for the work to be made good without delay to the satisfaction of service authority/ statutory undertaker or other owner as appropriate.
  - Any 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/ statutory undertakers recommendations.

**520** ROADS AND FOOTPATHS

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

**530** EXISTING TOPSOIL/ 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: Before starting work submit proposals for protective measures.

**540** RETAINED TREES/ SHRUBS/ GRASSED AREAS

- Protection: Preserve and prevent damage, except those not required.
- 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.

**550A** RETAINED TREES

- Protected area: *to be as identified on the Tree Protection Plans 19-135-08 & 19-135-09.*
  - Trees to be protected from damage during the works in accordance with BS 5837:2012 and as described within the Arboricultural Method Statement 19135/EH/AMS001.
  - Do not dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within the protected area.
  - Do not sever roots exceeding 25 mm in diameter. If unintentionally severed give notice and seek advice.
  - Planning of site operations should take sufficient account of wide or tall loads, or plant with booms, jibs or counterweights (including drilling & piling rigs) in order that they can operate without coming into contact with retained tree. The transit or traverse of plant in proximity to trees shall be conducted under supervision of a banksman to ensure adequate clearance from trees is maintained at all times.
  - Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its RPA e.g. concrete mixings, diesel oil and vehicle washings. Allowances shall be made for sloping ground to avoid damaging materials running towards retained trees.
  - All excavations within the protected area to be dug by hand.

**560** 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.
- Special requirements: *n/a.*

**570** EXISTING WORK

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

**630** EXISTING STRUCTURES

- Duty: Check proposed methods of work for effects on adjacent structures inside and outside the site boundary.
- Supports: During execution of the Works:
  - Provide and maintain all incidental shoring, strutting, needling and other supports as may be necessary to preserve stability of existing structures on the site or adjoining that 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.
- Standard: Comply with BS 5975 and BS EN 12812.

**640** MATERIALS FOR RECYCLING/ REUSE

- Duty: Sort and prevent damage to stated products or materials, clean off bedding and jointing materials and other contaminants.
- Storage: Stack neatly and protect until required by the Employer or for use in the Works as instructed.

**A35 SPECIFIC LIMITATIONS ON METHOD/ SEQUENCE/ TIMING**

**170** WORKING HOURS

- Specific limitations: 8.00am to 17.30pm.

## **A36 FACILITIES/ TEMPORARY WORK/ SERVICES**

### **GENERALLY**

#### **110 SPOIL HEAPS, TEMPORARY WORKS AND SERVICES**

- Location: Give notice and details of intended siting.
- Maintenance: Alter, adapt and move as necessary. Remove when no longer required and make good.

### **ACCOMMODATION**

#### **210A ROOM FOR MEETINGS**

- Progress Meetings: to be held in the Compton Verney offices within the Mansion House.

#### **230 TEMPORARY ACCOMMODATION**

- Proposals for temporary accommodation and storage for the Works: Submit two weeks prior to starting on site.
- Details to be included: Type of accommodation and storage, its siting and the programme for site installation and removal.

### **TEMPORARY WORKS**

#### **340 NAME BOARDS/ ADVERTISEMENTS**

- Name boards/ advertisements: Not permitted.

### **SERVICES AND FACILITIES**

#### **570 PERSONAL PROTECTIVE EQUIPMENT**

- General: Provide for the sole use of other members of the project team, in sizes to be specified:
  - Safety helmets to BS EN 397, neither damaged nor time expired. Number required: 3.
  - High visibility waistcoats to BS EN ISO 20471 Class 2. Number required: 3.
  - Safety boots with steel insole and toecap to BS EN ISO 20345. Pairs required: 3.
  - Disposable respirators to BS EN 149.FFP1S.
  - Eye protection to BS EN 166.
  - Ear protection - muffs to BS EN 352-1, plugs to BS EN 352-2
  - Hand protection - to BS EN 388, 407, 420 or 511, as appropriate.

