

DATED 21 DECEMBER 2023

SUFFOLK COUNTY COUNCIL (1)

- and -

SIZEWELL C LIMITED (2)

AGREEMENT

made pursuant to article 23 of the Sizewell C (Nuclear Generating Station) Order 2022, and any other enabling power relating to the development of land off the northern verge of King Georges Avenue, Leiston, East Suffolk (PHASE 2)

Nigel Inniss
Head of Governance
Suffolk County Council
8 Russell Road Ipswich
Suffolk IP1 2BX

Ref: King George's Ave P2/S278/JL

**A23 HIGHWAYS AGREEMENT
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THIS AGREEMENT is made the 21st day of DECEMBER 2023

BETWEEN the following parties:-

- (1) SUFFOLK COUNTY COUNCIL of Endeavour House 8 Russell Road Ipswich Suffolk IP1 2BX ("the County Council")
- (2) SIZEWELL C LIMITED (company number 09284825) of 90 Whitfield Street, London, England, W1T 4EZ ("the Developer")

RECITALS AND DEFINITIONS

(A) In this Agreement unless the context otherwise requires the following words shall have the following meanings:-

"1980 Act"	Means the Highways Act 1980 (as amended)
"Approved Contractor"	Means the contractor(s) approved by the County Council for carrying out the Highway Works of the value and complexity proposed
"CDM Regulations"	Means the Construction (Design and Management) Regulations 2015 (SI 2015/51)
"Certificate of Final Completion"	Means any of the certificates referred to in paragraph 15.3 of Schedule I
"Certificate of Substantial Completion"	Means any of the certificates referred to in paragraph 14.2 of Schedule I
"Code of Construction Practice"	Means the document certified as such by the Secretary of State under article 82 (certification of plans, etc) of the Permission as amended pursuant to Requirement 2 of the Permission
"Contract"	Means the contract or contracts in respect of each and all of the Highway Works
"Contractor"	Means the contractor or contractors who have been awarded the Contract to execute the Highway Works. For the avoidance of doubt the aforementioned definition does not include any Sub-contractor

“Development”	Means the development to be carried out pursuant to the Permission
“Director”	Means the County Council’s Executive Director of Growth, Highways and Infrastructure or other officers of the County Council acting under their hand
“Dispute”	Means any dispute, issue, difference or claim as between the parties in respect of any matter contained in or arising from or relating to this Agreement or the parties’ obligations and rights pursuant to it (other than in respect of any matter of law or construction of this Agreement)
“Expert”	means an independent person appointed in accordance with the provisions of clause 4 to determine a Dispute between the parties to this Agreement
“Highway Works”	Means the works collectively or individually as the context requires which are set out in Schedule III of this Agreement and shown on the Highway Works Drawings
“Highway Works Drawings”	Means the attached drawings bearing the numbers referred to in Schedule IV or any subsequent revision of them which has been approved or requested by the Director and which relate to the Highway Works
“Performance Bond”	Means the bond entered into by the Developer and the Performance Bond Surety on 25 September 2023 (reference number G2309GB000577862) for each and all of the Highway Works, to the effect that should the Developer default in the execution of its obligations to carry out the Highway Works and to maintain the same in accordance with the provisions of this Agreement then the County Council will call upon the Performance Bond Surety to provide the such amounts of the Performance Bond (subject to the provisions hereinafter contained) to carry out the Highway Works and maintain the same as aforesaid

"Performance Figure"	Means the sum of £71,500.00 (Seventy-One Thousand Five Hundred Pounds)
"Performance Bond Surety"	Means BNP Paribas
"Permission"	Means the Development Consent Order granted with reference number SI: 2022 No. 853 Infrastructure Planning, The Sizewell C (Nuclear Generating Station) Order 2022
"Road Safety Audit"	Means the evaluation of each and all of the Highway Works during design and at the end of construction to identify potential road safety problems that may affect any users of the highway and to suggest measures to eliminate or mitigate those problems in accordance with Department for Transport standards or by the County Council as agreed by the Director which may be carried out by a Road Safety Auditor by agreement between the Developer and County Council
"Site"	Means land situated approximately 210 meters west of the junction of King Georges Avenue and Lover's Lane, Leiston, East Suffolk as shown edged orange on drawing SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621005 Revision P06
"Specification"	The County Council's "Specification for Estate Roads" dated May 2007 (or later amendment current at the date of this Agreement) so far as this is consistent with the Highway Works Drawings and description in Schedule III (subject to any variations agreed in writing by the Director)
"Sub-contractor"	Means the sub-contractor(s) working for the Contractor(s) who have been contracted to execute the Highway Works
"Substantial Completion"	Means complete to the reasonable satisfaction of the Director and so that the Highway Works can be used for the purpose and operate in the manner for which they were designed and "Substantially Completed" shall have the same meaning

"Technical Standards" Means the standards necessary to ensure complete conformity with all UK primary and secondary legislation (including by-laws) all guidance standards and codes of practice issued by the Department for Transport the County Council statutory undertakers and relevant professional institutes the Road Safety Audit and formal instructions issued by the Director from time to time during the design and implementation of the Highway Works and for the avoidance of doubt this shall include the Traffic Signs Regulations and General Directions 2016 and BS5489 in relation to the design of any street lighting unless otherwise agreed in writing with the County Council

"Working Days" Means any day apart from Saturday, Sunday and any statutory Bank Holiday on which clearing banks are open in England for the transaction of ordinary business.

(B) In this Agreement unless the context otherwise requires:-

- (i) Words importing the singular meaning where the context so admits include the plural meaning and vice versa; and
- (ii) references to one gender shall include a reference to the other genders and words denoting actual persons include companies, corporations and firms and all such words shall be construed interchangeably in that manner; and
- (iii) "party" or "parties" means a party or parties to this Agreement; and
- (iv) references to any party shall include the successors in title and assigns of that party; and in the case of the County Council the successors to its statutory functions; and
- (v) where a party includes more than one person any obligations of that party can be enforced against all of them jointly and severally unless there is an express provision otherwise; and
- (vi) the headings and contents list in this Agreement shall not form part of or affect its construction; and
- (vii) references to clauses schedules and paragraphs are references to clauses in and schedules to this Agreement and paragraphs in schedules to this Agreement; and

- (viii) where a party or any officer or employee is required to give its consent approval or agreement to any specific provision in this Agreement such consent approval or agreement shall not be unreasonably withheld or delayed; and
 - (ix) any mention herein of any act or of any section regulation or statutory instrument shall be deemed to refer to the same source as at any time amended and where such act section regulation or statutory instrument has been replaced consolidated or re-enacted with or without amendment such mention shall be deemed to refer to the relevant provision of the updating consolidating or re-enacting act or section or regulation or statutory instrument.
- (C) The County Council is the highway authority (except for trunk roads) for the purposes of the 1980 Act for the area within which the Site is situated and the Highway Works will be carried out.
- (D) The Developer has the benefit of the Permission which provides lawful authority for the Developer to enter onto any street in order to carry out the Highway Works.
- (E) The Developer has the benefit of a lease dated 7 July 2023.
- (F) Having regard to the Permission the County Council considers it expedient in the interests of the proper planning of their area that the Highway Works need to be carried out to facilitate the Development and that entering into this Agreement will be of benefit to the public.
- (G) The Highway Works as set out in this Agreement are temporary works to facilitate access to the Site and are subject to being reinstated at a later date in accordance with the requirements of the Permission with a further agreement or agreements to be entered into at that juncture

NOW THIS DEED WITNESSES as follows:-

1 LEGAL EFFECT

- 1.1. This Agreement and the covenants that appear hereinafter are made pursuant to Section 111 of the Local Government Act 1972, Section 1 of the Localism Act 2011, article 23 of the Sizewell C (Nuclear Generating Station) Order 2022 and all other enabling powers to the intent that the provisions of this Agreement shall bind the Site and the parties hereto and all persons deriving title through or under them.

- 1.2. This Agreement is intended to take effect as a Deed.
- 1.3. No waiver (whether express or implied) by the County Council or the Developer of any breach or default by the Developer in the performance or observance of any of the covenants, terms or obligations in this Agreement shall constitute a continuing waiver and no such waiver shall prevent the County Council or the Developer from enforcing any of the covenants, terms or obligations or from acting upon any subsequent breach or default in respect thereof.
- 1.4. Any provision of this Agreement which is or may be unlawful void or unenforceable shall to the extent of such unlawfulness invalidity or unenforceability be deemed severable and shall not affect the legality, validity or enforceability of the remainder of this Agreement.
- 1.5. This Agreement is governed by and interpreted in accordance with English law and shall be determined in the Courts of England.

2 NOTICES

- 2.1. Any notices or other written communication to be served or given by one party upon or to any other party under the terms of this Agreement shall be deemed to have been validly served or given if delivered by hand or sent by recorded delivery post or by email to the party upon whom it is to be served or to whom it is to be given or as otherwise notified for the purpose by notice in writing provided that the notice or other written communication is addressed and delivered by hand or by recorded delivery post or by email to the address of the party concerned as nominated in sub-clause 2.2. below
- 2.2. The address for any notice or other written communication in the case of each party to this Agreement shall be as follows:-

The County Council	Suffolk County Council, Endeavour House 8 Russell Road Ipswich IP1 2BX marked for the attention of the Assistant Director of Governance, Legal and Assurance (or where the context requires the Executive Director of Growth, Highways and Infrastructure, Endeavour House 8 Russell Road Ipswich IP1 2BX) and emailed to: SZC-highwaysdesign@suffolk.gov.uk
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The Developer

Sizewell C Limited, 90 Whitfield Street, London
W1T 4EZ, marked for the attention of the
Advanced Works and DCO Lead and emailed to:
Richard.Bull@sizewellc.com

3 GENERAL

- 3.1. All works and activities to be carried out under the terms of this Agreement (including for the avoidance of doubt such works as are of a preparatory ancillary or of a maintenance nature) are (save where expressly provided otherwise) to be at the sole expense of the Developer and at no cost to the County Council.
- 3.2. All consideration given and payments made in accordance with the provisions of this Agreement shall be exclusive of any VAT properly payable in respect thereof and in the event of VAT becoming chargeable at any time in respect of any supply made in accordance with the terms of this Agreement then to the extent that VAT had not previously been charged in respect of that supply the person making the supply shall raise a VAT invoice to the person to whom the supply was made and the VAT shall be paid accordingly.
- 3.3. The County Council and their respectively duly authorised officers and agents may enter upon the land on which the Highway Works are being carried out, with the prior written agreement of the Developer (save in the event of emergency), at any reasonable time to ascertain whether the terms of the Agreement are being or have been complied with.

4 EXPERT DETERMINATION

- 4.1. In the event of any Dispute arising between the parties then the parties will attempt to resolve that Dispute amicably including holding a meeting attended by at least one representative from each party.
- 4.2. If the parties are unable to resolve the Dispute amicably pursuant to clause 4.1, one party shall, unless otherwise agreed between the parties, by serving notice on all the other parties (the "Notice") refer the Dispute to an Expert for determination.
- 4.3. The Notice must specify:
 - 4.3.1 the nature, basis and brief description of the Dispute;

4.3.2 the clause of this Agreement pursuant to which the Dispute has arisen; and

4.3.3 the proposed Expert.

4.4. In the event that the parties are unable to agree who should be appointed as the Expert within ten (10) Working Days after the date of the Notice then either party may request the President of the Institution of Civil Engineers to nominate the Expert at their joint expense, and the parties shall request that such nomination shall be made within ten (10) Working Days of the request, and any failure for such nomination to be made within ten (10) Working Days shall entitle any party to withdraw from the process of appointing an Expert and to refer the Dispute to the courts of England instead.

4.5. The Expert shall act as an expert and not as an arbitrator and his decision will (in the absence of manifest error) be final and binding on the parties hereto and at whose cost shall be at his discretion or in the event that he makes no determination, such costs will be borne by the parties to the Dispute in equal shares.

4.6. The Expert will be appointed subject to an express requirement that he reaches his decision and communicates it to the parties within the minimum practicable timescale allowing for the nature and complexity of the dispute and in any event not more than twenty-eight (28) Working Days from the date of his appointment to act.

4.7. The Expert will be required to give notice to each of the said parties inviting each of them to submit to him within ten (10) Working Days written submissions and supporting material and will afford to each of the said parties an opportunity to make counter submissions within a further five (5) Working Days in respect of any such submission and material.

5 COVENANTS

5.1. The Developer covenants and warrants to the County Council that they have full power to enter into this Agreement and there is no other person having a charge over or any other interest in the Site whose consent is necessary for the Developer to enter into this Agreement.

5.2. The Developer hereby covenants and undertakes with the County Council that from the date of this Agreement it will (unless otherwise agreed by the County

Council) carry out and comply with the obligations set out in Schedule I and the details set out in Schedules III, and IV, hereto.

- 5.3. The County Council hereby covenants and undertakes with the County Council that from the date of this Agreement it will (unless otherwise agreed by the Developer) carry out and comply with the obligations set out on its part in Schedule I hereto
- 5.4. The Developer covenants with the County Council not to commence the Highway Works set out in Schedule III unless road space has first been booked with the County Council where required.
- 5.5. The Developer covenants with the County Council as highway authority to give written notice prior to works commencing, in order that the County Council as highway authority has sufficient time to ensure that the commencement of works will cause the least disruption possible to road users and the County Council reserves the right to refuse consent and/or to stop or require the stopping of works under the terms of this Agreement and relevant legislation where the aforesaid notice period is not complied with.

6 THIRD PARTY RIGHTS

- 6.1. This Agreement is not made for the benefit of nor shall any of its provisions be enforceable under the Contracts (Rights of Third Parties) Act 1999 by any person other than the parties hereto, but for the avoidance of doubt the exclusion of the application of that Act shall not prevent any future successor in title or function (as the case may be) to any of the parties to this Agreement from being able to benefit from or to enforce any of the obligations in this Agreement as provided for in this Agreement.

7 LAPSE AND TERMINATION

- 7.1. If the Highway Works have not been commenced within one (1) year from the date of this Agreement, save as this period is otherwise extended in writing by the Director at his discretion, then this Agreement shall lapse and be of no further effect (save to the extent already complied with) and the Developer agrees to pay to the County Council any costs properly incurred by the County Council prior to the lapse of this Agreement (which have not already been paid).

- 7.2. Where, in accordance with clause 7.1 above the Director, at his discretion, agrees in writing to an extension to the period of one (1) year after which this Agreement shall lapse, this Agreement shall lapse at the end of such period as agreed in writing by the Director where the Highway Works have not been commenced by the expiry of that extension period.
- 7.3. The Developer may terminate this Agreement by giving written notice to the County Council (such termination to take effect on the date specified in the notice), except that this right shall not be exercisable if:
- 7.3.1 the Developer is in breach of the provisions of this Agreement; or
- 7.3.2 any part of the Highway Works have been commenced.
- 7.4. Any termination of this Agreement shall be without prejudice to any liability of the Developer or the County Council for any subsisting breach arising prior to such termination.

8 COUNTERPARTS

- 8.1. This Agreement may be executed in any number of counterparts, and this has the same effect as if the signatures on the counterparts were on a single copy of the Agreement.

In witness whereof this Agreement has been executed and delivered as a Deed on the date first written above

The COMMON SEAL of)
SUFFOLK COUNTY COUNCIL)
was hereunto affixed)
in the presence of)

.....
A Duly Authorised Officer

**EXECUTED AS A DEED by
SIZEWELL C LIMITED**

acting by
in the presence of

.....
Director

.....
(Name of witness)

.....

.....

.....
(Address of witness)

.....
(Signature of witness)

SCHEDULE I

1 THE DESIGN OF THE HIGHWAY WORKS

1.1 The design of the Highway Works shall be to the satisfaction of the Director with due consideration of the Technical Standards.

1.2 No work on any of the Highway Works shall commence until:

1.2.1 full details of the design of the Highway Works to be commenced in the form of plans, drawings, specifications and other materials have been submitted to the Director together with the name of the principal designer (whom the Developer shall appoint for the full duration of the design and construction of each and all of the Highway Works) in accordance with the CDM Regulations and any codes of practice referred to therein; and

1.2.2 the Director has given their written approval for the Highway Works to be commenced and such approval shall not be given if the said plans, drawings, specifications and other documentation have not adequately addressed the issues raised in the pre-construction stages of the Road Safety Audit process and if given shall lapse if the Highway Works are not commenced within twelve (12) months of the date of the said Director's approval.

1.3 If the Director does not propose to give their approval in relation to those matters referred to in paragraph 1.2 of this Schedule they shall in each case as soon as possible in writing inform the Developer and if the Director requires amendments or additions to the plans, drawings specifications and other materials referred to in paragraph 1.2 of this Schedule these amendments shall be undertaken by the Developer at its own expense and a revised set of updated documents shall be re-submitted to the Director for their approval.

1.4 The Highway Works at all times shall be carried out in accordance with the plans, drawings, specifications and other materials which have received the Director's approval referred to in paragraph 1.2 of this Schedule and the Developer shall in the execution of the Highway Works comply or ensure that the Contractor complies with the Technical Standards.

2 LETTING OF THE CONTRACT

2.1 The Developer shall not award the Contract unless the Developer or the Approved Contractor and the Sub-Contractor(s) concerned are insured throughout the period of

the Contract (such period to include the maintenance period detailed in paragraph 15.1 of this Schedule) for public liability risks in the sum of at least ten million pounds (£10,000,000) in respect of any single claim and the Developer shall ensure that the Contractor remains so insured throughout the period of the Contract and prior to the commencement of each or all of the Highway Works or any maintenance works carried out in accordance with paragraph 12.1 of this Schedule the Developer shall produce to the Director insurance policies fully covering the Developer's liability in respect of the matters set out in this Agreement.

- 2.2 The Developer shall not sub-contract or assign the Contract (other than to a person to whom the benefit of the provisions of the Development Consent Order have been transferred or granted) without the written approval of the Director and any sub-contractor shall be an Approved Sub-Contractor.

3 INSPECTION OF THE HIGHWAY WORKS

- 3.1 The Developer shall provide the Director with not less than twenty-four (24) hours' nor more than seventy-two (72) hours' notice (excluding weekends and bank holidays) of any intended execution of the Highway Works specifying the tasks to be carried out in accordance with the approved programme referred to in paragraph 2.1 of this Schedule.
- 3.2 The Developer shall during the progress of each and all of the Highway Works upon reasonable request give to or procure for the Director and any person or persons duly authorised by them such access as is necessary to every part of the Highway Works and the Site and permit them to inspect the same as they proceed and all materials used or intended to be used therein and shall give effect to any reasonable and proper requirements made or reasonable and proper directions given by the Director to conform to the approved detailed plans, drawings and specification referred to in paragraph 1.2 of this Schedule.
- 3.3 The Developer shall not cover up or put out of view any works forming part of the Highway Works without the approval of the Director and shall afford full opportunity for the Director to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon and shall give at least seventy-two (72) hours' notice to the Director whenever any such work or foundations is or are ready or about to be ready for examination.
- 3.4 The Director shall without unreasonable delay, and within 5 Working Days of receipt of notice from the Developer given in accordance with paragraph 3.3 of this Schedule,

attend when required by the Developer for the purpose of examining such works or of examining such foundations unless they consider it unnecessary and advise the Developer accordingly.

- 3.5 The Director shall for the purposes of paragraphs 3.1 to 3.4 be allowed reasonable access and admission to the Highway Works or the places where materials or plant for the Highway Works may be stored or in the course of preparation manufacture or use (unless such access or admission is refused due to circumstances beyond the control of the Developer).

4 TESTING OF MATERIALS

4.1 The Developer shall, if requested by the Director:

4.1.1 make all necessary arrangements for an independent accredited testing facility, approved by the Council, to test the materials proposed to be used in connection with the Highway Works. The Developer shall bear the full cost of such testing and give to the Director, at no expense to the County Council, copies of all material testing certificates; or

4.1.2 reimburse the County Council for all reasonable costs and expenses whatsoever arising from the testing of materials plant and workmanship used or proposed to be used in the Highway Works.

4.2 Any material rejected by the Director, acting reasonably, as a result of the tests carried out shall not be used by the Developer for any of the Highway Works.

5 OPENING OF THE HIGHWAY WORKS

5.1 During the construction of each and all of the Highway Works and prior to the issue of the Certificate of Substantial Completion in respect of the Highway Works:

(a) the Director may issue instructions to the Developer to open or expose any of the Highway Works which has been covered up without previously being inspected by the Director; and

(b) should the Developer fail to comply with any such instructions the County Council may so take up or expose the relevant part of the Highway Works causing as little damage or inconvenience as is possible in respect of any other part or parts of the Highway Works the reasonable and proper cost of such taking up or exposure and reinstatement to be met by the Developer,

PROVIDED THAT if the Highway Works or any part or parts thereof are covered up by the Developer after giving the notice referred to in paragraph 3.4 of this Schedule and the Director shall have failed to inspect in the period therein referred to and the Director shall subsequently require the Highway Works or any part of them to be uncovered for the purposes of inspection all costs in respect of such uncovering and inspection and of reinstating the part or parts of the Highway Works uncovered shall be borne by the County Council.