## **A37 OPERATION/ MAINTENANCE OF THE FINISHED WORKS**

### **GENERALLY**

#### **115 THE HEALTH AND SAFETY FILE**

- Responsibility: *the contractor.*
- Content: Obtain and provide the following information:
  - *A brief description of the work carried out;*
  - *Any hazards that have not been eliminated through the design and construction processes, and how they have been addressed (e.g. surveys or other information concerning asbestos or contaminated land);*
  - *Hazardous materials used (e.g. special coatings);*
  - *Information regarding the removal or dismantling of installed plant and equipment;*
  - *Health and safety information about equipment provided for maintenance;*
  - *The nature, location and markings of significant services, including underground cables; gas supply equipment; fire-fighting services etc;*
  - *Information and as-built drawings of plant and equipment.*
- and include a;
  - *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.*
- Format: *Digital*
- Delivery to: *the Principal Designer By (date): 6 weeks from practical completion.*

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## **C20 Demolition**

**To be read with Preliminaries/ General conditions**

### **GENERAL REQUIREMENTS**

#### **SERVICES AFFECTED BY DECONSTRUCTION/ DEMOLITION**

##### **210 SERVICES REGULATIONS**

- Work carried out to or affecting new and/ or existing services: Carry out in accordance with the byelaws and/ or regulations of the relevant Statutory Authority.

##### **220 LOCATION OF SERVICES**

- Services affected by deconstruction/ demolition work: Locate and mark positions.
- Mains services marking: Arrange with the appropriate authorities for services to be located and marked.
  - Marking standard: In accordance with National Joint Utilities Group 'Guidelines on the positioning and colour coding of underground utilities' apparatus'.

##### **270 SERVICES TO BE RETAINED**

- Damage to services: Give notice, and notify relevant service authorities and/ or owner/ occupier regarding damage arising from deconstruction/ demolition.
- Repairs to services: Complete as directed, and to the satisfaction of the service authority or owner.

### **MATERIALS ARISING**

##### **510 CONTRACTOR'S PROPERTY**

- Components and materials arising from the deconstruction/ demolition work: Property of the Contractor except where otherwise provided.
- Action: Remove from site as work proceeds where not to be reused or recycled for site use.



## **P30 Trenches, pipeways and pits for buried engineering services**

### **140 BURIED ENGINEERING SERVICES SYSTEMS FOR ELECTRICAL CABLES**

- Positions and dimensions: *As drawings.*
- Service routes and enclosures: *Trenches and backfill .*
  - Support and backfill: *Selected as-dug material.*
  - Accessories: *Warning marker tapes or tiles .*
- Access points: *None.*

### **411 SELECTED AS-DUG MATERIAL**

- Material: Selected, free from vegetable matter, rubbish, frozen soil and excluding lumps and stones retained on a 40 mm sieve.

### **610 ROUTES OF SERVICES BELOW GROUND**

- Locations of existing service runs and pipeducts: *As drawing ???.*
- Site survey: To verify location of existing services.
  - Submit: Copy of survey, highlighting discrepancies.
- Locations of new service runs and pipeducts: *As drawing ???.*
  - Temporary marking: Indicate new service runs and pipeducts with 75 x 75 mm softwood posts painted white and projecting not less than 600 mm above ground level, or with clearly visible waterproof markings on hard surfaces.

### **625A UNMADE & FOOTPATH TRENCHES**

- Trench width: no wider than 500mm.
- Trench depth: 475mm
- Trench bottoms: Remove mud, rock projections, boulders and hard spots. Trim level.
- Give notice: To inspect trench for each section of the work.

### **625B TRENCHES IN ROOT PROTECTION AREAS**

- Trench width: no wider than 300mm.
- Trench depth: (no shallower than) 175 - 475mm.
- Trenches to be hand dug / excavated using hand held tools or air spade in accordance with the Arboricultural Method Statement 19135/EH/AM
- Give notice: To inspect trench for each section of the work.

### **625C ROAD CROSSING TRENCHES**

- Trench width: no wider than 500mm.
- Trench depth: 675mm
- Trench bottoms: Remove mud, rock projections, boulders and hard spots. Trim level.
- Give notice: To inspect trench for each section of the work.

**630A** CUTTING TREE ROOTS IN SERVICE TRENCHES

- Methodology: Refer to the Arboricultural Method Statement.
- Protected area: As per the Tree Protection Plans (12 times the diameter of the trunk).
- Roots in protected area: Do not cut.
- Roots exceeding 25 mm diameter: Give notice and do not cut without permission.
- Cutting:
  - Use a hand saw to make clean smooth cuts.
  - Minimize wound area and ragged edges.
  - Pare cut surfaces smooth with a sharp knife.
- Unintentionally severed roots: Give notice and form a new clean cut slightly nearer the trunk.
- Backfilling: *as dug subsoil and topsoil laid to match existing soil profile. .*

**675A** BACKFILLING GENERALLY

- Backfill from top of surround: Material excavated from the trench.
- Backfilling: Lay and compact in 300 mm maximum layers. Do not use heavy compactors before backfill is 600 mm deep.

**680A** BACKFILLING UNDER ROADS AND PAVINGS

- Backfill from top of surround: *Granular sub-base material to Highways Agency 'Specification for highway works', clause 803 (Type 1)..*
- Backfilling: Lay and compact in 150 mm maximum layers.

## Q22 Asphalt roads/ pavings

### 110A ASPHALT CONCRETE PAVING TO ALL ROADS

- Standard: *To MCHW Volume 1 'Specification for highway works'.*
- Granular sub-base: *Type 1 unbound mixture.*
  - Compacted thickness: *Submit proposals.*
- Base: *Dense asphalt concrete to MCHW Volume 1 'Specification for highway works', clause 906.*
  - Paving grade: *40/60.*
  - Compacted thickness: *70-150 mm nominal, 55 mm minimum at any point (to match existing).*
- Binder course: *Dense asphalt concrete to MCHW Volume 1 'Specification for highway works', clause 906.*
  - Paving grade: *40/60.*
  - Compacted thickness: *45-75 mm nominal, 40 mm minimum at any point (to match existing).*
- Surface course: *Close graded asphalt concrete to MCHW Volume 1 'Specification for highway works', clause 912.*
  - Paving grade: *40/60.*
  - Slip/ Skid resistance: *No requirement.*
  - Compacted thickness: *20-30 mm nominal, 15 mm minimum at any point (to match existing).*
- Reclaimed content:
  - Standard: *To BS EN 13108-8.*
  - Value (maximum): *Contractor's choice.*
- Surface treatment: *Not required.*
- Other requirements: *n/a.*

### PREPARATORY WORK/ REQUIREMENTS

### 220 BITUMINOUS MATERIALS GENERALLY

- Suppliers names: *Submit.*
  - Timing (minimum): *Two weeks before starting work.*
- Test certificates: *At the time of delivery for each manufacturing batch submit certificate:*
  - *Confirming compliance with this specification and the relevant standard.*
  - *Stating full details of composition of mix.*

### 250 ABUTMENTS

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

## **LAYING**

### **310 LAYING GENERALLY**

- Preparation: Remove all loose material, rubbish and standing water.
- Adjacent work: Form neat junctions. Do not damage.
- Channels, kerbs, inspection covers etc: Keep clean.
- New paving:
  - Keep traffic free until it has cooled to prevailing atmospheric temperature.
  - Do not allow rollers to stand at any time.
  - Prevent damage.
  - Lines and levels: With regular falls to prevent ponding.
  - Overall texture: Smooth, even and free from dragging, tearing or segregation.
  - State on completion: Clean.

### **320 ADVERSE WEATHER**

- Frozen materials: Do not use.
- Suspend laying:
  - 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.

### **330 LEVELS**

- Permissible deviation from the required levels, falls and cambers (maximum): In accordance with BS 594987, clause 5.2.

## **Q23 Gravel/ Hoggin/ Woodchip/ Resin bound roads/ paving/ overlays**

### **TYPES OF SURFACING**

#### **110A BREEDON GRAVEL TO ICEHOUSE COPPICE PATHS**

- Granular sub-base: *Type 1 unbound mixture, as section Q20.*
  - Compacted thickness: *100mm.*
- Surface course:
  - Breedon Golden Amber Gravel as supplied by Breedon Special Aggregates, Breedon Quarry, Main Street, Breedon on the Hill, Derby, DE73 8AP. Tel: 01332 694001
  - Compacted thickness: *50 mm.*
  - Laying: *to be laid in accordance with manufactures guidance*
- Completion: Compact to produce a firm, regular surface, stable in use.

#### **150A LOOSE LAID CHIPPINGS TO CHAPEL PATH**

- Granular sub-base:
  - Compacted thickness: *150mm (to match existing)*
- Surface course: Loose laid chippings.
  - Type: *Limestone chippings to match existing.*
  - Source: *Submit proposals.*
  - Colour: *Buff.*
  - Size: *Graded 18-20 mm to match existing.*
  - Compacted thickness: *50-75mm (to match existing).*
- Completion: Compact to produce a firm, regular surface, stable in use.