6 UNDERTAKERS

6.1 The Developer shall as far as practicable:-

- (a) cause all public sewers, highway drains gas and water mains electric cables and telecommunications ducts or other apparatus which are to be laid by the Developer under the Highway Works together with all necessary connections from them to the boundary of the Highway Works to be laid so far as is practicable under the Highway Works before the foundation of the Highway Works are laid and shall also in so far as is practicable cause the connections from electric cables to any street lamp to be laid before the paving of the footways comprised in the Highway Works is carried out;

7 PROTECTION OF THE PUBLIC

- 7.1 The Developer shall give due consideration to adjoining owners and occupiers at all times and shall organise activities relating to the Highway Works in such a manner as to cause the least practicable disruption.
- 7.2 Prominent notices shall be displayed and maintained around the perimeter of the site of each and all of the Highway Works to warn the public of the dangers of entering the Site.
- 7.3 The Developer shall nominate a member of the site management team as the contact point for the Director in the event of an emergency and shall advise a daytime and twenty-four (24) hour contact number to the Director for the same purpose.
- 7.6 The Developer shall arrange the regular removal of refuse likely to encourage vermin and arrange for suitable secure storage containers to be provided for collection.
- 7.7 The Developer shall keep a log book on site to record all complaints received from the public and the action taken in response and the log book shall be available for inspection by the Director.

8 TRAFFIC CONTROL

- 8.1 During the periods when the Highway Works are being executed the Developer shall institute at its own expense measures previously approved in writing by the Director to maintain the safe flow of traffic on the highways in the vicinity of the site of the Highway Works.
- 8.2 The Developer covenants with the County Council to ensure that the Highway Works are carried out in compliance with the latest edition of Chapter 8 of the Traffic Signs Manual published by Office of the Department for Transport or any other published document replacing the same and to the like effect.

9 ACCOMMODATION WORKS

- 9.1 The Developer shall carry out or ensure that there shall be carried out all related accommodation works associated with the Highway Works.
- 9.2 To the extent that any of the measures in paragraphs 7 to 9 of this Schedule would cause a breach of the measures in the Code of Construction Practice, the Code of Construction Practice shall prevail to the extent of any such inconsistency but where the measures in paragraphs 7 to 9 of this Schedule exceed the Code of Construction Practice without causing a breach then (solely in respect of the Highway Works) the requirements of this Schedule shall take precedence.

10 CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015

- 10.1 The Developer shall be the only client for the purpose of the CDM Regulations and the Developer agrees to undertake the obligations of a client under the CDM Regulations in respect of the execution of the Highway Works.
- 10.2 The Developer shall provide to the Director copies of the Health and Safety File and a copy of the Notification of Project (form HSE F10) to the HSE prior to the start of any works within the public highway.
- 10.3 Within twenty-eight (28) days of issue of the Certificate of Substantial Completion for any or all of the Highway Works the Developer shall provide to the Director:
- 10.3.1 a plan showing the land over which the Highway Works have been constructed; and

10.3.2 a Health and Safety file in respect of the relevant works conforming in all respects with the CDM Regulations and which shall accord with the current format used by the County Council.

10.4 The Director shall be at liberty to delay issue of the Certificate of Final Completion if the Developer fails to provide the Director with the documents referred to in 10.3.1 and 10.3.2 above within twenty-eight (28) days of issue of any Certificate of Substantial Completion for any of the Highway Works by a period equivalent to the number of days after the twenty-eight (28) day period that the documents were submitted or where such documents referred to in 10.3.1 and 10.3.2 have not been provided by prior to issue of the Certificate of Final Completion for the Highway Works.

10.5 In respect of the Highway Works generally the Developer shall provide to the Director the final information in both paper and electronic format and shall at least comprise:

10.5.1 1:500 scale (or alternative scale as may be specified by the Director) "as built" drawings;

10.5.2 records of the earthworks showing sources of material used in areas of fill description of fill materials descriptions of sub-grades in cut areas copies of results of tests of material carried out as part of the supervision of the construction of the earthworks;

10.5.3 records of the sources of supply of all deliveries of road construction materials with details of the location of the Highway Works at which each load is placed; and

10.5.4 records of the sources of supply of all other manufactured materials (e.g. drainage goods, fencing materials, traffic signs, electrical components and cables etc).

10.6 Subject to clause 13.2, the Developer shall indemnify and keep the County Council indemnified in respect of any actions, proceedings, costs, claims, demands, damages and liabilities arising out of any breach of the CDM Regulations unless due to the negligence or wilful action of the County Council or its servants.

11 SITE CLEARANCE AND CERTIFICATE(S) OF SUBSTANTIAL COMPLETION

11.1 On Substantial Completion of the Highway Works to the satisfaction of the Director, the Developer shall:-

- 11.1.1 clear away and remove from the Site all constructional plant and temporary works of every kind and leave the Site in a neat and tidy condition to the reasonable satisfaction of the Director; and
 - 11.1.2 carry out stage 3 of the Road Safety Audit process and comply to the reasonable satisfaction of the Director with recommendations arising thereunder or within such reasonable period as agreed with the Director.
- 11.2 The Director shall inspect the Highway Works within 5 Working Days from receipt of written notice from the Developer that the construction of the Highway Works (including any additional work resulting from stage 3 of the Road Safety Audit process) have been completed and the Director shall issue a Certificate of Substantial Completion in respect of those Highway Works to the Developer provided that the Highway Works have been completed to the Director's reasonable satisfaction in all respects..
- 11.3 If the Highway Works have not been completed to the satisfaction of the Director, the Director shall specify the reason why the Certificate of Substantial Completion has not been issued and shall carry out such further inspections of the Highway Works at the Developer's expense as the Director considers necessary until the same has been completed to the Director's satisfaction PROVIDED THAT the Director shall not act unreasonably;
- 11.4 The County Council and the Developer agree that upon issue of the Certificate of Substantial Completion the Highway Works shall be deemed to have been completed to the reasonable satisfaction of the County Council for the purpose of article 22(2) of the Development Consent Order to the extent that they are existing highway maintainable at public expense.
- 11.5 After the issue of the Certificate of Substantial Completion the Performance Figure in respect of the Highway Works shall be reduced by 90% and the County Council shall release the Developer and the Performance Bond Surety from their obligations under the Performance Bond in respect of the Highway Works to such extent.

12 DEFECTS CORRECTION PERIOD AND CERTIFICATE OF FINAL COMPLETION

- 12.1 The Developer shall maintain each and all of the Highway Works (unless the Director agrees in writing a lesser period having considered paragraph 12.2) from the issue of the related Certificate of Substantial Completion until such time as the Certificate of Final Completion has been issued and prior to the expiration of this period the

Developer shall reinstate and make good any damage or defect which may have arisen from any cause whatsoever or be discovered during the said period (including any defect in or damage to the surface water drainage system) so as to place the highway and the Highway Works in a condition reasonably satisfactory to the Director.

12.2 After the expiration of the period of twelve (12) months from Substantial Completion or the date the Development becomes operational (whichever is the latter) the Developer shall (unless the Director writes to the Developer informing them that it is to be carried out sooner or that he does not need to do so) carry out stage 4 of the Safety Audit and comply to the reasonable satisfaction of the Director with any recommendations arising thereunder.

12.3 After completion of the Highway Works and after any defects have been made good to the reasonable satisfaction of the Director and after the provisions of paragraphs 10.3 and 12.2 of this Schedule have been fulfilled the Director shall issue forthwith to the Developer the Certificate of Final Completion in respect of the Highway Works provided that the Certificate of Final Completion shall in the case of road gullies extend only as far as their points of entry to the surface water sewers where those are not being adopted by the County Council as highway drains.

12.4 Upon the issue of the Certificate of Final Completion the County Council shall release the Developer and the Performance Bond Surety and each of them from all subsisting obligations under the Performance Bond in respect of those Highway Works.

13 INDEMNITY

13.1 Subject to paragraph 13.2 and 13.4, the Developer shall from the date of this Agreement indemnify the County Council in respect of any liability, loss, damage, claims or proceedings whatsoever arising out of or caused by the carrying out of the Highway Works including, but not limited to, those arising out of any legally sustainable claims for payments under Part I of the Land Compensation Act 1973 (as amended) in connection with those Highway Works provided that the Developer's indemnity will not extend to any claims submitted to the County Council arising out of the negligence or wilful action of the County Council's employees or agents or arising out of any works of alteration carried out to any of the Highway Works by or on behalf of the County Council after the issue of the related Certificate of Final Completion.

13.2 The Developer shall only be required to indemnify the County Council in accordance with this Agreement if:

13.1.1 the County Council notifies the Developer as soon as reasonably practicable upon becoming aware of any matter which may become the subject of a claim for indemnity under this Agreement and thereafter keeps the Developer reasonably informed of all aspects of such matter and;

13.1.2 the County Council does not accept, compromise or settle any matter without first obtained the Developer's approval in writing (which shall not be unreasonably withheld or delayed).

13.3 The indemnification referred to in paragraph 13.1 includes:

13.1.3 all fees incurred by claimants which the County Council is obliged to pay, and those of the County Council or its agent or contractor, in negotiating any claims (together with VAT payable on the claimants' professional advisors' fees);

13.1.4 statutory interest payments to claimants and their professional advisors; and

13.1.5 the County Council's reasonable and proper legal costs in making the compensation, fees and interest payments.

13.4 The indemnification referred to in paragraph 13.1 is conditional upon the cause of such liability, loss, damage, claims or proceedings occurring before the issue of the Final Certificate in respect of the Highway Works

14 PERFORMANCE BOND

14.1. The County Council the Developer acknowledge that the Performance Bond for the Highway Works has been entered into by the Developer and the Performance Bond Surety and the Developer and Performance Bond Surety shall be bound to the County Council in the amount of the Performance Figure for the Highway Works.

14.2. Not less than three (3) months prior to the expiry of any Performance Bond or an alternative form of security as agreed between the parties (acting reasonably) provided pursuant to paragraph 14.1, a replacement Performance Bond shall be provided by the Developer and (if applicable) the Performance Bond Surety for a sum not less than the amount of the Performance Figure as at that date (excluding any interest accrued) PROVIDED THAT (for the avoidance of doubt) upon the issue by the County Council of the Certificate of Final Completion pursuant to paragraph 12.3

no such replacement Performance Bond or alternative form of security shall be required and this paragraph 14.2 shall cease to have effect.

14.3. Should the Developer default in the execution of its obligations to carry out any or all of the Highway Works and to maintain the same in accordance with the provisions of this Agreement then the County Council may (subject to the provisions hereinafter contained) itself carry out the Highway Works maintain the same as aforesaid having first called upon the Performance Bond Surety for the cost to be expended in so doing:

14.3.1 unless there is a danger to users of the highway the County Council shall give twenty (20) Working Days prior written notice (or lesser period as may in the circumstances be reasonable) of its intention to commence work under paragraph 14.3;

14.3.2 any notice served under this paragraph shall specify the period of the notice ("the Notice Period") the extent of the work which the County Council proposes to carry out and full details of all matters in respect of which the Director considers that the Highway Works have not been carried out in accordance with the terms of this Agreement; and

14.3.3 if before the expiry of the Notice Period the Developer serves written notice upon the County Council that the Developer intends diligently to execute the works specified in the notice in accordance with the terms of this Agreement and specifies a time to complete that the County Council considers reasonable in the circumstances the County Council shall not be entitled to execute the relevant part or parts of the Highway Works specified in the notice served under this paragraph unless the Developer then fails to execute those works within the agreed time scale.

14.4. If the Developer should default in the execution of its obligations to carry out any or all of the Highway Works and to maintain the same in accordance with the provisions of this Agreement then the County Council will call upon the Performance Bond Surety to provide the full Performance Figure (or such sum that remains following reduction of the Performance Bond in accordance with paragraph 11.5 of this Schedule) in accordance with this Agreement, save that the County Council after all works are completed and all contracts and any contract claims settled will return any Performance Bond sum unused with interest at the Bank of England Base Rate minus 2 basis points, compounding annually at financial year end on receipt of a written request to the Performance Bond Surety within one month of all the aforementioned

completing and settling. If for any period the Bank of England Base Rate is at or below 0.02% then no interest shall be payable for that period by any party to this Agreement.

15 LEGAL AND ADMINISTRATIVE COSTS

15.1. The parties hereby agree that the following payments are suitably satisfied by other agreements between the parties:

15.1.1 the reasonably incurred legal costs of the County Council's Legal Services Department in connection with the preparation and completion of this Agreement;

15.1.2 where required, the cost of any temporary and permanent traffic regulation orders; and

15.1.3 where required, the cost of any other road traffic orders required to facilitate the Highway Works.

EXECUTED AS A DEED by
SIZEWELL C LIMITED

acting by
in the presence of

.....
Director

.....
(Name of witness)

.....

.....

.....
(Address of witness)

.....
(Signature of witness)

EXECUTED AS A DEED by
~~BNP PARIBAS~~ *SUFFOLK COUNTY COUNCIL*
acting by two of its duly authorised
signatories

.....
Authorised signatory

.....
Authorised signatory

THE COMMON SEAL OF
SUFFOLK COUNTY COUNCIL
WAS HEREUNTO AFFIXED
IN THE PRESENCE OF



A. M. C. M. D. a. l.

ADULY AUTHORISED OFFICER

SCHEDULE II.A
[not used]

SCHEDULE III

The Highway Works

The Highway Works comprising the following works:

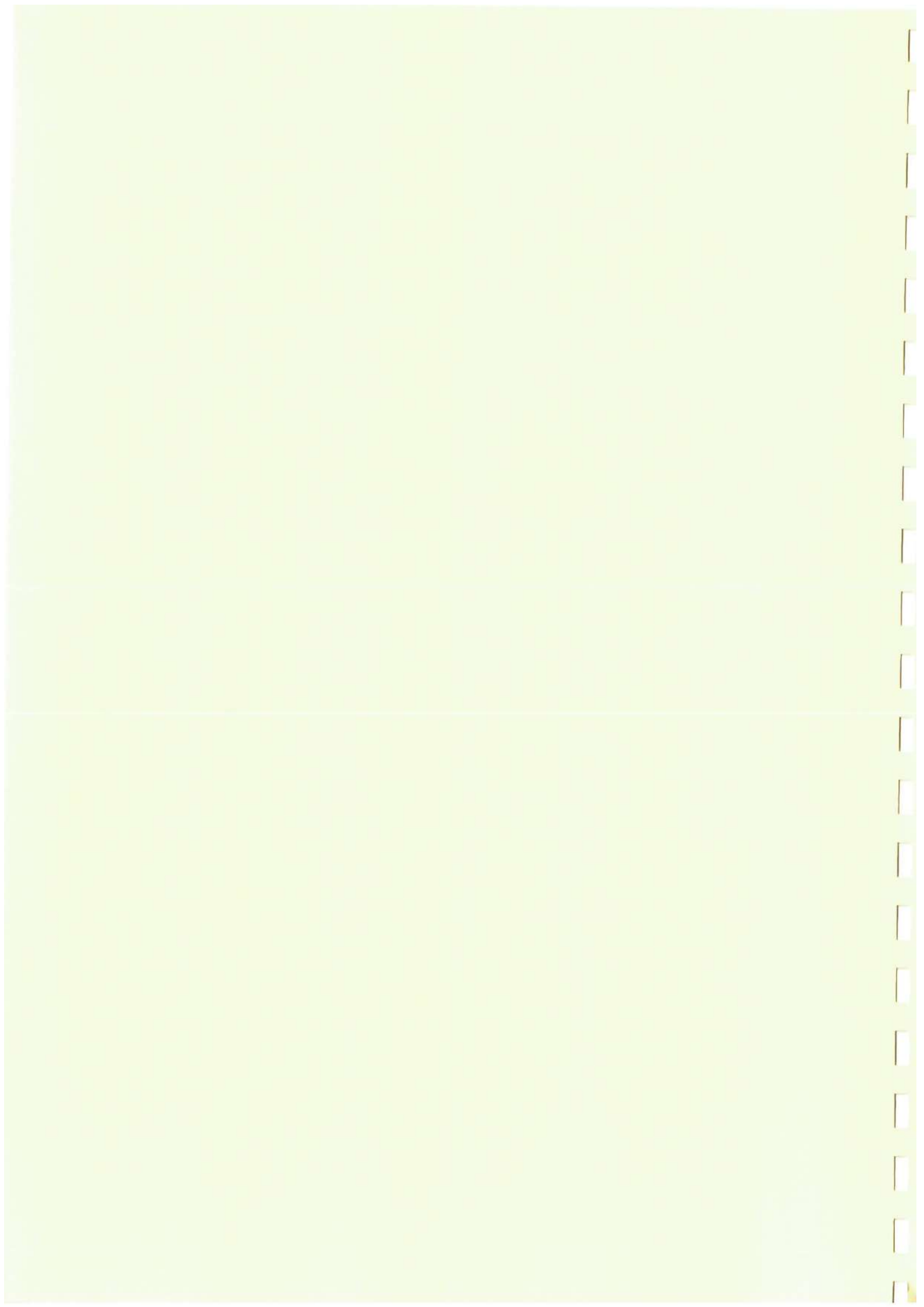
<u>Location</u>	<u>Works</u>
Land off the northern verge of King Georges Avenue, approximtaley 210 meters west of the junction of King Georges Avenue and Lover's Lane, Leiston, East Suffolk	Construction of the access for the operation of the ACA site from King George Avenue. The access is part of the AD6 Scheme

Timescales: The Highway Works are to be commenced within twelve (12) months of the date of this Agreement and completed within three (3) months of commencement of the Highway Works.

SCHEDULE IV

Approved List of Highway Works Drawings

DOCUMENT NUMBER	DOCUMENT TITLE	REVISION
SZC-AD0600-WSP-XXXVUT-00XXXX-DRW-HCU-600625	AD6 MDS ROAD INTERFACE SCHEMES DETAILED DESIGN HIGHWAYS CIVIL UTILITIES	P05
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621055	AD6 MDS ROAD INTERFACE SCHEMES DETAILED DESIGN KING GEORGE'S AVENUE ENGINEERING PLAN AND PROFILE	P05
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621013	AD6 MDS ROAD INTERFACE SCHEMES DETAILED DESIGN KING GEORGE'S AVENUE SCHEME REINSTATEMENT	P05
SZC-AD0620-WSP-XXXGEN-09XXXX-SPE-HCH-621001	SIZEWELL C - AD6 ADOPTABLE HIGHWAY SCHEMES AT MAIN DEVELOPMENT SITE AD6 DETAILED DESIGN KING GEORGE'S AVENUE WORKS SPECIFICATION	P06
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621011	AD6 MDS ROAD INTERFACE SCHEMES DETAILED DESIGN KING GEORGE'S AVENUE S278 SITE CLEARANCE	P05
ZC-AD0620-WSP-XXXGENXXXXX-REP-HLE-621001	SIZEWELL C - AD6 ADOPTABLE HIGHWAY SCHEMES AT MAIN DEVELOPMENT SITE HEDGEROW TRANSLOCATION METHODOLOGY REPORT – KING GEORGE'S AVENUE	P01
SZC-AD0620-WSP-XXXHSN-09XXXX-DRW-HCH-301235	AD6 MDS ROAD INTERFACE SCHEMES DETAILED DESIGN KING GEORGE'S AVENUE TRAFFIC SIGNS	P05
SZC-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105	AD6 MDS ROAD INTERFACE SCHEMES DETAILED DESIGN KING GEORGE'S AVENUE KERBS, FOOTWAYS AND PAVED AREAS	P06
ZC-AD0620-WSP-XXXHDG-09XXXX-DRW-HCD-625005	SIZEWELL C AD6 WORKS DETAILED DESIGN DRAINAGE WORKS KING GEORGES AVENUE DRAINAGE	P07
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621005	AD6 MDS ROAD INTERFACE SCHEMES DETAILED DESIGN KING GEORGE'S AVENUE GENERAL ARRANGEMENT	P06
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621010	AD6 MDS ROAD INTERFACE SCHEMES DETAILED DESIGN KING GEORGE'S AVENUE S278 GENERAL ARRANGEMENT	P09









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Sizewell C – AD6 Adoptable Highway Schemes at Main Development Site

AD6 Detailed Design King George's Avenue Works Specification

Project	SZC: Sizewell C	Teamcenter ID	101123997
Teamcenter Contract	WSP_AD06XX_061		
Client	NNB Generation Co.	Contractor Reference	SZC-AD0620-WSP-XXXGEN-09XXXX-SPE-HCH-621001
Contractor	WSP	Contractor Rev	P06
Purpose of Issue	P1 - Published for Implementation		
Supplier	N/A	Originators Ref	N/A
Prepared by	Yama Laly	Role	WSP - Highways Designer
Reviewed by	Geraint Jones	Role	WSP - Highways Lead
Approved by	Bogdan Schiteanu	Role	WSP - Design Manager

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REVISION HISTORY

Revision	Purpose	Amendment	Prepared By	Date
P01	P1 - Published for Implementation	First issue of document	Benjamin Prosser	03/08/2023
P02	P1 - Published for Implementation	Revision following comments to the KGA technical pack	Yama Laly	06/10/2023
P03	P1 - Published for Implementation	Revision following comments to the KGA technical pack	Yama Laly	10/11/2023
P04	P1 - Published for Implementation	Revision following comments to the KGA technical pack	James Kraven	24/11/2023
P05	P1 - Published for Implementation	Revision following drawing revision updates	James Kraven	04/12/2023
P06	P1 - Published for Implementation	Revision following drainage updates	Yama Laly	11/12/2023

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QUALITY COMPLIANCE

Document No.:		SZC-AD0620-WSP-XXXGEN-09XXXX-SPE-HCH-621001			
Description of Document.:		AD6 Detailed Design King George's Avenue Works Specification			
Revision	Author	Checked by	Approved by	Date	Reason for revision
P01	Benjamin Prosser	Geraint Jones	Bogdan Schiteanu	03/08/2023	First Issue of document
P02	Yama Laly	Geraint Jones	Bogdan Schiteanu	06/10/2023	Revision following comments to the KGA technical pack
P03	Yama Laly	Geraint Jones	Bogdan Schiteanu	10/11/2023	Revision following comments to the KGA technical pack
P04	James Kraven	James Sharma	Bogdan Schiteanu	24/11/2023	Revision following comments to the KGA technical pack
P05	James Kraven	James Sharma	Bogdan Schiteanu	04/12/2023	Revision following drawing revision updates
P06	Yama Laly	Geraint Jones	Bogdan Schiteanu	11/12/2023	Revision following drawing revision updates



Sizewell Co

SIZEWELL C AD-6 ADOPTABLE HIGHWAY SCHEMES AT MDS

AD6 DETAILED DESIGN KING GEORGE'S AVENUE WORKS SPECIFICATION





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Sizewell Co

SIZEWELL C AD-6 ADOPTABLE HIGHWAY SCHEMES AT MDS

AD6 DETAILED DESIGN KING GEORGE'S AVENUE WORKS SPECIFICATION

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. SZC-AD0600

OUR REF. NO. SZC-AD0620-WSP-XXXGEN-09XXXX-SPE-HCH-621001

DATE: DECEMBER 2023

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QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3	Revision 4	Revision 5
Remarks	P01	P02	P03	P04	P05	P06
Date	June 2023	October 2023	November 2023	November 2023	December 2023	December 2023
Prepared by	WSP	WSP	WSP	WSP	WSP	WSP
Signature						
Checked by	Geraint Jones	Geraint Jones	Geraint Jones	James Sharma	James Sharma	Geraint Jones
Signature						
Authorised by	Bogdan Schiteanu	Bogdan Schiteanu	Bogdan Schiteanu	Bogdan Schiteanu	Bogdan Schiteanu	Bogdan Schiteanu
Signature						
Project number	70080234					
Report number	SZC-AD0620-WSP-XXXGEN-09XXXX-SPE-HCH-621001					
File reference	SZC-AD0620-WSP-XXXGEN-09XXXX-SPE-HCH-621001					



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FIGURES

No table of figures entries found.

APPENDICES

No table of contents entries found.

1 SPECIFICATION

1.1 PREAMBLE

- 1.1.1. NNB GenCo is undertaking the construction of a new nuclear power station, Sizewell C (SZC), immediately north of the existing Sizewell B (SZB) nuclear power station.
- 1.1.2. Various early works are required to transform the site from its current use to one that can support the construction of Enabling Works and subsequently the Main Civil Works and Marine Works construction.
- 1.1.3. This document defines the functional specification associated with the King George's Avenue (KGA) Access junction which will establish access from the existing highway network to the ACA site.
- 1.1.4. The KGA Access junction Scope of Works include:
Horizontal and Vertical Design of junction (proposed to be 15.0m from existing highway network. Confirmation required from Client).
Ensure tie-in with Atkins ACA design.
Drainage design for junction.
Pavement Design of junction.
Identification of utilities present and design of proposed diversions.
Construction Package issue (e.g. Design Drawings, Works Specification).
- 1.1.5. Where the Specification requires the provision of documentation to the Overseeing Organisation for statutory or type approval such documentation shall be provided to the Project Manager as drawn from the Conditions of Contract.
- 1.1.6. If the Specification is used in conjunction with a Contract under which the Contractor is responsible for the design of any part of the Permanent Works, the delegation of the roles and functions of the Overseeing Organisation shall be as follows:
If any agreement, consent or approval required to be obtained from the Overseeing Organisation impacts on the health and safety of the general public, the environment or any property or equipment not owned or operated by the Contractor, such agreement, consent, approval shall be obtained from the Project Manager as drawn from the Conditions of Contract.
Where the Specification provides for the Overseeing Organisation to require a test, waive the requirement for a test or alter testing frequency, the party to whom the Overseeing Organisation's roles and functions have been ascribed shall exercise such decisions in accordance with the Construction Requirements/Employer's requirements/Works Information stated in the Contract.



1.2 SCHEDULE OF PAGES AND RELEVANT PUBLICATION DATES

Table 0/1 – SCHEDULE OF PAGES AND RELEVANT PUBLICATION DATES

Series/ Appendix	Page Number	Publication Date
000	1 to 3	May 2014
000	6 to 7F	February 2016
000	4 to 5	April 2022
100	2, W1F, N2 to N11F	May 2014
100	N1	December 2014
100	1, 3 to 30F	April 2022
200	1 to 3F	February 2016
300	1	May 2001
300	4	November 2002
300	2 to 3, 5 to 6F	May 2008
500	1 to 2, 4 to 39F, N1 to N2F	February 2020
500	3	March 2020
600	1 to 68, 70 to 77F, S1 to S4F, W1 to W4F, N1 to N5F	February 2016
600	69	February 2017
700	1 to 36F, N1 to N6F	February 2016
800	1 to 42F	November 2021



900	1 to 83F, S1 to S3F, W1 to W2F, N1F	July 2021
1000	3 to 33	January 2020
1000	1 to 2, 34 to 58F	November 2021
1100	1 to 16F	February 2021
1200	5	May 2001
1200	2 to 3, W1F	August 2003
1200	1, 14 to 16F	May 2004
1200	4, 9 to 11, 13	May 2005
1200	12	November 2006
1200	6 to 7, N1 to N4F	November 2007
1200	8	May 2008
1300	N2F	November 2003
1300	3 to 4	November 2004
1300	1, 5 to 10, 12F	November 2005
1300	2, 11 and N1	May 2006
1400	2, N1F	May 2001
1400	1, 3 to 9F	May 2006



1500	1 to 31F	February 2017
2600	2 to 4	November 2003
2600	5	November 2004
2600	6	May 2005
2600	7	November 2006
2600	1, 8F	March 2020
3000	4 to 7, 10, 12 to 17, 19, 22 to 27F	May 2001
3000	20	November 2004
3000	2 to 3	May 2006
3000	8 to 9, 11, 18, 21	May 2008
5700	1 to 30F	February 2020
Appendix A	1 to 4F	May 2014
Appendix B	1 to 3F	May 2014
Appendix C	1 to 2F	May 2014
#Appendix D Appendix D (NI)	1F N1F	May 2014 May 2014
Appendix E	1F	May 2014
Appendix F	1 to 60F	November 2021
Appendix H	1	May 2004
Appendix H	2	November 2005
Appendix H	3	November 2006
Appendix H	4 to 9F	November 2008

2 SERIES 000: INTRODUCTION

APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT.		
List of Additional Clauses, Tables and Figures.		
Clause No. (etc.)	Title	Written On Pages following
170AR	Cleanliness of Highways	
171AR	Publicity	
172AR	Record of Agreed Contractor's Alternatives	
174AR	Public Liaison	
2670AR	Health and Safety File	
188AR	Protection of Trees and Shrubs	

APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT.	
List of Additional Clauses, Tables and Figures.	
Clause No. (etc.)	Title and rewritten text
170AR	<p><u>Cleanliness of Highways</u></p> <p>1. The Contractor shall ensure that mud and any other material adhering to the wheels or tracks of any works vehicles shall be removed before such vehicle enters any highway and that works vehicles are loaded and sheeted in such a way that no loose material can fall onto any highway.</p>
	<p>2. Suitable wheel washing facilities shall be provided and used at all Contractor's, Sub-Contractors' and Suppliers' points of entry onto the public highway from the Site. No vehicle which is likely to deposit mud or other material on the road surface shall be permitted back onto the public highway. In meeting their obligation under the Conditions of Contract, the Contractor shall provide, maintain and use as necessary suitable equipment, including mechanical/vacuum road sweepers throughout the duration of the Works. Road sweepers propelled by tractors and with the brush at an angle to the road will not be permitted.</p>



APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT.

List of Additional Clauses, Tables and Figures.

Clause No. (etc.)	Title and rewritten text
	<p>3. The Contractor's proposals for wheel cleaning and sheeting shall be subject to the approval of the Overseeing Organisation's Representative prior to works commencing.</p> <p>4. The Contractor shall arrange the frequent inspection of the highway used by their vehicles and those of his sub-contractors or suppliers and the immediate removal of any mud or other material deposited thereon.</p> <p>5. Sections of existing roads shall not be used for storage of materials or plant.</p>
171AR	<p><u>Publicity</u></p> <p>1. The Contractor shall not give any information concerning the Works for publication in the press or on radio, television or screen or elsewhere without the written approval of the Overseeing Organisation.</p> <p>2. All advertisements to be erected within the site by the Contractor or by any Sub-Contractor shall first be approved by the Overseeing Organisation. None will be allowed in the vicinity of trunk road traffic.</p> <p>3. All advertisements within the Site shall be removed within seven days of the date of the Completion Certificate.</p>
172AR	<p><u>Record of Agreed Contractor's Alternatives</u></p> <p>1. The Contractor shall prepare a set of printed CAD drawings undertaken by a competent CAD operator, showing all alterations from the Overseeing Organisation's Construction Issue drawings and approved by the Overseeing Organisation.</p> <p>2. These drawings shall become the property of the Overseeing Organisation and shall be forwarded to them no later than 10 working days after such approval is given to form the As-built drawings for inclusion within the Health & Safety File.</p>
174AR	<p><u>Public Liaison</u></p> <p>The Contractor shall confirm all arrangements necessary for public liaison and informing the public about the works with the Client's Representative and Project Manager prior to commencement of works.</p>



APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT.

List of Additional Clauses, Tables and Figures.

Clause No. (etc.)	Title and rewritten text
188AR	<p><u>Protection of Trees and Shrubs</u></p> <p>1. The requirements for the preservation and protection of trees, hedges, shrubs, grass verges and landscaped areas are described in the 3000 Series Appendices and Contract Drawings. As a minimum Trees, shrubs and hedgerows which are to be preserved shall be protected by 1.2m high temporary cleft chestnut pale fencing to BS 1722-4:1986(1998), extended sufficiently to protect branches and root spread. Contractor's materials shall not be stored under spread of trees nor on the high side of trees etc. unless it can be shown that no harmful material can be in contact with soil under trees.</p>
2670AR	<p><u>Health & Safety File</u></p> <p>1 General</p> <p>(a) The contractor in their role as Principal Contractor shall provide particular information in the specified format(s) and at the timings indicated within this clause to the Principal Designer as appropriate to facilitate the production of the Health and Safety File as required by the CDM Regulations (2015).</p> <p>2 Information Required</p> <p>(a) The Principal Contractor shall provide original copies of all drawings that relate to those aspects of the design for which he, or his sub-contractors and suppliers, have a direct responsibility. Such drawings shall be inclusive of all construction stage amendments introduced via approved changes and may include drawings initially produced by the Principal Contractor's sub-contractors and suppliers. Responsibility for the as-built version of all such drawings lies with the Principal Contractor.</p> <p>(b) The Principal Contractor shall provide copies of product data sheets and other technical literature relating to all materials that are approved for incorporation into the Works that have health and safety implications, including maintenance facilities. All such information shall bear the name, address and contact numbers of the manufacturer and/or supplier of these materials.</p>



APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT.

List of Additional Clauses, Tables and Figures.

Clause No. (etc.)	Title and rewritten text
	<p>(c) The Principal Contractor shall provide as-built information relating to all Statutory Undertaker’s equipment that is exposed during, or affected by, the Works. This will exclude such work carried out in advance of the works contract by others (unless subsequently exposed during the works) but will include all existing supplies and services exposed during the works and all main service diversions required by these works whether carried out by others, the Principal Contractor or his sub-contractors.</p> <p>(e) The Principal Contractor shall provide a duplicate set of Road Lighting and Traffic Signals Site Records as described in Specification Clause 1402.</p>
	<p>3 Formats Required</p> <p>(a) All drawings submitted by the Principal Contractor shall be provided in Autocad 2019 format, in colour if necessary, and on the appropriate standard sized sheets (A1, A3 and A4). All drawings shall clearly indicate the Project Title, Drawing Title, Drawing Number, date of production, scale and initials of those persons responsible for the production and checking of the drawing. Each drawing shall be clearly marked as-built, and identify the company responsible for the producing this drawing. The As Built drawings should clearly identify any changes that have been made since the construction issue drawings. Revision clouds shall be used and the changes highlighted in the revision box.</p> <p>4 Timing of Submission</p> <p>(a) All information as defined by paragraphs 1, 2 and 3 shall be submitted to the Principal Designer within 4 weeks after the issue of the completion certificate.</p>

APPENDIX 0/2: CONTRACT-SPECIFIC MINOR ALTERATIONS TO EXISTING CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT.

Clause Table or Figure No	Alterations to be made



APPENDIX A: QUALITY MANAGEMENT SCHEMES
N/A

APPENDIX B: PRODUCT CERTIFICATION SCHEMES
N/A

APPENDIX F: PUBLICATIONS REFERRED TO IN THE SPECIFICATION		
Publication	Alterations to be made	Where referred to
N/A		

APPENDIX 0/3: LIST OF NUMBERED APPENDICES REFERRED TO IN THE SPECIFICATION AND INCLUDED IN THE CONTRACT			
Appendix 0/3 is comprised of two lists, A and B, of Numbered Appendices as follows:			
List 'A' is a complete list of the Numbered Appendices referred to in the Specification for Highway Works with those not adopted marked 'Not Used'. Those identified by the letters T or C shall be completed by the Tenderer or Contractor respectively.			
Volume No.	Completed by	Appx No.	Title
000	Used	0/1	INTRODUCTION Contract-specific Additional, Substitute and Cancelled Clauses and Tables Included in the Contract.



100	Not used	0/2	Contract-specific Minor Alterations to Existing Clauses, Tables and Figures Included in the Contract.
	Used	0/3	List of Numbered Appendices Referred to in the Specification and Included in the Contract.
	Used	0/4	List of Drawings Included in the Contract.
	Not used	0/5	Special National Alterations of the Overseeing Department of Wales
	PRELIMINARIES		
	Not used	1/1	Temporary Accommodation and Equipment for the Overseeing Organisation
	Not used	1/2	Vehicles for the Overseeing Organisation
	Not used	1/3	Communication System for the Overseeing Organisation
	Not used	1/4	Working and Fabrication Drawings
	Not used	1/5	Testing to be Carried out by the Contractor
	Not used	1/6	Supply and Delivery of Samples to the Overseeing Organisation
	Not used	1/7	Site Extent and Limitations on Use
	Not used	1/8	Operatives for the Overseeing Organisation
	Not used	1/9	Control of Noise and Vibration
	Not used	1/10	Structures to be Designed by the Contractor
	Not used	1/11	Structural Elements and Other Features Designed by the Contractor
	Not used	1/12	Setting Out and Existing Ground Levels
Not used	1/13	Programme of Works	
Not used	1/14	Payment Applications	
Not used	1/15	Accommodation Works	
Not used	1/16	Privately & Publicly Owned Services & Supplies	
Not used	1/17	Traffic Safety & Management	



	Not used	1/18	Temporary Diversions for Traffic
	Not used	1/19	Routeing of Vehicles
	Not used	1/20	Recovery Vehicles for Breakdowns
	Not used	1/21	Information Boards

Appendix 0/3: List A (Contd.)				
Volume No.	Completed by	Appx No.	Title	
200	Not used	1/22	Progress Photographs	
	Not used	1/23	Risks to Health and Safety from Materials or Substances	
	Not used	1/24	Quality Management System	
	Not used	1/25	Temporary Closed Circuit Television System for the Monitoring of Traffic	
	Not used	1/26	Temporary Automatic Speed Camera System for the Enforcement of Mandatory Speed Limits at Roadworks (TASCAR)	
	Not used	1/27	Temporary Automatic Speed Camera System for the Enforcement of Mandatory Speed Limits at Roadworks (TASCAR)	
	Not used	1/28	Schedule of Existing Properties	
				SITE CLEARANCE
	Used	2/1	List of Buildings, etc. to be Demolished or Partly Demolished	
	Used	2/2	Filling of Trenches & Pipes	
	Used	2/3	Retention of Material Aising from Site Clearance	
	Used	2/4	Explosives & Blasting	
	Used	2/5	Hazardous Materials	
	Not used	2/6	Site Clearance Environmental Requirements	



Appendix 0/3: List A (Contd.)			
Volume No.	Completed by	Appx No.	Title
300	Used	3/1	FENCING Fencing, Gates and Stiles
500	Used	5/1	DRAINAGE AND SERVICE DUCTS Drainage Requirements
	Not used	5/2	Service Duct Requirements
	Not used	5/3	Surface Water Channels and Drainage Channel Blocks
	Not used	5/4	Fin Drains and Narrow Filter Drains
	Not used	5/5	Combined Drainage and Kerb Systems
	Not used	5/6	Linear Drainage Channel System
	Not used	5/7	Thermoplastics Structural Wall Pipes and Fittings
	Not used	5/8	Maintenance Plans for Soakaways (02/20)
600	Not used	6/1	EARTHWORKS Requirements for Acceptability and Testing etc. of Earthworks Materials
	Not used	6/2	Requirements for Dealing with Class U1B and U2 Unacceptable Material
	Not used	6/3	Requirements for Excavation, Deposition, Compaction
	Not used	6/4	Requirements for Class 3 Material
	Not used	6/5	Geotextiles Used to Separate Earthworks Materials
	Not used	6/6	Fill to Structures & Fill Above Structural Foundations



Appendix 0/3: List A (Contd.)			
Volume No.	Completed by	Appx No.	Title
	Not used	6/7	Sub-formation and Capping and Preparation Surface Treatment of Formation
	Not used	6/8	Topsoiling.
	Not Used	6/9	Earthwork Environmental Bunds, Landscape Areas, Strengthened Embankments
	Not used	6/10	Ground Anchorages, Crib Walling and Gabions
	Not used	6/11	Swallow Holes & Other Naturally Occurring Cavities and Disused Mine Workings
	Not used	6/12	Instrumentation and Monitoring
	Not used	6/13	Ground Improvement
	Not used	6/14	Limiting Values for Pollution of Controlled Waters
	Not used	6/15	Limiting Values for Harm to Human Health and the Environment
			ROAD PAVEMENTS – GENERAL
700	Used	7/1	Permitted Pavement Options
	Not used	7/2	Excavation, Trimming and Reinstatement of Existing Surfaces
	Not used	7/3	Surface Dressing Sheets 1, 2 and 3
	Used	7/4	Bond Coats, Tack Coats and other Bituminous Sprays Sheets 1 and 2
	Not used	7/5	In-Situ Recycling: The Remix and Repave Processes
	Not used	7/6	Breaking Up or Perforation of Existing Pavement
	Not used	7/7	Slurry Surfacing Sheets Incorporating Microsurfacing 1, 2 and 3
	Not used	7/9	Cold Milling (Planing) of Bituminous Bound Flexible Pavement
	Not used	7/10	Worksheet Pro Forma for Results of Testing for Constituent Materials in Recycled Coarse Aggregate and Recycled Concrete Aggregate



Appendix 0/3: List A (Contd.)			
Volume No.	Completed by	Appx No.	Title
	Not used	7/11	Overband and Inlaid Crack Sealing Systems
	Not used	7/12	Arrester Beds
	Not used	7/13	Saw-cut and Seal Bituminous Overlays on Existing Jointed Concrete Pavements
	Not used	7/14	Preparation of Jointed Concrete Pavements Prior to Overlaying and Saw-cut and Seal of the Bituminous Overlay
	Not used	7/15	Saw-cut, Crack and Seal Existing Jointed Reinforced Concrete Pavements
	Not used	7/16	Cracking and Sealing of Existing Jointed Unreinforced Concrete Pavements and CBM Bases
	Not used	7/17	Cracking Plant and Equipment Progress Record
	Not used	7/18	Site Specific Details and Requirements for Cold Recycled Bitumen Bound Material
	Not used	7/19	Site Specific Details and Requirements for Cold Recycled Cement Bound Material
	Not Used	7/20	Site Specific Details and Requirements for Inducing Cracks
	Not used	7/21	Surface Dressing – Recipe Specification Sheet 1 and 2
	Not used	7/22	Repairs to Potholes
1000			ROAD PAVEMENTS - CONCRETE AND CEMENT BOUND MATERIALS
	Not Used	10/1	Plant and Equipment for the Construction of Exposed Aggregate Concrete Surface
	Not used	10/2	Excavation, Trimming and Reinstatement of Existing Surfaces Bond Coats, Tack Coats and other Bituminous Sprays (Sheets 1, 2 and Binder Data Sheet).
	Not used	10/3	Cold Milling (Planing) of Bituminous Bound Flexible Pavement.
	Not used	10/4	Overband and inlaid crack sealing system
			KERBS, FOOTWAYS AND PAVED AREAS
1100	Used	11/1	Kerbs, Footways and Paved Areas
	Not Used	11/2	Access Steps



Appendix 0/3: List A (Contd.)			
Volume No.	Completed by	Appx No.	Title
1200			TRAFFIC SIGNS
	Used	12/1	Traffic Signs: General
	Not used	12/2	Traffic Signs: Marker Posts
	Used	12/3	Traffic Signs: Road Markings and Studs
	Not used	12/4	Traffic Signs: Cones, Cylinders, FTD's and Other Traffic Delineators
	Not Used	12/5	Traffic Signs: Traffic Signals
	Not used	12/6	Traffic Signs: Special Sign Requirements on Gantries
	Used	12/7	Traffic Sign Schedule
1300			ROAD LIGHTING COLUMNS AND BRACKETS, CCTV MASTS AND CANTILEVER MASTS
	Used	13/1	Information to be Provided When Specifying Lighting Columns & Brackets
	Used	13/2	Column and Bracket Data Sheets 1 & 2
	Used	13/3	Instruction for Completion of Column and Bracket Data Sheet
	Not used	13/4	Information to be provided when specifying CCTV Masts
	Not used	13/5	Typical CCTV Mast Data Sheet
	Not used	13/6	Instructions for completion of CCTV Mast Sheets
	Not used	13/7	Information to be provided when specifying cantilever masts
	Not used	13/8	(Specification for Highway Works) Typical cantilever masts data sheets 1 and 2
	Not used	13/9	Instructions for completion of cantilever masts data sheets
1400			ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS



Appendix 0/3: List A (Contd.)			
Volume No.	Completed by	Appx No.	Title
1500	Used	14/1	Site Records
	Used	14/2	Location of Lighting Units and Feeder Pillars
	Used	14/3	Temporary Lighting
	Used	14/4	Electrical Equipment for Road Lighting
	Used	14/5	Electrical Equipment for Traffic Signs
HIGHWAYS COMMUNICATIONS			
2600	Not Used	15/1	Highway Communications
	Not Used	15/2	Cable Ducts Requirements
MISCELLANEOUS			
3000	Not used	26/1	Ancillary Concrete
	Not used	26/2	Bedding Mortar
	Not used	26/3	Cored Thermoplastic Node Markers
	Not used	26/4	Street Furniture
LANDSCAPING AND ECOLOGY			
3000	Not used	30/1	General Sheets 1, 2 and 3
	Not used	30/2	Weed Control
	Not used	30/3	Control of Rabbits
	Not used	30/4	Ground Preparation
	Not used	30/5	Grass Seeding, Wildflower Seeding and Turfing



Appendix 0/3: List A (Contd.)			
Volume No.	Completed by	Appx No.	Title
	Not used	30/6	Planting Sheets 1 and 2
	Not used	30/7	Grass, Bulbs and Wildflower Maintenance
	Not used	30/8	Watering
	Not used	30/9	Establishment Maintenance for Planting
	Not Used	30/10	Maintenance of Established Trees and Shrubs
	Not used	30/11	Management of Water-bodies
	Not used	30/12	Special Ecological Measures

Symbol

- (Co) Compiler compiles: Identified in the Notes for Guidance examples by the term 'sample' included in their title
- (Co/C) Compiler partially compiles and Contractor completes and returns to Overseeing Organisation.
- (Co/T) Compiler partially compiles and Tenderer completes and returns with Tender.
- C Contractor completes and returns to Overseeing Organisation
- I For Contractor's information only.
- P This indicates the Appendix is a national proforma and format must not be altered.