#### **226A NATRATX OVERLAY TO ICE HOUSE COPPICE**

- Base: *Existing asphalt surface, made good as necessary to match existing.*
  - Preparation: *As overlay system manufacturer's recommendations.*
  - Primer: *As overlay system manufacturer's recommendations.*
- Surface course:
  - Manufacturer: *Bituchem Asphalt Ltd (Natrutex).*
  - Product reference: *NatraTex Cotswold.*
  - Colour: *Buff.*
  - Aggregate size: *to match existing 6mm.*
  - Mix Design: *Dense grade*
- Application: *Thoroughly mixed and uniformly spread.*
  - Thickness: *20-50mm to match existing.*
  - Compaction to all layers: *By heavy roller or other appropriate means, adequate to resist subsidence or deformation of the completed pavings when in use.*

### **LAYING**

#### **315 MATERIALS**

- Compatibility: Chippings suitable for use with respective binders/ emulsions/ resin/ epoxy.

#### **320 SAMPLES**

- Submit: Representative samples of *all aggregates.*

**340** LAYING GENERALLY

- Channels, gullies, etc: Keep clear.
- Finished surfaces:
  - Lines and levels: To prevent ponding.
  - Overall texture: Even.
  - State at completion: Clean.

**350** COLD WEATHER WORKING

- Frozen materials: Do not use.
- Freezing conditions: Do not lay pavings.
- Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.
- Other dressings or overlays: As manufacturers' recommendations.

**360** DRAINAGE FALLS

- Sealed surfaces:
  - Falls and cross falls (minimum): 1:40.
  - Camber (minimum): 1:50.
- Unsealed surfaces (minimum): 1:30.

**380** LAYING GRANULAR SURFACES IN PEDESTRIAN AREAS

- Permissible deviation from required levels, falls and cambers (maximum):  $\pm 12$  mm.
- General: Spread and level in 100 mm maximum layers. As soon as possible, compact each layer.
- Dry weather: Lightly water layers during compaction.

**390** PROTECTION FROM TRAFFIC AND PLANT

- Paved areas: Restrict access to prevent damage.

## Q30 Seeding/turfing

### GENERAL INFORMATION/REQUIREMENTS

#### 115 SEEDED AND TURFED AREAS

- Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
- Appearance: A closely knit, continuous ground cover of even density, height and colour.

#### 120 CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.

#### 250 SOIL REQUIREMENTS

- Type:
  - Seeded areas: *Existing topsoil.*
  - Turfed areas: *Existing topsoil.*
  - Reinforced grass areas: *n/a.*

### SEEDING

#### 311 GRASS SEED FOR ALL GRASSED AREAS

- Supplier: *Germinal Seeds.*
  - Mixture reference: *A19 All Purpose Landscaping..*
- Application rate: *18-30 g/m².*

#### 330 SOWING

- General: Establish good seed contact with the root zone.
- Method: *To suit soil type, proposed usage, location and weather conditions during and after sowing.*
  - Distribution: *2 equal sowings at right angles to each other.*

#### 335 GRASS SOWING SEASON

- Grass seed generally: *April to June or August to October.*

### TURFING

#### 420A LIFTING AND STORAGE

- Lifting: lift existing turf above route of trenches to be lifted using a pedestrian operated turf lifting machine and stack rolls to side of trench.
- Timing: Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
- Frosty weather or waterlogged ground: Do not lift turf.
- Delivery: Arrange to avoid need for excessive stacking.
- Stacking height (maximum): 1 m.
- Dried out or deteriorated turf: Do not use.

**430A TURFING GENERALLY**

- Weather conditions: Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
- Working access: Do not walk on prepared bed or newly laid turf.
- Jointing: Laid with broken joints, well butted up. Do not stretch turf.
- Edges: Whole turfs, trimmed to a true line.
- Adjusting levels: Remove high spots and fill hollows with fine soil.
- Consolidating: Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
- Dressing, brushed well in to completely fill all joints: None.
- Watering: Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.



## V91 Electrical systems - landscape

**To be read with Preliminaries/ General conditions.**

### GENERAL

#### **115A** EXTERNAL LIGHTING SYSTEM HAND RAIL LIGHT

- Origin of supply: *Cable distribution cabinets within grounds.*
  - Type: *Single-phase.*
- Final circuit cabling: *Submit design and cost proposals.*
  - Containment: *Submit design and cost proposals.*
- Rewireable installation: *Not required.*
- Concealed installation: *Submit design and cost proposals.*
- Cable identification and protection: *Submit design and cost proposals.*
- Luminaires: *Hand rail light.*
- Individual control of luminaires: *Not required.*
- Group control of luminaires: *Time switches.*
- Final connections: *Required.*
- Accessories: *Underground cable marker tape.*

#### **115B** EXTERNAL LIGHTING SYSTEM GROUND LIGHTING

- Origin of supply: *Cable distribution cabinets within grounds.*
  - Type: *Single-phase.*
- Final circuit cabling: *Submit design and cost proposals.*
  - Containment: *Submit design and cost proposals.*
- Rewireable installation: *Not required.*
- Concealed installation: *Submit design and cost proposals.*
- Cable identification and protection: *Submit design and cost proposals.*
- Luminaires: *Ground-recessed lighting.*
- Lighting columns: *Not required.*
- Individual control of luminaires: *Not required.*
- Group control of luminaires: *Time switches.*
- Final connections: *Required.*
- Accessories: *Underground cable marker tape.*

### SYSTEM PERFORMANCE

#### **205** DESIGN OF LOW VOLTAGE ELECTRICAL INSTALLATION GENERALLY

- Design and detailing: *Complete for the electrical installation.*
- Standards: *In accordance with BS 7671 and the requirements of the Electricity Distributor.*
- Proposals: *Submit drawings, technical information, calculations and manufacturers' literature.*

#### **220** DESIGN OF LOW VOLTAGE DISTRIBUTION AND SMALL POWER SYSTEMS

- Design: *To cater for the complete working installation.*
- Spare capacity of distribution equipment: *10% of total DB ways free.*
- Equipment: *Provide electrical supplies to equipment requiring power.*

#### **260** CABLES GENERALLY

- Cable sizes not stated: *Submit proposals and calculations.*

**260A** CAT 5 CABLES

- Manufacturer: [Submit proposals].
- Product reference: [Submit proposals].
- Installation: *to be laid within electrical cable trench to Zone 6 & within the existing CCTV ducts within the Car Park for use by others*

**270A** CAT 5 CABLES

- Manufacturer: [Submit proposals].
- Product reference: [Submit proposals].
- Installation: *to be laid within electrical cable trench to Zone 6 & within the existing CCTV ducts within the Car Park for use by others*

**PRODUCTS**

**303** PRODUCTS STANDARDS AND APPROVALS GENERALLY

- Standard: In accordance with BS 7671.
- CE marking: Required.
- Cables: BASEC approved.

### 305 PARTICULAR PRODUCT STANDARDS

- Mineral insulated copper sheathed cables: To BS EN 60702-1.
  - Mineral insulated copper sheathed cable terminations: To BS EN 60702-2.
- Cable distribution cabinets: BS EN 61439-1 and -5.
- Trunking and ducting: To BS EN 50085-1.
- Luminaires: To BS EN 60598-1.
- Safety isolating transformers: To BS EN 61558-2.1.
- Lighting columns:
  - Aluminium: To BS EN 40-6.
  - Steel: To BS EN 40-5.
- Discharge lamp controlgear: To BS EN 60923 and BS EN 61347-2-9 or to BS EN 62386-101, -102, and -203.
- High frequency fluorescent lamp controlgear: To BS EN 60929 and BS EN 61347-2-3 or to BS EN 62386-101, -102, and -201.
- LED module controlgear: To BS EN 61347-2-13 or to BS EN 62386-101, -102, and BS EN IEC 62386-207.
- Low voltage halogen lamp dimmable digital addressable lighting interface (DALI) controlgear: To BS EN 62386-101, -102, and -204.
- Incandescent lamp digital addressable lighting interface (DALI) controlgear: To BS EN 62386 -101, -102 and -205.
- Lamps:
  - Compact fluorescent lamps: To BS EN 60901 and BS EN 61199.
  - High pressure mercury lamps: To BS EN 60188 and BS EN 62035.
  - High pressure sodium lamps: To BS EN 62035.
  - Light emitting diode (LED) modules to BS EN 62031.
  - Metal halide lamps: To BS EN 62035.
  - Tubular fluorescent lamps: Single-capped: To BS EN 60901 and BS EN 61199.
  - Tubular fluorescent lamps: Double-capped: To BS EN 60081 and BS EN 61195.
  - Tungsten halogen lamps: To BS EN 60432-2 and BS EN 60357.
- Incandescent (tungsten filament) lamps: To BS EN 60432-1.
- Photoelectric control units: To BS 5972.
- Time switches: BS EN 60730-1 and BS EN 60730-2-7.
  - Approval: BEAB.
- Underground cable marker tape: To BS EN 12613.
- Underground concrete cable protection covers: To BS 2484.