APPENDIX 0/3: LIST OF NUMBERED APPENDICES REFERRED TO IN THE SPECIFICATION AND INCLUDED IN THE CONTRACT		
List 'B' gives the list of Contract-specific Numbered Appendices devised for the Contract.		
Volume No.	Appendix No.	Appendix Title



		None
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APPENDIX 0/4: LIST OF DRAWINGS INCLUDED IN THE CONTRACT**1 Contract-specific Drawings Supplied to Each Tenderer**

Drawing No.	Title	Rev
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621005	Detailed Design King George's Avenue General Arrangement 01	P06
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621055	Detailed Design King George's Avenue Engineering Plan And Profile 01	P05
SZC-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105	Detailed Design King George's Avenue Kerbs, Footways And Paved Areas 01	P06
SZC-AD0620-WSP-XXXHSN-09XXXX-DRW-HCH-301235	Detailed Design King George's Avenue Traffic Signs 01	P05
SZC-AD0620-WSP-XXXHDG-09XXXX-DRW-HCD-625005	Detailed Design King George's Avenue Drainage General Arrangement	P07
SZC-AD0600-WSP-XXXVUT-00XXXX-DRW-HCU-600625	Detailed Design Highways - Civil Utilities Sheet 10	P05
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621013	Detailed Design King George's Avenue Scheme Reinstatement 02	P05

APPENDIX 0/4: LIST OF DRAWINGS INCLUDED IN THE CONTRACT**2 Standard Drawings****2(i) Supplied to Each Tenderer**

Drawing No.	Title	Folio No.
N/A	N/A	



Appendix 0/4:	LIST OF DRAWINGS INCLUDED IN THE CONTRACT
2	Standard Drawings. (Contd.)
2(ii)	Inspected by Tenderers.
The following drawings are made available for inspection by tenderers at:	
N/A	

Appendix 0/4:	LIST OF DRAWINGS INCLUDED IN THE CONTRACT		
2	Standard Drawings. (Contd.)		
2(iii)	Brought Into the Contract by Reference.		
a) Highway Construction Details (HCD) published by HMSO dated as Volume 3 of the Manual of Contract Documents for Highway Works contains the following drawings brought into the Contract by reference. Unless otherwise stated below the whole drawing is brought into the Contract.			
Drawing No.	Title	Date	Aspect required if not whole drawing

3 SERIES 100 - PRELIMINARIES

3.1 APPENDIX 1/1 – TEMPORARY ACCOMODATION AND EQUIPMENT FOR THE OVERSEEING ORGANISATION

- 3.1.1. The Contractor is to identify and secure suitable land for use as their site compound(s) and shall be responsible for entering into the necessary licensing agreements with Local Authorities, or third-party landowners, to secure the land for the duration of the works.
- 3.1.2. The Contractor shall consult Sizewell Co and the Overseeing Organisation to determine all temporary accommodation and equipment requirements.

3.2 APPENDIX 1/4 – WORKING AND FABRICATION OF DRAWINGS

- 3.2.1. The Contractor shall confirm all requirements for the working and fabrication of drawings with the Project Manager.

3.3 APPEDNIX 1/5 – TESTING TO BE CARRIED OUT BY THE CONTRACTOR GENERAL

- 3.3.1. The General Specification for these works shall be the Manual of Contract Documents for Highway Works, Series 0100: Preliminaries.

Tests comparable to those specified in this Appendix will be necessary for any equivalent work, goods or materials proposed by the Contractor.

Unless otherwise shown in this Appendix tests for work, goods or materials as scheduled under any one Clause are required for all such work, goods or materials in the Works.

(N) indicates that a UKAS or equivalent accredited laboratory sampling and test report or certificate is required.

The testing facilities utilised by the Contractor shall have achieved UKAS accreditation relevant to each test. Also, wherever possible chemical testing of waters should be undertaken to MCERTS standards.

The testing shown in Table 1/5 below is the minimum required and the table shall not be seen as an exhaustive specification of the testing to be undertaken.

As part of the provision of samples and testing undertaken by the Contractor, the Contractor shall keep a daily record of samples of goods and materials taken by or on behalf of the Contractor for testing. Records shall be in sufficient detail to record the nature and the source of goods and materials and shall identify the locations and means of selection and sampling. The Contractor on the next working day shall provide a copy of the daily record to the Designer.

The reports and certificates shall bear suitable identification compatible with the Contractor's registration of the samples tested and shall indicate the edition dates of specifications used for compliance evaluation.

The Contractor shall supply to the Designer a copy of the test results within 24 hours of the completion of each test. Records shall be in sufficient detail to record the nature and the source of goods and materials and shall identify the locations and means of selection and sampling.

TABLE 1/5 – TESTING TO BE CARRIED OUT BY THE CONTRACTOR

The following tests shall be carried out where the works, goods or materials described are required to be included in the Works.

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 300					
306	Permanent fencing				Quality management scheme applies
	Concrete components	Cover to reinforcement	1 per consignment (maximum 1 per 100 components) (BS 1722)		[Tests/samples should not normally be required]
308	Gates and stiles				Quality management scheme applies
	Reinforced concrete posts	Cover to reinforcement	1 per consignment (maximum 1 per 100 components) (BS 3470)		[Tests/samples should not normally be required]
308 & 311	Preservation of timber	Full sapwood penetration	As required in sub-Clause 311.2(v)	Required for each batch	Quality management scheme applies [Tests/Samples should not normally be required]
Series 400					
402	Welding	Welding procedures (Manufacturer's tests)	(Every seven years)	Required	Requirements here are applicable only to legacy systems not falling under the Construction Products Regulation (CPR).
		Welder qualification (Manufacturer's tests)	As required in		
		Production testing (Manufacturer's tests)	As required in sub-Clause 402.7(iv)		
	Welded joints	Destructive testing	[See sub-Clauses 402.7(v) and 402.7(vi)]		
403	Anchorage and attachment systems for use in drilled holes	Ultimate tensile load (Manufacturer's tests)		Required	To provide well attested and documented evidence [See NG 403.3]
404	Anchorage in drilled holes	Loading test on site	As required in contract specific Appendix 4/1	Required	
	Post foundations			Required	
406	Vehicle parapets			Required	Quality management scheme applies – applicable only to legacy systems not falling under the CPR
407	Anchorage and attachment systems for use in drilled holes	Ultimate tensile load (Manufacturer's test)		Required	To provide well attested and documented evidence for legacy systems not falling under the CPR. [See NG 407.4]



Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments	
Series 400 (continued)						
409	Vehicle parapet components			Required		
	General				In accordance with manufacturer's installation manual	
	Legacy systems		Static destructive testing			Acceptance criteria in BS 6779-1 clause 9.4.3.2.6.3
410	Anchorage in drilled holes	On-site tensile load test	As required in contract specific Appendix 4/1	Required	†	
411	Pedestrian Parapets and Guardrails		Manufacturer's tests: yield/proof strength of material, ultimate strength and the extension at break		(N) [see 411.8]	
Series 500						
501	Pipes for drainage and service ducts					
	Vitrified clay					
	Concrete-PC/SRC	Not exceeding 900 mm dia			Product certification scheme or equivalent applies for products not falling under the Construction Products Regulation (CPR). [Appropriate contract compliance testing should be scheduled for all products including those falling under CPR]	
	Concrete-Prestressed					
	Iron-cast					
	Iron-ductile					
	PVC-U					
	GRP					
	Plastics. See Table 5/1					
	Corrugated steel		(Manufacturer's tests)			Required
Corrugated steel bitumen protection	Not exceeding 900 mm dia					
Other materials				Required		Product Acceptance Scheme or equivalent
503	Pipe bedding		Grading and fines content		[Appropriate contract compliance testing should be scheduled for all products including those falling under CPR]	
			Water-soluble sulfate (WS) content (N)			
			Oxidisable sulfides (OS) content and total potential sulfate (TPS) content (N)			



		Resistance to fragmentation (N)			
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Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 500					
505	Filter medium backfill	Plastic index (N)	1 per source	Required for (BS EN 13242)	The product certificate is the CE mark for the aggregates System of attestation: 2+ Frequencies of testing are for Types A and C beddings. Results of routine control tests from the factory production control system operated by the producer to be provided – See Annex C of BS EN 13242 and Annex D of BS EN 13285.
		Resistance to fragmentation (N)	1 per source		
		Water-soluble sulphate (WS) content (N)	5 per source		
		Oxidisable sulphides (OS) content and total potential sulphate (TPS) content (N)	5 per source		
		Grading	1 per 500 tonnes		
		Permeability (N)	1 per source		
506	Sealing existing drains				
	Concrete				
	Grout				
507	Chambers				
	Precast concrete				Product certification scheme applies
	Corrugated galvanized steel	(Manufacturer's tests)		Required	Product certification scheme applies
	Manhole steps				
	Steel fitments				
	Covers, grates and frames				Product certification scheme applies
508	Gullies and pipe junction				Product certification scheme applies
	Precast concrete				



	Clay				For the clay, the product certificate is the CE mark
	Cast iron and steel				

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
509	Watertightness of joints	Air test	All pipelines with watertight joints [As required in contract specific Appendix 5/1 for partly watertight joints]	Required	
512	Backfill to pipe bays	Grading	1 per 50 tonnes (min of 3)*	Required	CE Mark Certificate to be provided. If not available, test certificates to be provided for resistance to freezing and thawing (magnesium sulfate soundness) as per frequency.
		Water-soluble sulfate (WS) content (N)	5 per source*		
		Oxidisable sulfides (OS) content and total potential sulfate (TPS) content (N)	5 per source*		
517	Linear drainage systems	Load test	A minimum of 1 test and not less than 1 test per 1000 m for each type and source	Required	Certification that the systems comply with Clause 517. CE Mark Certificate to be provided.
518	Thermoplastics structured wall pipes and fittings	(Manufacturer's tests)		Required	Product certification scheme applies [BBA certification (or equivalent) applies]



Clause	Work, Goods or Material		Test	Frequency of Testing	Test Certificate	Comments
Series 600						
601, 631 to 633	Acceptable material				Required (BS EN 13242) (BS EN 13285)	For BS EN 13242 The product certificate is the CE mark for the aggregates System of attestation: 2+ For BS EN 13285 Frequencies of testing are for BS EN 13285 see Annex C of BS EN 13285.
	Class	General Description				
	1	General granular fill	Grading/uniformity coefficient	Twice a week		
			mc/MCV (N)	2 per 500 m3 up to max of 5 per day		
		1C only	Resistance to fragmentation (N)	Weekly		
	Class	General Description			Required	
	4	Landscape fill	Grading/mc/MCV (N)	Daily		
	5	Topsoil	Grading	Daily		
	6	Selected granular fill	Grading/uniformity coefficient	1 per 400 tonnes		
			PI/LL (N)	Daily		
Resistance to fragmentation (N)			Weekly for on-site material			
SMC (N)			Weekly			
omc/mc, mc or MCV (N)			1 per 400 tonnes			
	Organic matter/water soluble sulfate (WS) (N)	Weekly		At least 5 tests per source for sulphur compounds over the		
	Oxidisable sulfides (OS) and total potential sulfate (TPS) content (N)	Weekly				



			pH/chloride ion content (N)	Weekly		course of the contract in accordance with TRL Report 447, tests 1-5
			Resistivity (N)	1 per source		
			Undrained and drained shear parameters (N)	1 per source		
602	Earthworks material beneath surface of a road or paved central reserve	(i) Off site source	Frost heave (N)	1 every four months	Required (BS EN 13242) (BS EN 13285)	For BS EN 13242 The product certificate is the CE mark for the aggregates System of attestation: 2+ For BS EN 13285 Frequencies of testing are for BS EN 13285 see Annex C of BS EN 13285.
				As required		
612	Compaction of fills				Required	
		Method compaction	Field dry density (N)	1 per 400 tonnes		
		End product compaction	Optimum mc (2.5 kg rammer/vibrating hammer method) (N)	1 per 500m3 (minimum of 6 tests)		For Processed Material
Field dry density (N)	1 per 400 tonnes					



Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 700					
710	Constituent materials in recycled aggregate and recycled concrete aggregate	Quality control	As required by the 'Quality Protocol for the production of aggregates from inert waste'	Required	
Series 800					
801, 803, 804, 805, 806	General Requirements for unbound mixtures for adjacent to cement bound materials, concrete pavements, structures or products	Water-soluble sulfate (WS) content (N)	1 per 400 tonnes or per location if less than 400 tonnes	Required (BS EN 13242) (BS EN 13285)	For BS EN 13242 The product certificate is the CE mark for the aggregates System of attestation: 2+ For BS EN 13285 Frequencies of testing are for BS EN 13285 see Annex C of BS EN 13285.
		Oxidisable sulfides (OS) content and total potential sulfate (TPS) content (N)	1 per 400 tonnes or per location if less than 400 tonnes		
	Unbound mixtures beneath surface of a road or paved central reserve	Frost heave (N)	1 per source		
		Grading and fines content	1 per week		
			Plastic index (N)		
		Resistance to fragmentation (N)	1 per 3 months		
		Resistance to freezing and thawing (magnesium sulfate soundness) (N)	1 per source		
Water absorption (N)	1 per source				
Series 900					
901, 925, 937	Aggregates for bituminous mixtures			Required (BS EN 13043)	The product certificate is the CE mark for the aggregates System of attestation: 2+ Quality management sector schemes apply
		Resistance to fragmentation (hardness)	Resistance to fragmentation (N)		
		Resistance to freezing and thawing (durability)	Soundness (N)		
Water absorption (N)					



	Cleanness	Sieve test (mass passing 0.063 mm sieve) (N)			
	Shape	Flakiness index (N)			
	Blast furnace slag	Bulk density (N)			
		Soundness (N)			
		Dicalcium silicate disintegration (N)			
		Iron disintegration (N)			
	Steel slag	Bulk density			
		Volume stability (N)			
	Coarse aggregate for surface courses	Resistance to polishing (PSV) (N)			
		Resistance to surface abrasion (AAV) (N)			

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 900 (continued)					
901 903 907	Binders for bituminous materials	Penetration (N)		Required (BS EN 14023)	<p>The product certificate is the CE mark for the polymer modified bitumens</p> <p>System of attestation: 2+</p> <p>Quality management schemes apply</p> <p>Modified binders must have a BBA HAPAS Roads and Bridges Certificate or fully equivalent. In the event that no such Certificates have been issued, then in the interim, only modified binders undergoing BBA assessment or fully equivalent shall be considered for approval by the <i>Project Manager/Supervisor.</i></p>
		Softening point (N)			



Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 900 (continued)					
903 to 907, 912, 925, 929, 937	Bituminous mixtures	Grading (N)	For Audit Test purpose only	Required (BS EN 13108-1) (BS EN 13108-5)	The product certificate is the CE mark for the bituminous mixtures materials System of attestation: 2+ Quality management sector schemes apply
		Binder Content (N)			
929	Dense Base and Binder Course Asphalt Concrete (Design Mixtures)	Permanent Works - In situ air void content (N)	As per specification	Required	
		Permanent Works - Refusal air void content (N)			
		Permanent Works - Deformation resistance			
		Deformation resistance (design)	As per specification	Required	The test certificate is the CE mark for the mixture
		Stiffness (design)			
921	Surface macrotexture	Volumetric Patch (N)	As per specification	Required	
924	High friction surfaces	Quality control checks	As required in sub-Clause 924.5	Required	Product certification schemes apply [BBA HAPAS Roads and Bridges certification (or equivalent) applies]
		System coverage	As required in sub-Clause 924.6		
	Aggregate	Resistance to polishing (PSV) (N)	1 per source	Required (BS EN 13043)	The product certificate is the CE mark for the aggregates System of attestation: 2+ Quality management sector schemes apply
937	Stone mastic asphalt (SMA) binder course and regulating course	Permanent Works - In situ air void content (N)	As per specification	Required	The product certificate is the CE mark for the



		Permanent Works - Deformation resistance	In accordance with Table D.7 of PD 6691	(BS EN 13106-5)	CE mark for the mixture System of attestation: 2+
		Binder drainage test (design)	As per specification	Required	Quality management sector schemes apply
		Deformation resistance (design)			
920	Bond coats, tack coats and other bituminous sprays				
	Binder	Product identification	1 per product per source	Required (BS EN 13808) (BS EN 12591)	CE mark for the cationic bituminous emulsions and binders System of attestation: 2+ In the event that no such Certificates have been issued, then in the interim, only modified binders undergoing BBA assessment should be considered for approval by the <i>Project Manager/Supervisor</i>
		Vialit cohesion	1 per product per source	Required	
		Accuracy of spread	1 for each binder and sprayer per month	Required	
		Rate of spread	1 per week		
		Penetration at 25oC and 5oC (N)	Every manufactured batch		



Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1100					
1101	Precast concrete kerbs, channels, edgings and quadrants	Bending strength		Required (BS EN 1340)	The product certificate is the CE mark for the precast concrete kerbs, channels, edgings and quadrants System of attestation: 4
1104	Precast concrete flags and Natural Stone Slab	Bending strength		Required (BS EN 1339)	The product certificate is the CE mark for the precast concrete flags and natural stone slabs System of attestation: 4
	Bedding	Granular material		Required (BS EN 1341)	
		Mortar			
1107	Concrete block paving	Compressive strength		Required (BS EN 1338)	The product certificate is the CE mark for the concrete block paving System of attestation: 4



Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1200					
#1201	Regulations, Sign Classification and Standards			Required	Statutory Type Approval applies Quality management schemes apply [For information and status of type approved traffic control equipment refer to MCS215. Attention is also drawn to the specific requirements of The Traffic Signs Regulations and General Directions.]
1202	Permanent traffic signs			Required (BS EN 12899-1)	The product certificate is the CE mark for the vertical road signs System of attestation: 1 [see also National annex NA Recommended classes for visual and physical performance properties in the UK] Quality management schemes apply. [see The Traffic Signs (Amendment) (No. 2) Regulations and General Directions 2011 - Amendment of direction 42]
#1212	Road Markings			Required (BS EN 1423)	Statutory Type Approval applies The product certificate is the CE mark for the Drop-on materials (glass beads, anti-skid aggregates and combinations of the two) System of attestation: 1 Quality management schemes apply



1213	Road Studs			Required (BS EN 1463-1)	Statutory Type Approval applies The product certificate is the CE mark for the road studs System of attestation: 1 Quality management schemes apply [Attention is also drawn to the specific requirements of The Traffic Signs Regulations and General Directions]
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3.4 APPENDIX 1/6 – SUPPLY AND DELIVERY OF SAMPLES TO THE OVERSEEING ORGANISATION

3.4.1. The Contractor shall confirm the samples to be supplied and delivered to the Overseeing Organisation during the Works with Sizewell Co and Suffolk County Council.