**315** CABLE DISTRIBUTION CABINETS TO CAR PARK WIFI.

- Standards: To BS EN 61439-1 and -5.
- Manufacturer: *Submit proposals.*
- Product reference: *Submit proposals.*
- Rated operational voltage (Ue): *Submit proposals.*
- Rated operational current (Ie): 200 A.
- Rated operational frequency: *Submit proposals.*
- Number of phases: *Single.*
- Incoming device: *Submit proposals.*
- Number of outgoing ways: *Submit proposals.*
- Outgoing devices: *Submit proposals*
- Busbars and connections: Fully shrouded.
- Neutral and earth bars: Individual terminal for each outgoing circuits.
- Spare ways: *Submit proposals.*
- Identification:
  - Neutral and earth bar terminals: Label with the outgoing circuit reference.
  - Cable terminations: Label with circuit reference, with push on plastic markers.
- Spare outgoing devices: Mount two of each size and rating used within cabinet.
- Enclosure:
  - Ingress protection to BS EN 60529: *IP45.*
  - Dimensions: *Submit proposals.*
  - Material: *Steel*
  - Finish: *Powder coated.*
  - Colour: *Dark green to match existing.*
  - Doors: *Single with lock.*
  - Backboard: *Submit proposals.*
- Accessories: *n/a.*

**315A** EXTERNAL POP ELECTRICAL SUPPLY TO EAST PARK.

- Standards: To BS EN 61439-1 and -5.
- Manufacturer: *Rolec.*
- Product reference: *Powermaster Pop-UP Service Unit with Chequerplate skin, 1012mm x 375mm x 204mm.*
  - External socket outlets: *1 number 32amp sockets*
  - Ingress protection to BS EN 60529: *[IP44]*
- Accessories: *Lockable lid.*
  - To be installed in accordance with manufacturers recommendations including 100mm concrete surround and pea gravel base.

**335** LUMINAIRES GENERALLY

- Standard: To BS EN 60598-1.

**340A** HANDRAIL LUMINAIRES TO STEPS

- Standard: To BS EN 60598-2-3.
  - Approval: Kitemark certified.
- Photometric performance: To BS EN 13032-1.
- Manufacturer: *ASD Lighting.*
  - Product reference: *ViperRAIL.*
- Ingress protection to BS EN 60529: *IP65.*
- Material: *Stainless steel.*
  - Finish and colour: *Brushed natural stainless steel.*
- Mounting: *Rail end and supports.*
  - Type: *48mm Handrail.*
- Lamp: *Light emitting diode (LED).*
  - Colour temperature: *White, 4000K.*
  - Illumination: *Asymmetric*
- Accessories: *Contractor's choice.*

**348** GROUND-RECESSED LUMINAIRES GENERALLY

- Standard: To BS EN 60598-2-13.
- Approval: *Kitemark-certified.*
- Photometric performance: To BS EN 13032-1.
- Manufacturer: *Collingwood Lighting.*
  - Product reference: *GL200, 3 windows.*
- Voltage source: *230 V mains supply.*
- Lamp: *Light emitting diode (LED).*
  - Wattage: *5 W.*
  - Colour: *White, colour temperature 3000K.*
- Body material: *Stainless steel.*
  - Finish and colour: *Brushed natural stainless steel.*
- Shape: *Circular.*
- Dimensions: *76mm x 72.5mm.*
- Ingress protection to BS EN 60529: *IP67.*
- Impact protection (minimum): *IK10.*
- Accessories: *Installation Tube /68.*

**405** TIME SWITCHES

- Standards: To BS EN 60730-1 and BS EN 60730-2-7.
  - Approval: *BEAB.*
- Manufacturer: *Contractor's choice.*
  - Product reference: *Contractor's choice.*
- Type: *Electronic digital.*
- Features: *Battery backup for program retention during mains power failure.*
- Programme capability: *Two on and two off operations per day.*

**425A UNDERGROUND CABLE MARKER TAPE**

- Standard: To BS EN 12613.
- Manufacturer: *Contractor's choice.*
  - Product reference: *Contractor's choice.*
- Material: Polyethylene.
- Wire detection aid: *Not required.*
- Size:
  - Width: 200 mm.
  - Thickness: 0.1 mm.
- Format:
  - Background colour: Yellow.
  - Text colour: Black.
- Labelling: 'CAUTION ELECTRIC CABLE BELOW' continuous along the tape length.