3.5 APPENDIX 1/7 – SITE EXTENTS AND LIMITATIONS OF USE

3.5.1. The site extents and limitations of use are shown on drawing no. SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621005.

3.6 APPENDIX 1/9 – CONTROL OF NOISE AND VIBRATION

3.6.1. The Contractor shall confirm the acceptable levels and measure to control noise and vibration with Sizewell Co and Suffolk County Council.

4 SERIES 200 – SITE CLEARANCE

4.1 APPENDIX 2/1 - LIST OF BUILDINGS, ETC. TO BE DEMOLISHED OR PARTIALLY DEMOLISHED

Address	Description	Drawing No.	Ref No.	Requirements
N/A	N/A	N/A	N/A	N/A

[The column headed 'Requirements' is available for including such instructions as:]

- (i) Restrictions on when buildings, etc. can be demolished, or partially demolished.
- (ii) Any particular precautions to be taken during demolition.
- (iii) Extent of demolition.
- (iv) Method of filling voids.
- (v) Material to be retained.
- (vi) Treatment of adjoining properties, waterproofing, etc.
- (vii) Identification of any hazardous materials, cross referenced to contract specific Appendix 2/5.

4.2 APPENDIX 2/2 - FILLING OF TRENCHES AND PIPES

4.2.1.

Address	Description	Drawing No.	Ref No.	Requirements
N/A	N/A	N/A	N/A	N/A

- (i) Removal of pipes, services, etc. over 1 m below formation.
- (ii) Filling of pipes over 1 m below formation.
- (iii) Backfilling of trenches.
- (iv) Retention of pipes, services, etc. within 1 m of formation.

4.3 APPENDIX 2/3 - RETENTION OF MATERIAL ARISING FROM SITE CLEARANCE

- 4.3.1. All materials arising from site clearance shall be managed in accordance with the Materials Management Plan.

Description	Location	Delivered to	Requirements
Chamber covers	KGA	Site store	Set aside for possible reuse in permanent works
Gully gratings & frames	KGA	Site store	Set aside for possible reuse in permanent works
Kerbs, quadrants	KGA	Site Store	Set aside for possible reuse in permanent works
Road Lighting Columns	KGA	Site Store	Set aside for possible reuse in permanent works
Existing LED Luminaire (EX509)	KGA	Return to SCC Depot for future use.	Set aside for reuse and transfer to new column

[The column headed 'Requirements' is available for including such instructions as:]

- (i) Disconnection of electrical supplies.
- (ii) Transportation of equipment.
- (iii) Stacking/storage of material.
- (iv) Reinstatement of voids left by removal of equipment.

4.4 APPENDIX 2/4 - EXPLOSIVES AND BLASTING

- 4.4.1. The Contractor's attention is drawn to the measures for the control of noise and vibration which are included in Appendix 1/9.
- 4.4.2. Explosives shall not be used.

4.5 APPENDIX 2/5 - HAZARDOUS MATERIALS

- 4.5.1. The Contractor shall comply with all current legislation and regulations when working with hazardous materials.
- 4.5.2. The same requirements as those detailed in Appendix 6/2 for dealing with Class U2 unacceptable materials shall apply to the handling and disposal of similar hazardous materials found in the site clearance.



- 4.5.3. Redundant items of electric and electronic equipment shall be disposed of in accordance with The Waste Electrical and Electronic Equipment Regulations 2013 (WEEE Regulations).

5 SERIES 300 – FENCING

5.1 APPENDIX 3/1 - FENCING GATES AND STILES

5.1.1. No formal highway fencing proposed for King George's Avenue junction. Formal fencing design and specification shall be included scope of works for ACA site detailed design.

Temporary Fencing

5.2 Requirements for temporary fencing if different from requirements of sub-Clause 302.1 and 303.1.

5.2.1. Timing of removal of temporary fencing if different from sub-Clause 302.2.

5.2.2. Requirements for any preservation treatment to temporary fencing. [303.3]

Timber Quality

5.2.3. Requirements for time if different from the requirements of sub-Clause 304.3.

Fittings

5.2.4. Requirements for bolts, screws and nuts if different from the requirements of sub-Clause 305.1.

Permanent fencing: Wooden Fencing, Gates and Stiles including Planting Works Fencing

5.2.5. Flowing alignments and trimming ground regular level on fence line.

5.2.6. The location of the permanent fencing is shown on drawings:

SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621005

5.2.7. Requirements for joining permanent fencing to existing hedges, fences and to other structures to be in accordance with sub-Clause 306.1

5.2.8. Details of additional stock proofing required – N/A**

5.2.9. Details of painting required *[Only included when the complier wishes to specify painting specifically]*

5.2.10. Concrete surround to base of posts.

5.2.11. Details of type of Planting Works Fencing. – N/A**

Permanent fencing: Wire Dropping

5.2.12. Flowing alignment and trimming ground to regular level on fence line. – N/A**

5.2.13. Requirements for joining permanent fencing to existing hedges, fences and to other structures if different from the requirements of sub-Clause 306.1.

5.2.14. Details of additional stock proofing required. – N/A**

5.2.15. Requirements for painting with plastic paint in accordance with sub-Clause 306.3.

5.2.16. Zinc coated wire only. *[Only included when departing from standard zinc and plastic coating].* – N/A**

5.2.17. Details of fittings required. *[Preference is for hidden ratchet and wire vice and droppers and other fittings painted with plastic paint.]* - N/A**

5.2.18. Spacing of posts and requirement for turning posts. – N/A**



Wire Mesh to Permanent or Existing Fencing

- 5.2.19. Details of wire mesh attachments to fencing including the appropriate side of an existing fence to which the mesh is fixed. – N/A**
- 5.2.20. Treatment of turned out portion of netting. – N/A**

Badger Gates

- 5.2.21. Details of requirements for badger gates including whether two-way gates are required. – N/A**

Fenced Tree Guards

- 5.2.22. Details of requirements for fence tree guards – N/A**

Preservation of Timber

- 5.2.23. Details of preservative to be used if different from sub-Clause 311.2(i). – N/A**

Other

Colour of plastic coating to high tensile wire. [2605.3]



6 SERIES 500 – DRAINAGE AND SERVICE DUCTS

6.1 APPENDIX 5/1 - DRAINAGE REQUIREMENTS

Please refer to 500 series drawings - SZC-AD0620-WSP-XXXHDG-09XXXX-DRW-HCD-625005

7 SERIES 700 – ROAD PAVEMENTS

7.1 APPENDIX 7/1 - PERMITTED PAVEMENT OPTIONS

GENERAL

- 7.1.1. This section of the specification document has been produced, based on MCHW Volume 2 – Series NG700, March 2020.
- 7.1.2. The locations of the different pavement options are shown on drawings SZC-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105 and SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621010

DESIGN STANDARDS

- 7.1.3. The Pavement Designs have been undertaken in accordance with the Design Manual for Roads and Bridges (DMRB) and:
- CD 224 Traffic Calculations Rev 0.
 - CD 225 Design for New Pavement Foundations Rev 1.
 - CD 226 Pavement Design Rev 0.1.0
 - CD 228 Skidding Resistance rev 2
 - CD 236 Surfacing Materials for New and Maintenance Construction rev 4.1.0
- Specification for Highway Works Series 700 (10_22) – Road Pavements – General.
Specification for Highway Works Series 800 (11_21) – Road Pavements – Unbound, Cement and other Hydraulically Bound Mixtures.
Specification for Highway Works Series 900 (07_21) – Road Pavements – Bituminous Bound Materials.
Specification for Highway Works Series 1000 (11_21) – Road Pavements – Concrete Materials.

DEPARTURES FROM STANDARD

- 7.1.4. No Departures from Standard has been considered for this project.

GENERAL NOTES TO APPENDIX 7/1

- 7.1.5. Design Traffic for the Red Route Access junction was based upon design traffic measured prior to the DCO submission. Construction traffic of 1.7msa over 3 years has been selected for the design.
- 7.1.6. The full pavement construction shall be maintained and repaired during the design life. It is expected that the following maintenance and repair activities will be undertaken during the service life of the junction:
- 7.1.7. The foundation design was based on a minimum 50MPa Subgrade Surface Modulus. The subgrade shall be tested immediately prior to construction. If a minimum 50MPa Subgrade Surface Modulus is not achieved, permanent improvement of the subgrade shall be required. Following any permanent improvement, the subgrade Surface Modulus shall be assumed to be less than 50MPa.
- 7.1.8. Any subgrade material excavated can be reused in subbase and earthworks, subject to confirming it meets the specified requirements in this document.



HEALTH & SAFETY NOTICE:

- 7.1.9. Significant quantities of Asphalt Waste Containing Coal Tar (AWCCT) have been identified within the pavement below 39 mm from the existing surface level **THROUGHOUT THE ENTIRE SIZEWELL C PROGRAMME OF WORKS** (See core logs for details). This material has the potential to release “Polycyclic Aromatic Hydrocarbons” (PAH). This material is deemed, in the Environment Agency’s Technical Guidance note WM3, as a **HAZARDOUS MATERIAL**, which requires licensed, specialist disposal if removed from site.

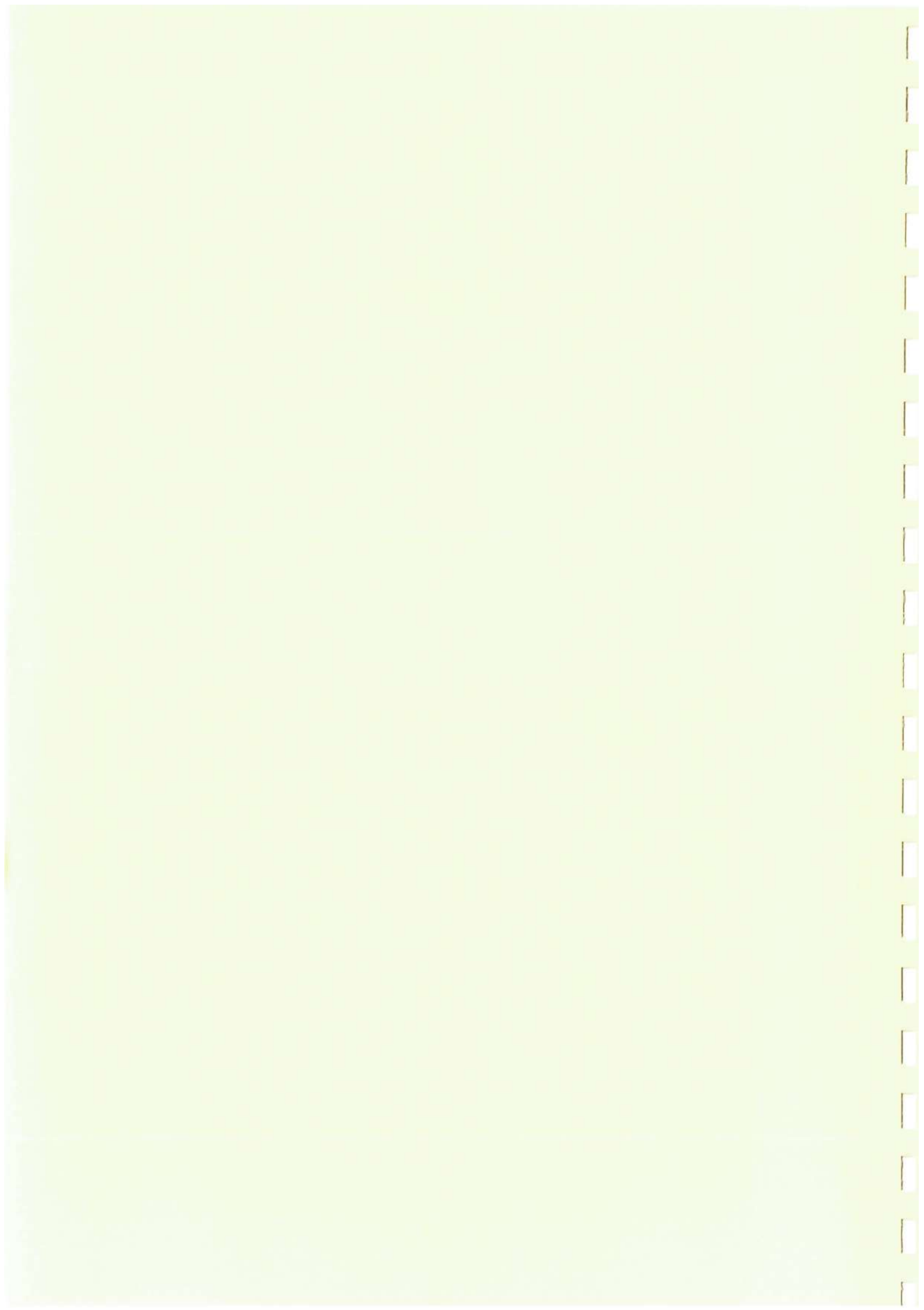
Note – when tying in proposed KGA access junction pavement layers with King George’s Avenue existing pavement, there is potential for exposure to AWCCT material and therefore should be managed accordingly onsite.



PERMITTED PAVEMENT OPTIONS – SCHEDULE 1A

SCHEDULE 1A: PERMITTED PAVEMENT OPTIONS

Drawing ref.	Description	Area		Lane (Dir)	Min PSV/ Max AAV [CS228]	Permitted Pavement Option
		Chainage (m)				
		From	To			
SZC-AD0620-WSP- XXXHKF-09XXXX- DRW-HCH-621105	ACA Access off King George's Avenue	0	50	NB/SB	65/16	KGA1
SZC-AD0620-WSP- XXXHGN-09XXXX- DRW-HCH-621010						
SZC-AD0620-WSP- XXXHGN-09XXXX- DRW-HCH-621010	KGA	129	294	EB/WB	65/16	KGA2

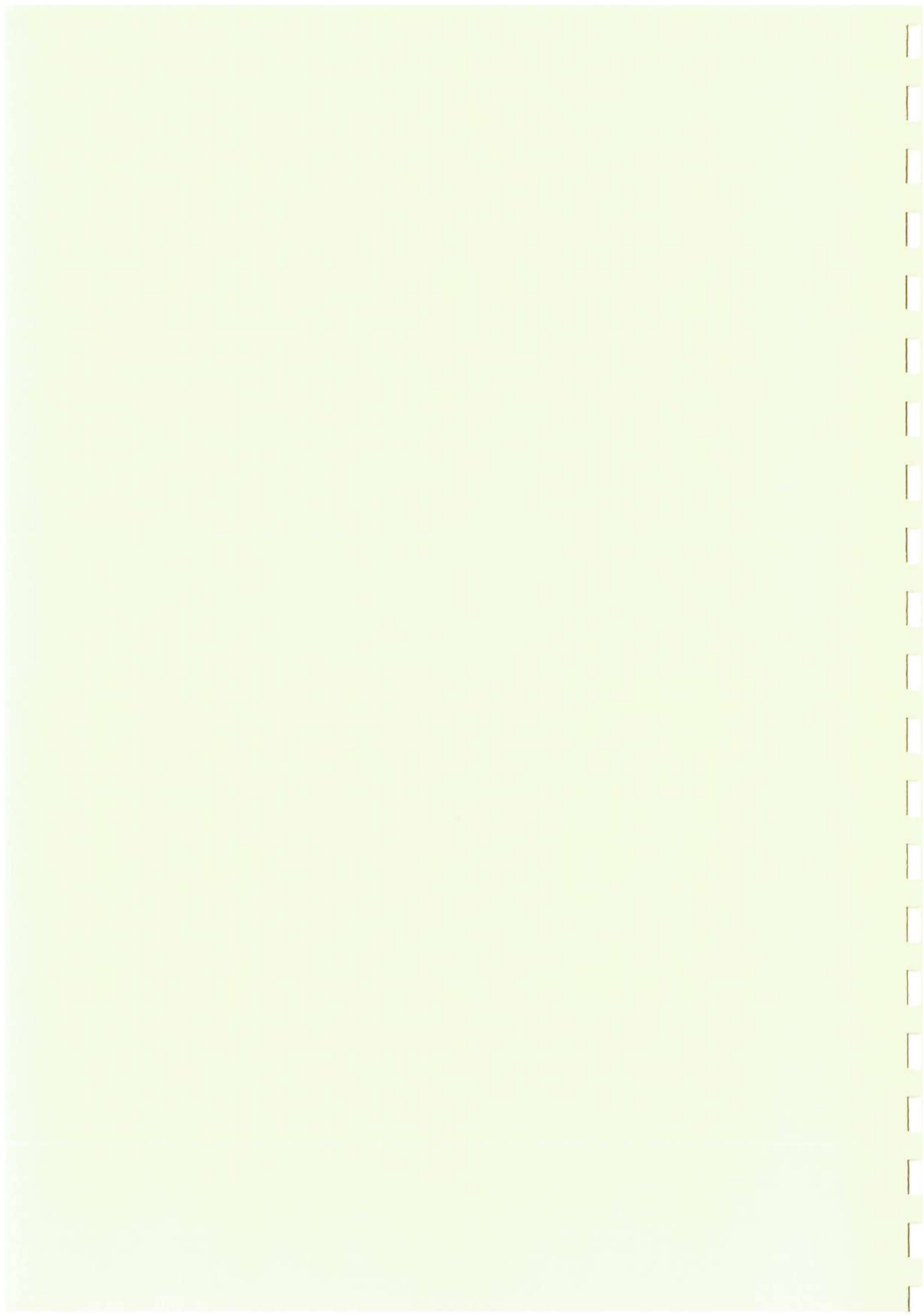




GENERAL REQUIREMENTS – SCHEDULE 2

Schedule 2: General Requirements – All Sections

Grid for checking surface levels of pavement courses [702.4]:	Longitudinal dimension:	5m at junctions, 10m at other locations
	Transverse dimension:	2m, starting 1m from edge
Surface regularity [702.5, Table 7/2]	30mm (use of 3m long straight edge is permitted)	
Interval for measurement of longitudinal regularity [702.7]:	Continuous	
Interval for measurement of transverse regularity [702.8]:	20m	





PERMITTED CONSTRUCTION MATERIALS – SCHEDULE 3

Pavement Option KGA1		
Pavement Layer	Material Ref.	Thickness (mm)
Surface Course	SC1	40
Binder Course	BC1	70
Base (Upper Layer)	BA1	100
Base (Lower Layer)	BA1	
Total Thickness		210mm minimum
Subbase	SB1	200

All designs based on using Foundation Class 2. **Foundation design based on min 50Mpa (Surface modulus)**

Pavement Option KGA2 (Resurfacing)		
Pavement Layer	Material Ref.	Thickness (mm)
Surface Course	SC1	40
Binder Course	BC1	70
Base (Upper Layer)		
Base (Lower Layer)		
Total Thickness		110mm minimum
Subbase		

Regulating layers

General Notes if regulating layers are required: - All regulating shall comply with Clause 907.

RG1: Use 6mm SMA mixture for regulating thickness 10 to 20mm (if required)



RG2: Use 10mm SMA mixture for regulating thickness from 15 to 50mm (if required)

RG3: Use AC20 mixture (Reference material BC1) for thickness from 50 to 100mm (if required)

RG4: Use AC32 mixture (Reference material BA01) for thickness 70 to 150mm. For total regulating thickness greater than 150mm use AC32 and AC20 (Reference material BA01 & BC01)

LWD SURVEY REQUIREMENTS

An LWD survey shall be undertaken to determine the in-situ foundation surface modulus. Prior to commencement of the survey, a copy of the current calibration certificate from the manufacturer shall be provided for the machine which shall be used for the assessment. The LWD equipment shall be in compliance with the requirements of DMRB CD225 and as a minimum must be capable of producing peak stress of 100kPa with a rise time of between 8 to 12 milliseconds, applied through a circular plate of 300mm diameter. Both the applied load and the transient deflection, measured directly on the tested surface, must be recorded. The deflection measurement transducer must be capable of measuring deflections in the range 40 -1500 microns. The accuracy of the readings shall be +/- 0.1 kN for the load and +/-2 microns.

The requirement for a demonstration area to correlate the FWD with LWD shall be undertaken, if instructed by WSP. At least 25 measurements point shall be measured within the demonstration area, with the foundation surface modulus measured with both the FWD and LWD. The procedure to determine the correction factor for the LWD is defined in DMRB CD225 and shall be adhered to.

SURVEY PROCEDURE

Testing using the LWD shall be undertaken at 20m centres, staggered by 10m between adjacent lanes. Each test location shall be stable and flat and free from water, ice and snow. The temperature down to 100mm below the surface shall be at least 4C. At least 10 drops of the weight shall be necessary prior to recording a measurement at the first test location to enable the rubber buffers to be warm. The LWD shall record the exact chainage at location and, where possible, record the GPS of each location.

At each test point, 3 initial "seating drops shall be carried out to bed the plate into the surface at approximately 100kPa. Three further drops shall then be carried out, one at an approximate applied stress of 40kPa, 60kPa and finally 100kPa. Linear regression analysis is used to determine the equivalent surface modulus at 100kPa applied stress.

GENERAL REQUIREMENTS FOR CONSTRUCTION MATERIALS – SCHEDULE 4

NOTE: In schedule 4

Schedule 4: General Requirements for Construction Materials	
Clause	Requirement
801.9	Limiting distance for deposition of unbound mixtures referred to in sub-clause 801.9: 500 mm
801.11	Limiting distance for deposition of unbound mixtures referred to in sub-clause 801.11:



Schedule 4: General Requirements for Construction Materials	
Clause	Requirement
	500 mm
801.14	Whether any materials shall not comply with sub-clause 801.14 All materials to be placed within 450 mm of the finished surface level shall be non-frost-susceptible
802.7	Whether unbound materials up to 225 mm compacted thickness can be spread in more than one layer. Unbound materials up to 225 mm compacted thickness shall be spread in one layer. Material of compacted thickness greater than 225 mm shall be laid in two or more layers and the minimum compacted thickness of any such layer shall be 110 mm.
802.27	Thickness of compacted layer. The unbound mixture layer shall be compacted to the thickness specified in Schedule 3
810.7	Whether the coefficient of linear expansion of the mixture is to be determined, using the test method specified in Clause 871.
820.3	When an existing pavement layer is used to produce HBM, the recycled aggregate or recycled concrete aggregate shall be tested to confirm compliance with sub-clause 820.3.
901.13	Requirements for resistance to fragmentation (hardness) shall be in accordance with sub-clause 901.13.
901.15	Requirements for resistance to freezing and thawing (durability) shall be in accordance with sub-clause 901.15.
901.18	Requirements for cleanness shall be in accordance with sub-clause 901.18.
902.2	Requirements for reclaimed asphalt shall be in accordance with sub-clause 902.2.
903.35	Requirements for positioning of longitudinal joints shall be in accordance with sub-clause 903.35.
903.36	The faces of cold upstanding edges including previously laid asphalt shall be treated in accordance with sub-clause 903.36.
903.38	The assessment of compaction at joints in binder courses and bases shall be treated in accordance with sub-clause 903.38.

Schedule 4: General Requirements for Construction Materials	
Clause	Requirement
903.40	Sealant shall be applied to the top surface of all base and binder course joints.
903.6, 903.35, 903.40, 920, 942	<p>Sealant/Bond Requirements:</p> <p>Key to sealant/bond requirements:</p> <ul style="list-style-type: none"> █ Faces of all cold upstanding edges to be treated with hot elastomeric polymer-modified bituminous binder █ Top surface of all base and binder course joints to be treated with hot elastomeric polymer-modified binder (CI 903.40) █ Top surface of all base layers to be treated a bond coat in accordance with CI 903.6 and CI 920 █ Top surface of all binder course layers to be treated with a bond coat compatible with the overlying Thin Surface Course System (CI 942) █ Whole of freestanding edge to be treated with hot elastomeric polymer-modified bituminous binder
903.43	<p>Requirements for PSV of temporary running surface if different from sub-clause 903.43. [Compiler to list pavement materials applicable].</p> <p>The use of road Base as a temporary running surface is not permitted.</p> <p>The use of the Binder Course as a temporary running surface is permitted with the use of BC1 only.</p> <p>Requirements for PSV of temporary running surface shall be in accordance with sub-clause 903.27: PSV60/65</p>



Schedule 4: General Requirements for Construction Materials	
Clause	Requirement
	Where the Binder Course has been used as a temporary running surface, the surface of the Binder Course shall be thoroughly cleaned of all oils and fuels, detritus and spillages and a bond coat applied before the Surface Course is laid.
945.3AR	No Layer less than 80 mm thick shall be laid onto a cold surface, when the air temperature is at or below 4 °C. No layer shall be laid when the air temperature is at or below 0 °C.
1001.2	Requirements for concrete conformity if different from sub-clause 1001.2. Concrete shall conform with the requirements of BS EN 13877-2 and the requirements of MCHW Series 1000. The constituents of the concrete shall conform with BS EN 206 and BS 8500-1 and BS 8500-2 and BS EN 13877-1 and the requirements of this Series.

*AR – Additional Requirement

REQUIREMENTS FOR CONSTRUCTION MATERIALS – SCHEDULE 5

Schedule 5: Requirements for Construction Materials			
Material Ref.	Clause	Description	Requirement
SC01	#942	Thin Surface Course Systems	<p>Overall performance guarantee period [942.3]: 5 years</p> <p>Required declared PSV value [942.6 and NG 942.20]: 65PSV (see Schedule 1A)</p> <p>Required maximum AAV value [942.6 and NG 942.20]: 16 AAV max</p> <p>Aggregate resistance to fragmentation [942.6(i)]: Not greater than LA30</p> <p>Aggregate Flakiness Index [942.6(ii)]: Not greater than FI20</p> <p>Maximum aggregate size [Table 9/9]: 10mm</p> <p>Whether PMB or SMA paving grade bitumen is required [Table 9/10]: PMB</p> <p>Mixture Type Classification and Minimum target design binder content [942.7 and Table 9/10]: EN 13108 Part 5 Bmin5.2</p> <p>Water Sensitivity Category [942.9]: ITSRmin70</p> <p>Traffic flow in cv//d [NG 942.11]: 379</p> <p>Minimum design thickness [942.13, Table 9/11 and NG 942.14]: 25mm</p> <p>Maximum design thickness [942.13, Table 9/11 and NG 942.14]: 40mm</p> <p>Whether the existing substrate surface shall be strengthened or regulated [942.14 and 942.15]: As required</p> <p>Whether bond coat or tack coat shall be applied in accordance with Clause 920 or the Installation Method Statement [942.17]: Yes</p> <p>Whether surface macrotexture measurement is required [942.19]: Yes</p> <p>Initial Surface Macrotexture requirements [Table 9/12 and 9/13]: Min0.8mm, Max1.3mm, Average Min 0.7mm. One set of 10 measurements shall be made for each 250 m section of carriageway lane.</p> <p>Retained Surface Macrotexture Requirements if not in accordance with Clause 942.20 and Table 9/14 [NG942.51]: Average per complete carriageway lane 0.7mm</p> <p>Road/Tyre noise level [942.34, Table 9/17, NG 942.36 and NG 942.37]: -2.5dB(A)</p>

Schedule 5: Requirements for Construction Materials			
Material Ref.	Clause	Description	Requirement
BC01	929	Dense Base and Binder Course Asphalt Concrete (Design Mixtures)	Mixture designation [929.1]: AC 20 HDM bin 40/60 des. Whether void content at refusal is to be monitored in the permanent works [929.3]: Yes Resistance to permanent deformation classification [929.4, Table NG 9/24 and PD 6691 Table B4]: Class 2 60°C, WTS AIR = 1.0, PRD AIR = NR. Whether resistance to permanent deformation is to be monitored in the permanent works [929.5]: Yes
BA01	929	Dense Base and Binder Course Asphalt Concrete (Design Mixtures)	Mixture designation [929.1]: AC 32 HDM base 40/60 des. Whether void content at refusal is to be monitored in the permanent works [929.3]: Yes Resistance to permanent deformation classification [929.4, Table NG 9/24 and PD 6691 Table B4]: Class 2 60°C, WTS AIR = 1.0, PRD AIR = NR Whether resistance to permanent deformation is to be monitored in the permanent works [929.5]: Yes
SB1	803	Type 1 unbound mixture	Mixtures containing crushed gravel coarse aggregate: – permitted [803.1]: Not permitted – minimum CBR [803.8]: 30% trafficking trial [803.8]: Not required

THIN SURFACE COURSE SYSTEMS: INFORMATION TO BE PROVIDED BY THE CONTRACTOR – SCHEDULE 6

[Note to Contractor: Complete one sheet per system or variant of system that may be used]

The Contractor shall provide the following information with his tender:

- (i) The declaration of performance for the thin surface course system.
- (ii) The declaration of performance for the aggregate(s) used in the thin surface course system.
- (iii) The Installation Method Statement as required in sub-Clause 942.13.
- (iv) SIPT documentation as required in sub-Clause 942.29.
- (v) If regulating material is to be used, evidence of its deformation resistance either independently or in combination with the Thin Surface Course System [942.12]



BINDER DATA REQUIREMENTS [937.3 AND 943.4] – SCHEDULE 7

The following data shall be provided to the Overseeing Organisation for modified binders as required in sub-Clauses 937.3 and 943.4. The data should not be more than 12 months old. A table in which the binder data may be recorded is given at the end of this section.

For work carried out for the Overseeing Organisation in England, a copy of the results should be handed to the Overseeing Organisation.

I. Binder Samples

Bituminous binders shall be sampled according to BS EN 58. For modifiers blended with the other component materials of the mixture at the mixer a simulated binder shall be prepared. Such modifiers are generally less intimately mixed with the bitumen and less well dispersed throughout the mixture than when pre-blended. Evidence that the simulated binder offers the same performance as the binder produced when the modifier is added at the mixer shall be provided.

II. Penetration

Binder penetration at 25°C (BS EN 1426), 100g 5 seconds for the binders as supplied, after hardening in the Rolling Thin Film Oven Test (RTFOT) in accordance with BS EN 12607-1, and after RTFOT and Ageing in the Pressure Ageing Vessel at 85 C (PAV85) in accordance with BS EN 14769.

III. Product Identification Test and Rheological Properties

Results for the binder(s) proposed shall comprise rheological data for each binder in the form of complex shear (stiffness) modulus (G^*) and phase angle (δ delta) determined in accordance with BS EN 14770 for binder as supplied, after RTFOT and after RTFOT BS EN 12607-1 and PAV85 Ageing in accordance with BS EN 14769.

IV. Storage Stability Test

All binders shall be stored strictly in accordance with the manufacturer's instructions. Polymer modified binders claimed to remain homogeneous in storage without agitation shall be tested for storage stability in accordance with BS EN 13399. The mean of the differences in softening point between the top and bottom samples, of not less than five pairs of such samples shall not exceed 5°C. Manufacturers of pre-blended modified binders shall state what precautions are necessary to ensure that adequate homogeneity is maintained during storage.

V. Photomicrograph

A typical photomicrograph of the modified binder and binder using ultra-violet or other technique to provide maximum contrast of the polymer structure to the binder before modification shall be supplied together with details of sample preparation techniques. A photomicrograph is intended only



to indicate the presence of a polymer modifier in the binder and should not be used as an indicator of performance. Guidance on the interpretation of photomicrographs is given in BS EN 13632 Visualisation of polymer dispersion in polymer modified bitumen.

VI. Cohesion

Vialit Pendulum cohesion test curve of the binder, in accordance with BS EN 13588 for the binder as supplied, after RTFOT BS EN 12607-1, and after RTFOT and PAV85 Ageing in accordance with BS EN 14769.

VII. FRAASS Brittle Point

FRAASS brittle point measured using BS EN 12593 shall be provided on the binder as supplied, after RTFOT and after RTFOT and PAV85 Ageing in accordance with BS EN 14769.

MIXTURE DATA REQUIREMENTS – SCHEDULE 8

Not required

7.2 APPENDIX 7/2: EXCAVATION, TRIMMING AND REINSTATEMENT OF EXISTING SURFACES

- 7.2.1. Locations of any trenches, pits, etc. which require to be excavated in existing paved surfaces in order to carry out the Works. Reference to any drawings giving further details. [706.2]

SZC-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621010

- 7.2.2. Locations and estimated areas of existing paved areas which require to be trimmed, regulated and reinstated to match levels where new and existing pavements abut or where new construction overlays existing pavement. Reference to contract specific Appendices 7/1 and 7/9, and to any drawings giving further details [706.2, 706.9]. Acceptable material for reinstating other areas [706.8].

SZC-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621010

- 7.2.3. See Appendix 7/9 for areas to be cold-milled.

- 7.2.4. Cross-section diagram of typical trench reinstatement in bituminous and concrete pavements giving details of materials. [Examples are given in HCD Drawing Number K4.]

SZC-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105
SZC-AD0620-WSP-XXXHGN-09XXXX-DRW-HCH-621010

- 7.2.5. References to drawings which show construction at junctions between the following pavement materials. [706.10]

- (i) concrete/concrete,
- (ii) concrete/bituminous,
- (iii) concrete/porous asphalt,

- (iv) bituminous/porous asphalt,
- (v) bituminous/bituminous,
- (vi) porous asphalt/porous asphalt

7.2.6. For junctions with porous asphalt see CD 237 Bituminous Surfacing Materials and Techniques (DMRB 7.5.2).

7.2.7. Full depth repairs and reinstatements

- (i) Repair criteria if different from sub-clause 1033.4
- (ii) Requirement for full bay replacement [1033.7]
- (iii) (mm/yy) Reinstated subbase material [1033.9]
- (iv) Stitched crack repair type [1033.12]
- (v) Filling of slots [1033.13]
- (vi) Longitudinal joint grooves to be re cut [1033.15]
- (vii) Transverse joint grooves to be re cut [1033.16]

7.2.8. Joint Seals

- (i) Colour of the joint seal material [1017.1]

All Transverse joints to be saw cut prior to surface course removal

7.3 APPENDIX 7/4 - BOND COATS, TACK COATS AND OTHER BITUMINOUS SPRAYS

SHEET 1: Information to be provided by the compiler [Note to compiler: Complete one sheet per section]

- 7.3.1. Location. drawing reference number [920.1 – eg road number, name, OS grid reference of start and finish, lane, etc]
- 7.3.2. Performance characteristics to be demonstrated by the declaration(s) of performance [920.2, 920.3, 920.4].
- 7.3.3. Site specific limitations [Note: any access restrictions, timing constraints etc should be specified in contract specific Appendix 1/13]
- 7.3.4. Type of treatment required and details of the existing surface and overlay material [920.1 and 903.4 eg bond coat: premium grade, intermediate grade, non-tack type with or without breaking control; tack coat and type permitted for the overlay; or other bituminous spray]

Existing Carriageway: Bond coat SHALL BE APPLIED to prepared planed surfaces AND between each asphaltic layer.
New pavements: Bond coat SHALL BE APPLIED between each asphaltic layer.
- 7.3.5. Surface preparation required [920.6]
- 7.3.6. Masking of street furniture, drop-kerbs, etc. [920.6]



All street furniture, ironwork and drop-kerbs shall be masked using self-adhesive masking material before application starts and removed on completion of the works.

- 7.3.7. Rate of spread required [920.8 with appropriate adjustment for variable surface characteristics]
— An example of bond coat minimum target rate of spread in litres per square metre of emulsion

Class of polymer modified bituminous emulsion (See notes)	Newly laid and existing asphalt substrate	Planed (milled) substrates
		Residual binder 0.2 kg/m ²
C50BP(2 to 5)	0.40 L/m ²	0.70 L/m ²
C60BP(2 to 5)	0.33 L/m ²	0.58 L/m ²
C65BP(2 to 5)	0.31 L/m ²	0.54 L/m ²

- 7.3.8. Notes:

The breaking class 2 to class 5 from BS EN 13808:2013 is shown in brackets and does not affect binder content, but is agreed between producer and purchaser for the intended use.

- 7.3.9. Type of blinding material to be used [920.13]

SHEET 2: Information to be provided by the Contractor

- 7.3.10. The Contractor shall provide the following information with his tender, or prior to the commencement of the work:
- 7.3.11. The product or products he proposes to use together with their declaration(s) of performance, as specified. [920.2, 920.3, 920.4, 920.5]
- 7.3.12. For each product, a copy of the BS EN ISO 9001 certificate showing the name of the manufacturer, the name of the certification body and the reference number and date of the certificate.
- 7.3.13. The spraying equipment proposed, and a test certificate. [920.7, 920.9]
- 7.3.14. The source or sources of blinding material proposed. [920.12]
- 7.3.15. Contingency plans in the event of any breakdown.

7.9 APPENDIX 7/9: COLD-MILLING (PLANING) OF BITUMINOUS BOUND FLEXIBLE PAVEMENT

- 7.9.1. Cross reference to contract specific Appendix 7/2 listing the drawings identifying where cold-milling is required.
- 7.9.2. For each location where cold-milling is required specify whether profile planing or constant depth planing is required, giving details of the alignments or depths as appropriate [709.1] The location references should correspond with those listed in contract specific]
- 7.9.3. Sweeping of areas prior to cold-milling. [709.11]



Schedule: Sweeping Areas Prior to Cold-milling

Drawing No.	Location	Pavement Option	Depth (mm)
SZC-AD0620-WSP- XXXHGN-09XXXX- DRW-HCH-621010	WB/EB (Ch. 129 to 294)	KGA2	110mm (minimum)

- 7.9.4. A beam sweeper is to be used full width of carriageway lanes to be treated and hardshoulder, prior to fine milling and post milling to thoroughly remove all detritus.
- 7.9.5. All exposed joints are to be sealed prior to laying the thin surface course so that the sealant is flush with the concrete surface.
- 7.9.6. All areas where existing pavements are to be cold-milled shall be swept to locate any buried metalwork within the layer to be cold-milled. The sweep shall be carried out with electronic detection equipment suitable for the purpose. The surface shall be clearly marked above all objects to show their detected extent. The objects shall be referenced, and their location and depth reported to the Overseeing Organisation within 6 hours of discovery. Surfacing in the vicinity of such objects shall be excavated using pneumatic tools or other suitable methods.



8 SERIES 1100 – KERBS, FOOTWAYS AND PAVED AREAS

8.1 APPENDIX 11/1 - KERBS, FOOTWAYS AND PAVED AREAS

GENERAL

The kerbs, footways and paved areas shall be laid in accordance with the Contract Drawings. Footway design has been based on a sub grade CBR of $\geq 2.5\%$. The formation is to be tested on site and the results reported to the Overseeing Organisation prior to the subbase being laid.

A method statement for each paving type should be provided to the Overseeing Organisation for approval prior to any paving works commencing.

Kerbs shall be to the dimensions of the type of designation as defined on the kerbing and paved area drawings references

S.No	Region	Drawing Number	Title
1	ACA	SZC-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105	Detailed Design King George's Avenue Kerbs, Footways and Paved Areas

KERBS

- 8.1.1. Proposed Kerb, Channels and Edging details and locations are shown in Drawing No: SZC-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105
- 8.1.2. Unless stated otherwise all concrete used for foundations, bedding, backing, and additional concrete, in the installation of kerbs, edgings, channels blocks, combined drainage and units kerb blocks or other proprietary pre-cast concrete units shall be minimum Class ST3.
- 8.1.3. Concrete foundations to kerbs, channels and edgings laid adjacent to a concrete pavement shall be provided with joint filler board complying with Clause 1015 placed vertically through the full extent of the concrete foundation at positions coinciding with the pavement joints.
- 8.1.4. The bonding materials and methods of bonding shall be to the manufacturer's recommendations for this specific application. Bonded kerbs shall not be less than 100 mm in width at the base, their height shall not exceed their width and they shall be bonded over their full width.
- 8.1.5. For checking compliance with the requirement transversely to the kerb on widths less than 3 metres, no irregularities shall exceed +/- 5mm on a straight edge laid across the full width of the new surface.
- 8.1.6. A 2-3mm gap between adjacent kerbs shall be left for expansion purposes.
- 8.1.7. Where proposed kerbs are laid within existing carriageway limits the existing pavement shall be excavated so that the bottom of the kerb foundation is a minimum of 150mm below existing carriageway levels, excavation into existing pavement materials shall be 300 mm wide between vertical saw cuts.
- 8.1.8. The minimum length of cut kerbs shall be 50% of their original manufactured length



- 8.1.9. Kerbs shall be laid and bedded in accordance with MCHW Series 1100 (Clause 1101) and BS 7533-6. For mortar bed, refer to BS 7533-6
- 8.1.10. Proposed Kerbs shall tie-in with existing kerb line as required. Proposed kerb level and upstand shall match existing at tie-in points.
- 8.1.11. New kerbs on existing carriageway surfaces shall be laid after cutting the chase. The front cut shall be made with a clean saw cut.
- 8.1.12. All kerbs and edging shall be delivered to site without paper backing. If any kerbs/edgings have paper on the back, then this shall be removed completely prior to laying and disposed off site.
- 8.1.13. Where straight kerbs are to be used at a change of direction of the kerblines, the kerbs are to be cut to produce a butt joint.
- 8.1.14. The type of kerbs used in this scheme are as follows:

S.No	Kerb Type	Type Designation	Kerb Size(mm)	Upstand(mm)
1	Kerbs	HB2-Half Battered Kerb	125×255	125
2		Dropped Kerb	125×255	Varies
3		BN2 Bullnosed Kerb	125×255	6 or 25
4		Splay Kerb	125×255	75

FOOTWAYS AND PAVED AREAS

- 8.1.15. The footway/cycleway and paved area construction shall be as per drawing SCZ-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105 and as located on the kerbing and paved area drawings.

Footway Option A1		
Pavement Layer	Material Ref.	Thickness (mm)
Surface Course	20mm depth dense asphalt concrete AC6 Dense surface 100/150	20
Binder Course	BC1	60
Subbase	SB1	150
Total Thickness		230

- 8.1.16. Footways and Traffic Islands have been designed in accordance with CD 239 for light vehicle overrun, with an assumed sub grade CBR of \geq 2.5%.



- 8.1.17. All covers, frames to chambers, valves and stopcocks shall be adjusted to the correct levels at least 48 hours prior to laying of the surrounding surfacing.
- 8.1.18. Tactile paving as shown on Drawing Numbers SCZ-AD0620-WSP-XXXHKF-09XXXX-DRW-HCH-621105 shall be precast concrete flags.
- 8.1.19. The precast concrete flags shall be laid over 30mm of compacted laying course sand and 100mm of sub-base. The precast concrete flags shall be constructed in accordance with Clause 1104 and BS7533-4.
- 8.1.20. The flags shall confirm to BS EN 1339 and meet the minimum requirements below.