**430A UNDERGROUND PLASTICS CABLE PROTECTION TO SHALLOW CABLES IN RPA'S**

- Manufacturer: *Contractor's choice.*
  - Product reference: *Contractor's choice.*
- Material: Polyethylene.
- Size:
  - Width: 200 mm.
  - Thickness: 6 mm.
- Identification: Laminate underground cable marker tape to top face.

**EXECUTION**

**605 ELECTRICAL INSTALLATION GENERALLY**

- Standard: In accordance with BS 7671.

**630 INSTALLING CABLES**

- General: Install cables neatly and securely. Protect against accidental damage, adverse environmental conditions, mechanical stress and deleterious substances.
- Temperature: Do not start installation if cable or ambient temperature is below 0°C, or has been below 0°C during the previous 24 hours.
- Cable routes: *As drawings.*
- Joints: At luminaires and electrical accessories only.
- Fixings: Corrosion-resistant and compatible with the environment where they are installed.

**635 INSTALLING CABLES DIRECTLY IN THE GROUND**

- Cables: Lay on newly prepared bedding.
- Cable bedding: 75 mm of sand.
- Cable pulling: Prevent kinks and twisting of the cable.
- Installation method: Submit proposals.
- Cable formation within trench: *Space cables apart by at least half the cable diameter.*
- Cables below roads and hard standings: Duct and derate if longer than 10 m. Extend ducts 1 m each side of hard standing.
- Cable marker tape: *Lay continuously at a distance of 100mm above each underground cable and cable duct.*
- Backfilling: 75 mm of sand over cables, then as-dug material.

**637** INSTALLING UNDERGROUND CABLE PROTECTION COVERS

- Locations: *To shallow cables within root protection areas.*
- Installation: During backfilling.
  - Depth: *Lay continuously at a distance of 75 mm above each underground cable and cable duct.*

**648** CONCRETE MIX

- Standards: To BS 8500-2 and BS EN 206.
- Mix: *Designated concrete GEN 1.*
- Admixtures: Do not use.

**650A** SETTING COMPONENTS IN CONCRETE FOUNDATIONS AND BASES

- Foundation holes: *Form neat holes with vertical sides..*
- Locating components: *Accurately position.*
- Cable ducts: *Connect to cable entry slot and protect against collapse during backfilling.*
- Concrete surround: *Fill holes to at least the specified depth. Fully compact as filling proceeds. Maintain temporary support and prevent disturbance for at least 48 hours.*
- Concrete foundations:
  - Concealed: *Finish by bedding and haunching at a depth suitable to receive the overlying finish.*

**COMPLETION**

**820** CLEANING

- Electrical equipment: *Clean immediately before handover.*

**830** INSPECTION AND TESTING GENERALLY

- Standards: *In accordance with BS 7671.*
- Notice before commencing tests (minimum): *24 h.*
- Certificates: *Submit.*
  - Number of copies: *2.*

**870** INSPECTION AND TESTING OF EXTERNAL LIGHTING

- Switching: *Check correct operation of photoelectric control units, time switches and other switching devices over at least one switching cycle.*
- Orientation: *Adjust luminaires to achieve optimal performance.*
- Additional requirements: *N/a.*

**880** DOCUMENTATION

- Timing: *Submit at completion.*
- Contents:
  - *Full technical description of each system installed.*
  - *Manufacturers' operating and maintenance instructions for fittings and apparatus including relamping instructions for luminaire types. Identify hazardous lamps that require specialist disposal.*
  - *Recommended frequency of testing and inspection, both for electrical safety, and for matters such as the corrosion and security of lighting columns and luminaire fixings.*
  - *Manufacturers' guarantees and warranties.*
  - *As-installed drawings showing circuits and their ratings and locations of fittings, apparatus and underground cable routes.*
  - *List of normal consumable items and their sources.*