Type	Plan Size (mm x mm)	Depth (mm)	Colour	Skid Resistance USRV	Deviations	Bending Strength	Weathering Resistance	Abrasion Resistance
Tactile blister paving	400 x 400	65	Buff	>45	Class 3			

- 8.1.21. The Contractor shall allow for machine cutting of flags to edges not exceeding 15% of the original flag plan size. Flags shall be cut neatly and accurately at edges and around obstructions. Mortar fillets shall not be used.
- 8.1.22. The flags shall be washed with clean water prior to being laid.

9 SERIES 1200 – TRAFFIC SIGNS

9.1 APPENDIX 12/1 - TRAFFIC SIGNS: GENERAL

Schedule of Traffic Signs

- 9.1.1. Locations of traffic signs included in Clause 1201, other than those in Appendices 12/2 to 12/6 inclusive, are shown on Drawing No. SZC-AD0620-WSP-XXXHSN-09XXXX-DRW-HCH-301235.
- 9.1.2. Drawing number or diagram number in Schedules 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 or 14 of the Traffic Signs Regulations and General Directions 2016 No. 362 and drawing numbers giving Contract-specific details.
- Details of the proposed traffic signs are shown in the Traffic Signs Schedule included in Appendix 12/7 and Drawing No. SZC-AD0620-WSP-XXXHSN-09XXXX-DRW-HCH-301235.
- 9.1.3. The sizing of all sign plates shall comply with BS EN 12899-1 and Clause 1205
- 9.1.4. Any light-spill screens shall be as described in sub-Clauses 1205.5 and 1205.6
- 9.1.5. The preparation and finish for sign plates, posts for permanent posts shall comply with Clause 1204, 1205 and BS EN 12899-1.
- All traffic sign plates shall be made of 3mm traffic grade composite sheet or equivalent with no scrap value.
- The material for the posts shall be as specified in the schedules or agreed with the Project Manager / Supervisor and shall comply with sub-Clause 1204.1
- 9.1.6. Details of the foundations are shown in the Traffic Signs Schedule included in Appendix 12/7 and Drawing No. SZC-AD0620-WSP-XXXHSN-09XXXX-DRW-HCH-301235 and shall comply with BS EN 12899-1, BS EN 12767:2019 and Clause 1203.
- For illuminated signs provision shall be made for cable entry through the foundation by means of ducting as per sub-Clause 1204.5.
- Reinstatement of existing surfaces above foundations shall comply with Clause 706 as per sub-Clause 1204.8.
- 9.1.7. The number, type and size of posts are shown in Traffic Signs Schedule included in Appendix 12/7 and Drawing No. SZC-AD0620-WSP-XXXHSN-09XXXX-DRW-HCH-301235 and shall comply with BS EN 12899-1, BS EN 12767:2019 and Clause 1204.
- Circular hollow sections supports shall be fitted with a base plate or flange plate to prevent rotation in the foundation. Base plates or flange plates may take the form of a separate component to be fitted during construction or installation of the sign assembly
- 9.1.8. Lamp source for the externally illuminated sign units to be of the LED type. Details of the electrical connections and terminations are included within the 1400 series specification.
- 9.1.9. The sign face material shall be retroreflective and shall comply with BS EN 12899-1. The retroreflective material classes of traffic signs are shown in the Traffic Signs Schedule included in Appendix 12/7.



- 9.1.10. The lighting units for the traffic signs shall be in accordance with BS EN 12899 and shall meet the required performance requirements. The IP rating of rating for the unit shall be at least IP67.
- 9.1.11. The method of switching the illumination shall be via an integral photocell (Switching Ratio of 70/35) shall be as 1400 series specification.

Additional Information

- 9.1.12. Where it is required for permanent traffic signs to be blanked-out or have an alternative message, the method shall comply with Clause 1209.
- 9.1.13. Sign fabrication and erection details for the assemblies listed in Appendix 1/4 shall be approved by the Overseeing Organisation before fabrication is commenced.
- 9.1.14. Six (6) sets of keys are required for locks to traffic sign housings.
- 9.1.15. The backs of traffic signs shall have a location identifying mark supplied by the Overseeing Organisation.
- 9.1.16. The backs of temporary traffic signs shall have a 'remove by' date placed on them, as specified in the Traffic Signs Schedule, in accordance with the Traffic Signs Regulations and General Directions 2016 No. 362.
- 9.1.17. The requirements for filling pockets in concrete foundations shall be as per the requirements of sub-Clause 1208.4

9.2 APPENDIX 12/3 - TRAFFIC SIGNS: ROAD MARKINGS AND STUDS

- 9.2.1. The colour of permanent road markings shall be as described in sub-Clause 1212.1. Road markings shall be white complying with BS EN 1436 Table 6.

The material for permanent road markings shall be reflectorised thermoplastic road markings material in accordance with BS EN 1871.

All road markings shall have a skid resistance in accordance with Table 7 of BS EN 1436. A minimum Class S3 skid resistance to BS EN 1436 to be provided at all junctions, roundabouts, and hatch road markings.

The locations are shown on the Drawings No. SZC-AD0620-WSP-XXXHSN-09XXXX-DRW-HCH-301235. All permanent white markings shall be reflectorised in accordance with Clause 1212.4.

Road markings shall have a retroreflectivity in accordance with Table 3 of BS EN 1436.

- 9.2.2. Gaps 100mm to 150mm wide at 35m intervals shall be provided in raised rib road markings to promote free surface water drainage. At bridge locations gaps to be located at the joints.
- 9.2.3. Permanent road markings are not to be used for temporary situations where the finished surfacing is to remain.
- 9.2.4. All temporary road markings shall be reflectorised.

Pre-fabricated temporary carriageway markings, which must be in accordance with BS EN 1790, are only be used to the satisfaction of the relevant highway authorities and in agreement with the Project Manager.



9.2.5. Road studs shall be of the embedded cast iron, non-depressible type complying with the requirements of BS EN1463, Traffic Signs Regulations & General Directions, Chapter 5 of the Traffic Signs Manual and the D Series of the Highway Construction Details.

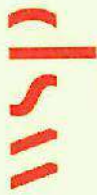
9.2.6. The locations of proposed road studs is shown on the drawings no. SZC-AD0620-WSP-XXXHSN-09XXXX-DRW-HCH-301235.

Temporary and permanent obliteration of existing road markings and the requirements for temporary concealment of road studs is undertaken to the satisfaction of the Project Manager. Where the Project Manager considers redundant road markings to be a safety hazard, they are removed by the Contractor and application and removal of temporary carriageway markings is in accordance with the manufacturer's instructions. Upon removal of temporary road markings, the Contractor carries out any making good to the road surface that is necessary.

9.2.7. All road markings require enhanced improved night visibility retroreflective to Class R2 to Table 2 of BS EN 1436.

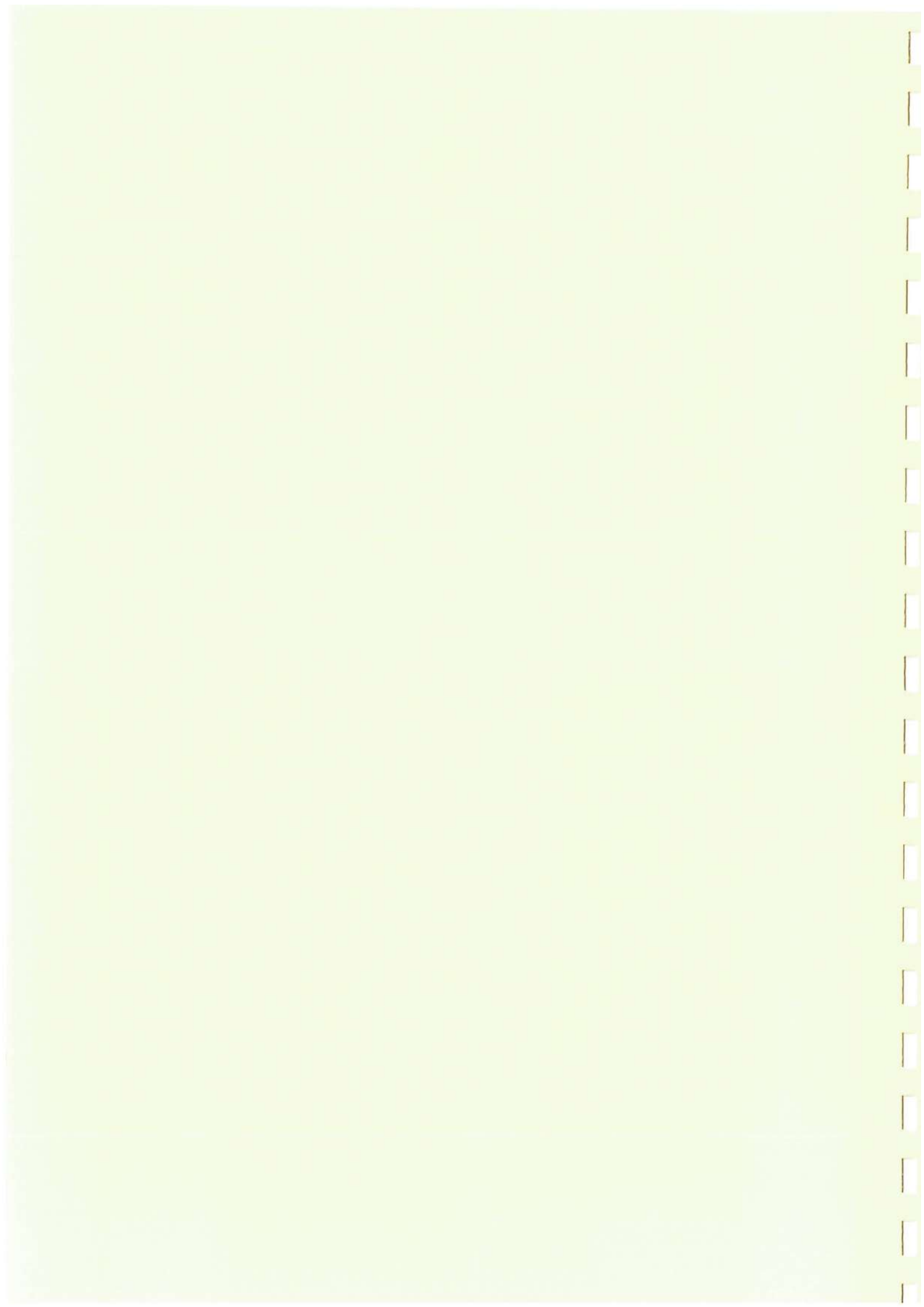
9.2.8. The Spacing of transverse raised ribs is to be 500mm.

9.2.9. The contractor must obtain approval for the road markings from the Local Highway Authority (non-trunk road).



9.3 APPENDIX 12/7 - TRAFFIC SIGNS SCHEDULE

SIGN		SIGN FACE DETAILS					INSTALLATION				POST DETAILS					FOUNDATION			NOTES																													
REFERENCE NUMBER	ACA/01	DIAGRAM NUMBER (TSRGD 2016 / LTN 1/94)	Appendix A of TSM Ch. 3, TSRGD S9-2-2	DESCRIPTION	Giveaway	WIDTH (mm)	680	HEIGHT (mm)	600	AREA (m ²)	0.24	X-HEIGHT (mm)	-	TSM/TSRGD STANDARD REFERENCE	602	REFLECTIVITY	RA2	ILLUMINATION	Yes	LATERAL CLEARANCE FROM CARRIAGEWAY (mm)	600	SLOPE CONSIDERED (%)	2.50%	MOUNTING HEIGHT (mm)	1800	POST MATERIAL	Steel	POST TYPE	Steel CHS with Wide base	NUMBER	1	LENGTH (mm)	3420	SIZE (mm)	76.1 x 3.2	SECTION	Circle	POST SPACING (mm)	-	LENGTH (mm)	400	WIDTH (mm)	400	DEPTH (mm)	800	Combined/Individual	Planted	





10 SERIES 1300 – ROAD LIGHTING COLUMNS AND BRACKETS, CCTV MASTS AND CANTILEVER MASTS

10.1 APPENDIX 13/1 - INFORMATION TO BE PROVIDED WHEN SPECIFYING LIGHTING COLUMNS & BRACKETS

1. The positions of proposed lighting units are shown on the following drawings.

Drawing no.	Title
SZC-AD0610-WSP-XXXHLG-09XXXX-DRW-HEO-621435	DETAILED DESIGN PROPOSED ROAD LIGHTING LAYOUT



2. The requirements for lighting columns are as follows.

Item	Requirement
Nominal height	10 m
Column material	Galvanised Steel
Type	Plain tubular Steel
Bracket projection	As per existing
Luminaire	As per existing
Luminaire weight	As per existing
Luminaire windage	As per existing
Luminaire dimensions	As per existing
Luminaire installed inclination	0° to the horizontal
Mean hourly wind speed (V_{ref}) and site altitude	V_{ref} 24.0 m / sec; 94 m ASL
Topography factor	1 (column is not located on a slope >5m high)
Terrain category ($C_{e,z}$)	I (column 8m+ height within 5km of coast)
Rationalised wind loading region	Medium
Partial safety factors on loads (f) / deflection class	f = Class B; Class 2 deflection class
Column Root:	Hot dipped galvanised in accordance with BS EN ISO 1461:1999 incorporating a glass flake root protection.
Base type	Planted
Ground factor (G) / soil type	To be determined on site by the Contractor
Attachments	To be designed as standard for the attachment of a road sign to Class C (as per PD6547)
Backfilling	To be as described in sub-clauses 1305.3, 1305.4, 1305.5 and to the column manufacturer's requirements
Number of doors	1
Door size	600mm x 115mm
Door orientation	To allow operative to face oncoming traffic.
Base compartment	To be suitably sized for the provision of all equipment required
Protection and finish	Hot dipped galvanised in accordance with BS EN ISO 1461:1999
Identification markings / maintenance numbers	As per Suffolk County Council Standard Detail Drawing SCD 13/1/4 (number increased as required) and to be agreed with Suffolk County Council prior to installation
Requirements for earthing	To be as described in Clause 1420
Cable entry slot dimensions	150mm x 75mm



3. Lighting column identification markings (maintenance numbers) shall be in accordance with SCC specifications / drawing SCD13/1/4.
4. A schedule of proposed lighting units is provided on drawing SZC-AD0610-WSP-XXXHGN-12XXXX-DRW-HEO-611401.



10.2 APPENDIX 13/2: TYPICAL LIGHTING COLUMN AND BRACKET DATA

1. The Contractor shall submit to the Engineer data sheets for each column type in accordance with the typical data sheets which are provided as part of Series NG 1300, Volume 2 *Notes for Guidance on the Specification for Highways Works* and repeated below for reference. For guidance on their completion refer to Appendix 13/3.
2. In addition to data sheets, the Contractor shall provide scale drawings of proposed columns and brackets, detailing the appearance and giving all measurements including tube diameters. These shall be submitted together with data sheets to the Engineer for approval prior to the ordering of any columns or brackets.

TYPICAL LIGHTING COLUMN AND BRACKET DATA - SHEET 1

Name of Manufacturer:

Column Reference No.

Revision No.

Date

NAME OF CONTRACT

Part A General

Column nominal height (m)

Column material

Material design strength (N/mm²)

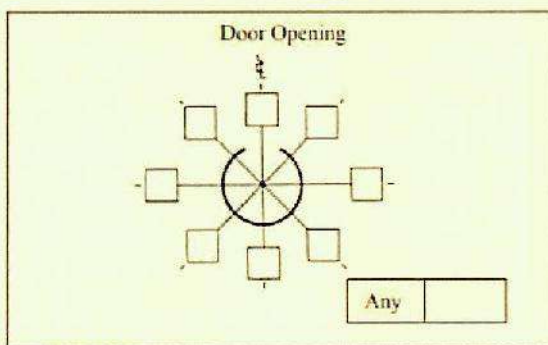
No. of door openings

Door opening size - Height (mm)

- Width (mm)

Cross-section of base compartment	Height (mm)	Width (mm)	Depth (mm)
	<input type="text"/>	<input type="text"/>	<input type="text"/>

Acceptable positions of bracket arms relative to door position



Manufacturer's drawing ref. no.

(1103) Corrosion protection (steel columns only) - basic system type (sub-Clauses 1911.9 and 1911.10)

(1104) Reference Wind Velocity V_{ref} as defined in BS EN 40-3-1

 m/s

Details of signs and attachments allowed for in the design Area (mm²), Eccentricity (mm), Height

- additional sacrificial steel thickness, above that needed in the design, from the bottom of the column to at least 250 mm above the anticipated ground level

 (mm)

Part B Foundation Data

Planted base

Planting depth (m)

Standard Soil Type Factor G

630	390	230
<input type="text"/>	<input type="text"/>	<input type="text"/>

Diameter of concrete surround (if any)

(1103) Flange plate

Bolt hole centres	Bolt Hole diameter	Design load/bolt
<input type="text"/> (mm)	<input type="text"/> (mm)	<input type="text"/> (N)

Relevant forces and moments at ground level

Line of action of max. moment relating to door opening

NOTE: For flange plates with slotted holes a diagram shall be included with this Data Sheet.



TYPICAL LIGHTING COLUMN AND BRACKET DATA - SHEET 2

(11.03) Part C Acceptable Luminaires

Luminaire: Maximum Characteristics

	(11.04) Terrain Categories as defined in BS EN 40-3-1			
	I	II	III	IV
Luminaire Max Wt (kg)	(11.04) Maximum Windage Area (m ²) for Terrain Categories as defined in BS EN 40-3-1			
Luminaire Connection				
Diameter				
Length				
Luminaire Lever Arm (mm)				
Due to wt of luminaire		Due to windage on luminaire		

Post Top Column

Single Arm Bracket Column

Bracket Projection (m)	Ref No	Drawing No	Material		Luminaire Fixing Angle	Luminaire Connection		Luminaire Maximum Wt (kg)	(11.04) Maximum Windage Area (m ²) for Terrain Categories as defined in BS EN 40-3-1				
			Grade	Design Strength (N/mm ²)		Diameter (mm)	Length (mm)		I	II	III	IV	

Luminaire Lever Arm (mm)	
Due to wt of luminaire	Due to windage on luminaire

Double Arm Bracket Column

Bracket Projection (m)	Ref No	Drawing No	Material		Luminaire Fixing Angle	Luminaire Connection		Luminaire Maximum Wt (kg)	(11.04) Maximum Windage Area (m ²) for Terrain Categories as defined in BS EN 40-3-1				
			Grade	Design Strength (N/mm ²)		Diameter (mm)	Length (mm)		I	II	III	IV	

Part D Certification

It is certified that the information given in this Data Sheet has been obtained in accordance with Departmental Standard BD 26 (DMRB 2.2.1) and the Specifications.

Signed on behalf of the Contractor Date



10.3 APPENDIX 13/3: INSTRUCTIONS FOR COMPLETION OF LIGHTING COLUMN AND BRACKET DATA SHEETS

General

1. When information is not required a dash shall be inserted in the appropriate boxes.
2. Where a Data Sheet is amended it shall be given a new revision with a date.
3. The revisions shall be consecutive letters of the alphabet, commencing with 'A'.
4. The date of the revision shall agree with the date on the Contractor's signature.
5. The column or bracket material shall be as described in Appendix 13/1.
6. The material design strength shall be the minimum specified in the design. Where more than one material is used values for all materials shall be given.
7. All relevant entries shall be made on the Data Sheet before the documents are certified by the Contractor.

Column Data

8. The number of door openings shall agree with the manufacturer's drawing.
9. The cross-section of the base compartment shall be indicated by a dimensioned diagram / sketch.
10. The acceptable positions of bracket arms relative to the door position shall be indicated on the diagram. Where all positions are acceptable the box labelled 'Any' shall be ticked.
11. Where concrete is necessary around the planted base in accordance with sub-clauses 1305.3 and 1305.4. The minimum diameter shall be entered.
12. For flange bases all forces and moments used in the design of the foundations, anchorages and attachment systems shall be given.
13. The corrosion protection system used on the column when new shall be recorded. Where additional steel is provided for sacrificial purposes the amount shall be recorded.
14. The following information regarding signs and attachment shall be stated:
 - a. Sign and attachment surface areas.
 - b. Eccentricities from the centre line of the column to the centre of the area of the sign or attachment.
 - c. Heights above ground level to the centre of the area of the sign or attachment.

Bracket Data

15. The luminaire lever arms, weight and maximum windage area quoted shall be based on the most adverse loading on the bracket when it is attached to any of the columns quoted in the compatible column sections.

(Note: the luminaire lever arms are the horizontal distances from the centre of gravity of the luminaire and the centroid of the windage surface area to the end of the bracket joint.)





11 SERIES 1400 – ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS

11.1 APPENDIX 14/1: SITE RECORDS

1. The Contractor shall provide as-built records and drawings based on the construction drawings referenced in Appendix 14/2 and shall be in compliance with the requirements of Clause 1402. The drawings shall be produced in AutoCAD-compatible format and supplied in PDF and AutoCAD-compatible electronic formats. The Contractor's attention is drawn to the need to ensure that the precise location of all cable joints is clearly marked on the as-built drawings.
2. The Contractor shall supply Electrical Installation Certificates cross-referenced to the apparatus identified on the as-built drawings. Certificates shall be in accordance with BS 7671, Series 1400 and shall be in the form of NICEIC HCN3, the HEA Certificate or equivalent and approved. The certificate shall include the cable sheath test results and earth electrode resistance test results. The Contractor's attention is drawn to sub-Clause 1424.3.
3. The Contractor shall provide a comprehensive Operation and Maintenance Manual for all equipment, to form part of the project Health and Safety File. 3no. physical copies shall be provided, in addition to PDF electronic format copies.
4. Operation and Maintenance Manuals shall include the following:
 - a. Contents and index
 - b. Introduction and design data, where applicable
 - c. Description of the operation of systems
 - d. Schedule of equipment and recommended maintenance
 - e. Schedule of column and bracket identification marks, cross-referenced where appropriate to column maintenance numbers
 - f. Emergency procedures
 - g. Details of equipment suppliers, manufacturers' information, data sheets and quality assurance certification for individual items of apparatus
 - h. Record documentation, test certifications and documents in accordance with the CDM Regulations

11.2 APPENDIX 14/2: LOCATION OF LIGHTING UNITS AND FEEDER PILLARS

1. The positions and descriptions of proposed lighting units, feeder pillars, etc. are shown on the following drawings.

Drawing no.	Title
-------------	-------



SZC-AD0610-WSP-XXXHLG-09XXXX-
DRW-HEO-621435

DETAILED DESIGN
PROPOSED ROAD LIGHTING
LAYOUT



11.3 APPENDIX 14/3: TEMPORARY LIGHTING

1. Temporary lighting, where provided as directed by the Overseeing Organisation, shall conform to the following standard.
 - a. King George's Avenue – M4 (comparable P2)

11.4 APPENDIX 14/4: ELECTRICAL EQUIPMENT FOR ROAD LIGHTING

1. If the Contractor wishes to deviate from the electrical equipment proposed by the Engineer then they shall insert in the tables below details of the equipment which they propose to use in the Works and shall submit the information to the Overseeing Organisation.

Luminaires and Lamps

2. The Contractor shall insert below details of luminaires and lamps they propose to use in the Works if deviating from the equipment proposed by the Engineer. The luminaires shall be compatible with the columns and brackets offered in Appendix 13/2 and submitted information shall include lamp type, lamp wattage, luminaire circuit wattage and electronic photometry.

Manufacturer	Cat. No.	Glare control		IP rating		PECU socket
		Luminous intensity class	Glare index class	Optical housing	Control gear housing	

Ancillary Equipment

3. The Contractor shall insert below details of ancillary equipment they propose to use in the Works if deviating from the equipment proposed by the Engineer, or where such equipment has not been proposed by the Engineer.

Clause	Item	Manufacturer	Catalogue or type no.	Requirements
1409	Photo-electric control units			
1410	Shorting plug			
1411	Time switches			
1412	Ballasts			
1413	Ignitors			
1414	Starters			
1415	Capacitors			



1416	Cut-outs			Cut-outs suitable for termination of looped cable up to and including 25mm ² 3-core Refer to luminaire tables for CPD ratings
	Fuse holders			
	Fuse links			
	MCBs			
1419	Wiring			

- Lighting columns shall be provided with a full-length backboard of treated hardwood at least equivalent to the door size of the column. The backboard shall be fixed in the base compartment and shall be suitable for the connection of all electrical equipment as required.
- Public and private electrical cut-outs shall be located within the base compartment of the associated lighting column.
- No item within the lighting column base compartment shall obscure equipment identification information.

Feeder Pillars

- The Contractor shall insert below details of feeder pillars they propose to use in the Works if deviating from the equipment proposed by the Engineer, or where such equipment has not been proposed by the Engineer.

Location of feeder pillar	Manufacturer	Catalogue no.

- Feeder pillars shall be suitable for the layouts shown on drawing no(s). # and shall conform with the requirements shown on the Drawings.

Cables and Cable Joints

- The Contractor shall insert below details of cable and cable joints they propose to use in the Works if deviating from the equipment proposed by the Engineer, or where such equipment has not been proposed by the Engineer.

Location of (a) cables (b) cable joints	Manufacturer	Catalogue no., reference no. or name of cable

11.5 APPENDIX 14/5: ELECTRICAL EQUIPMENT FOR TRAFFIC SIGNS

1. Signposts shall be provided with a full-length backboard of treated hardwood at least equivalent to the door size of the post. The backboard shall be fixed in the base compartment and shall be suitable for the connection of all electrical equipment as required.
2. Public and private electrical cut-outs shall be located within the base compartment of the associated signpost.
3. No item within the sign post base compartment shall obscure equipment identification information.
4. Photo-electric control units for traffic signs shall be supplied internal 100 Lux.



12 SERIES 3000 – LANDSCAPE AND ECOLOGY

- 12.1.1. The location of existing hedgerows to be coppiced, translocated or removed is shown on drawing no. SZC-AD0620-WSP-XXXHSC-09XXXX-DRW-HCH-622005.
- 12.1.2. All hedgerow coppicing, translocation or removal is to be undertaken in accordance with the requirements and methodology detailed in the Hedgerow Translocation Methodology Report – King George's Avenue (SZC-AD0620-WSP-XXXGEN-XXXXXX-REP-HLE-621001).



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Sizewell C – AD6 Adoptable Highway Schemes at Main Development Site

Hedgerow Translocation Methodology Report – King George’s Avenue

WSP Project number – 70080234

Project	SZC: Sizewell C	Teamcenter ID	101197596
Teamcenter Contract	WSP_AD06XX_061		
Client	NNB Generation Co.	Contractor Reference	SZC-AD0620-WSP-XXXGEN-XXXXXX-REP-HLE-621001
Contractor	WSP	Contractor Rev	P01
Purpose of Issue	P1 - Published for Implementation		
Supplier	N/A	Originators Ref	N/A
Prepared by	Howard Booth	Role	WSP Arboriculture Lead
Reviewed by	Tom Delhanty	Role	WSP Landscape Lead
Approved by	Schiteanu Bogdan	Role	WSP Design Manager

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UK PROTECT - COMMERCIAL & CONTRACTS



REVISION HISTORY

Revision	Purpose	Amendment	Prepared By	Date
P01	P1 - Published for Implementation	First issue of document	Howard Booth	28/11/2023



QUALITY COMPLIANCE

Document No.:		SZC-AD0620-WSP-XXXGEN-XXXXXX-REP-HLE-621001			
Description of Document.:		Hedgerow Translocation Methodology Report – King George’s Avenue			
Revision	Author	Checked by	Approved by	Date	Reason for revision
P01	Howard Booth	Tom Delhanty	Bogdan Schiteanu	28/11/2023	First issue of document



Hedgerow Translocation Methodology Report - King George's Avenue

DATE:	28 November 2023	CONFIDENTIALITY:	Confidential
SUBJECT:	Hedgerow Translocation Methodology		
PROJECT:	Sizewell C AD6 - Adoptable Highways Schemes for MDS	AUTHOR:	Howard Booth
CHECKED:	Tom Delhanty	APPROVED:	Bogdan Schiteanu

INTRODUCTION

WSP has been commissioned by Sizewell Co. (SZC) to validate and develop the preliminary designs for the AD-6 Adoptable Highway Schemes at the Main Development Site (MDS). These designs were submitted to the Planning Inspectorate as part of a Development Consent Order (DCO) application to build and operate a new nuclear power station to the north of Sizewell B.

As part of the detailed design development of the highways works and on-going liaison with SZC and Suffolk County Council (SCC), it has been determined that the hedgerow at the entrance to the Ancillary Construction Area (ACA) on King George's Avenue is required to be translocated. This is contrary to the DCO commitments which showed part of it to be removed. To facilitate the departure and accompany the highways applications, the environment team are required to provide a 'Hedgerow translocation methodology', as well as input into the highways plans.

PURPOSE

The purpose of this document is to provide a methodology for the removal of a hedgerow and its translocation and management during establishment. It will include:

- Arboricultural methodology for the lifting and replanting of the hedgerow;
- A summary of utilities and infrastructure likely to be impacted at the entrance to the ACA; and
- A landscape establishment and management plan.

DESIGN DEVELOPMENT

The snapshots provided indicate the extent of the hedgerow removal and its translocation associated with the bell mouth and sight lines at the ACA entrance.

SCOPE OF THE PROPOSED WORKS

The hedgerow to be translocated is shown on Tree Protection Plan (3512983BP-WSP-EAC-XX-DR-EN-00013). Locations of translocated hedgerows (proposed receptor sites) are shown on drawings (3512983BP-WSP-ELS-XX-DR-EN-0001).

The hedgerow translocation is required to maintain the hedges with their current species mix, structure and value, as wildlife corridors and landscape features.

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TIMESCALES AND ECOLOGICAL CONSTRAINTS

Hedgerows, like all other growing plants, are best translocated in the dormant season, and sufficiently before spring growth gets under way to have time for roots and soil to re-establish good contact. This, in practice makes the operational periods:

- September – October: Plants growth slowing.
- November – February: Plants largely dormant, suggested time for translocating.
- March – September: Plants actively growing.

The timing of successful translocation is highly influenced by the phase of growth. Autumn and spring translocations are sub optimal and summer presents a very high risk of failure. Translocation removes a significant volume of roots from the hedgerow reducing ability to abstract water and nutrients from the soil which during periods of active growth has greatest impact and would necessitate significant irrigation and maintenance but not remove the risk of failure.

It is necessary to heavily cut back or coppice the hedgerow in advance of translocation. This will reduce the bulk to be translocated making the activity more practicable and reducing physical damage to plants. This is also important physiologically as it reduces the amount of foliage that the roots need to sustain in the years immediately following translocation given a reduced volume of roots resulting from translocation.

Consideration of protected species requirements needs to be taken depending on when the hedgerow is to be moved and methods to be used and should be applied to all further sections of this Method Statement.

WSP has reviewed the following documentation to identify relevant ecological constraints:

- AD6 - ECOLOGICAL CONSTRAINTS MAP (10051577-ARC-EBD-ZZ-DR-ZZ-00380), produced by Arcadis and provided to WSP in May 2023;
- GIS data provided produced by Arcadis and provided to WSP by SZC in June 2023;
- Relevant documents on the DCO Portal; and,
- The Record of Environmental Actions and Commitments (REAC), which is produced by Arcadis and provided to WSP in May 2023. It references requirements as per the Environmental Statement and associated documents.

Breeding birds have been identified as a potential constraint to works. The REAC and associated documentation advises the following:

- Timing of vegetation clearance works is to take place outside of the bird nesting season (late February to August), as far as practicable. During this time, measures could also be put in place to deter birds from nesting in any hedgerow/vegetation to be removed close to/within the nesting season (for example, cutting back vegetation and making the area less suitable).
- If works are required during nesting season, the areas to be cleared will be checked by an ECoW (Ecological Clerk of Works) immediately prior to clearance (within 24 hours). Any active nests must be avoided and have a buffer put in place, until the birds have fledged. Buffer area will be dependent on

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species and likely sensitivity, but a general guidance is 10m. Birds may be nesting in trees, hedgerows, grassland, arable and on water.

- Construction areas are to be located away from bird nesting habitats. Areas of temporary land clearance will be remediated with hedgerows, native trees, shrubs, wetland areas, ponds, and species-rich grassland.
- Any gaps created in hedgerows will be infilled and additional hedgerow, woodland, scrub habitat will be included in the landscape plans to help mitigate the loss of suitable habitat.
- Implementation and adherence to the Construction Noise Management Plan will mitigate any potential noise and vibration disturbance.
- Night lighting during construction will be directed away from ecological sensitive receptors, as far as possible.
- Disturbance from noise will be mitigated including, but not limited to the following:
 - using temporary noise barriers,
 - quieter plant,
 - leaving a buffer zone around sensitive receptor,
 - reducing time on noisy activities.

No other ecological constraints have been identified within the near vicinity of the hedgerow to be translocated. However, given that many species are mobile (for example, badger, which are present within the area) and their presence / habitat may not have been identified during prior survey, a walkover survey by a suitably experience ECoW should be undertaken prior to the commencement of hedgerow translocation works, to confirm that no additional ecological constraints are likely present. Dependent on the findings of this walkover survey, further survey or assessment work may be required to inform the hedgerow translocation and associated mitigation.

PRE-START MEETING

A pre-start site meeting should be conducted at which the machinery requirements can be identified, and site delivery arrangements agreed with the project Arboriculturist in advance of the commencement of work.

Prior to any work the location of all utilities and services, especially underground, must be established. Where these are in close proximity to the works location they must be diverted to avoid damage to them or harm to those undertaking the work. Note that cutting all roots at depth may not be achievable, the pulling of roots during hedgerow removal could result in services beyond the excavation being affected.

DONOR HEDGEROW PREPARATION (HEDGEROW TO BE TRANSLOCATED)

The need for trimming or coppicing prior to translocation is two-fold:

- To reduce the above ground bulk, easing weight, and lowering the centre of gravity; and



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- To lower the demand for nutrients from the crown, from an inevitably reduced root system.

The easiest preparation is to coppice the plants, that is to cut to just above ground level, however, this will give minimal ecological and landscape benefit. A compromise will be for a high coppice of the hedgerow to approximately 600mm above ground, using a hand trimmer or saw for larger diameter woody stems. Coppicing shall be undertaken during the dormant season (1st November to 31st March).

Preparation of the hedgerow will need to be sensitive to the component plants, structure of the hedgerow and protected species requirements as identified above. In practice, the best way to achieve this is for the contractor and relevant project team member (Arboriculturist) to agree the most appropriate and practical preparation for each section of hedgerow onsite, immediately before preparation whilst addressing timing of removal to consider protected species requirements well in advance.

Individual trees which are undesirable as non-native trees, or which are too large/awkward to be realistically worth translocating will be marked for removal.

To reduce the level of stress of the hedgerow to a minimum, cuts shall be clean and without tears and shall be angled to shed water. Felling work should be undertaken by qualified tree cutters, properly equipped. Tree climbing will not be necessary. Trimming should be by guarded machinery, with a flail, or by cutter bar mounted on a tracked excavator or similar. The contractor will provide a method statement prior to undertaking any required felling/trimming.

The arisings from the coppicing and trimming will need disposal. If the timing of the work and specific site conditions allow chippings on site can be used to help make a running track from which to work. The Contractor should confirm suitability of each site location with the project Ecologist prior to chipping re-use. Trimmed branches should not be left in piles on-site as these may attract nesting birds. Oversized material will be used as dead wood piles, at the base of the translocated hedge or the retained hedge, to act as wildlife refuges. The Contractor is to again confirm suitability of each site location with the project Ecologist for constructing dead wood piles prior to re-using oversized material.

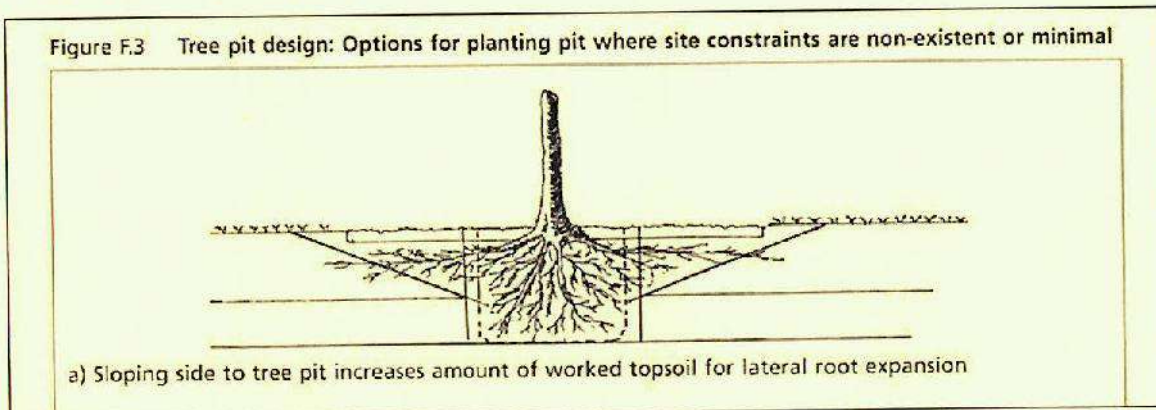
RECEPTOR SITE PREPARATION (AREA IN WHICH HEDGEROW WILL BE TRANSLOCATED)

The receptor sites for the hedgerow needs to be stripped of topsoil on the same day as translocation will take place. Any receptor site identified and works within it will need to take due consideration of Great Crested Newt and the GCN EPSL is to be followed for works in medium to high risk areas for this species. Any other protected species requirements in the receptor areas will need to be identified and addressed accordingly.

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The receptor sites should be agreed and marked out with the Landscape Architect. The receptor site should be a trench dug with an excavator taking care to ensure that topsoil is retained for use as back-fill material. The trench dimensions will be determined by the size of the rootball. The size and profile of the trench shall conform to British Standard BS 8545:2014 Figure F.3(a) shown below. The trench must not be allowed to become waterlogged. The exact depth and section of the trench may vary with the nature of the transplanted hedgerow and certain sections may need to be excavated to a larger profile. The figure below shows a typical planting pit profile.



THE LIFTING PROCESS

As set out above, prior to any excavation it is essential that live utilities are not present. Street light columns are present within the hedgerow and the removal of these does not form part of this methodology; shallow cables associated with the street lights are likely to be present.

Once the donor site is clear of all protected species constraints, the lifting operation should be carried out by a tracked excavator or equivalent, fitted with a hydraulically operated quick release bucket coupling.

The size of rootball which is to form part of the translocated hedge will be determined on site during a pre-commencement meeting between the contractor and relevant project team member. The purpose of the meeting shall be to identify the likely spread, depth and location of roots, the minimum size of the rootball, and associated machinery requirements. The contractor shall be responsible for providing the means of excavating small trial pits to a depth of approximately 0.6 metres as a means of identifying root location and soil structure.

The size of the rootball shall determine the size of the bucket, which is to be used to translocate the hedge and the size of the receptor trench. These requirements shall be discussed during the pre-start meeting and agreed with all project team members.



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On the day of lifting the rootball shall be prepared for translocation in the following manner:

- 1 Lifting should only be undertaken when ground conditions are favourable (soil must not be waterlogged, excessively dry or frozen);
- 2 The width of the proposed rootball shall be marked out using non-toxic marker paint;
- 3 A trench shall be excavated either side of the rootball with an offset from the outside edge of the rootball of approximately 100 millimetres. The trench shall be the same depth as the rootball;
- 4 A garden fork shall be used to carefully remove soil from the edge of the trench closest to the hedge, as a means of exposing any roots which may be present;
- 5 Exposed roots shall be cleanly cut back to the edge of the rootball using a sharp saw or secateurs; and
- 6 Exposed roots shall be protected from desiccation by temporarily covering the edge of the trench with plastic sheet.

Large cube shaped excavator buckets, each effectively acting as a giant plant pot, and with quick release couplings will be required, or equivalent. The size of the bucket will be determined by the size of the rootball and may need to be large enough to take approximately 1.5m width by 1m depth of soil. The bucket should have a closed back, bottom and side face, and be reinforced to withstand being pushed under trees. In use, the bucket should be mounted on the excavator in face shovel mode (i.e. with its open side facing away from the excavator).

It is recommended that at least two buckets are available on site. Excavated sections of hedgerow will need to be left in the bucket until it is ready to be placed in the receptor trench. Hedgerow sections should be removed from the bucket only when being placed in the receptor trench. A second bucket (and ideally a second excavator) may be required to adjust the receptor trench profile according to the size of hedgerow sections that it needs to take.

Transport of buckets will be undertaken directly from donor site to receptor site by the excavator. Dual handling of translocated section of hedgerow shall be avoided.

THE TRANSLOCATION PROCESS

The excavator bucket should ideally remove the donor hedgerow in sections, by the excavator working from one end of the hedgerow and working down the length of the hedgerow, as opposed to coming at the hedgerow from the side.

At the donor site, from the working edge, the excavator should push a bucket at the required depth, forward and under the section of hedge to be lifted, severing basal roots as it goes. The excavator can then lift the bucket containing the block of soil, roots and coppiced stems, and ground flora. The length of sections, which are able to be excavated will depend upon the bucket capacity, but sections should be as long as possible.

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The excavator will take the section of hedgerow immediately over to the receptor site and place the hedgerow section in the prepared trench (by sliding the section from the bucket). Each hedgerow section should be pushed up tight to its predecessor section to exclude air.

The hedgerow sections should be placed in the receptor trench in the order in which they are removed (i.e. first section of hedge excavated is the first section in the receptor ditch and the next section translocated should adjoin the previous section, as it did at the donor site).

The hedgerow should be placed in the receptor trench so that the previous ground level of the hedgerow is level with receptor ground level. No soil should be placed on top of the translocated sections of hedgerow and the translocated sections of hedgerow should not be overly compacted. The planting should follow recommendations of BS 8545.

Once the translocated hedgerow sections are in place, the receptor trench should be backfilled around the edges of the translocated hedgerow with topsoil as described in BS 8545 (and between hedgerow sections if this is necessary). This soil should be packed in around the edges of the hedgerow so that roots are not allowed to dry out or become waterlogged in the event of rain. Subject to the soil qualities use of slow-release fertiliser and water retention granules may be appropriate within the backfill topsoil to assist plant re-establishment.

Any sections of hedgerow removed must be placed in the receptor trench the same day. If the translocated operation is not complete on any one day, the edges of the cuts at both the donor and receptor areas should be packed with soil to reduce damage by overnight cold and drying out. The receptor trench should not be left open overnight. The contractor should aim to excavate only as much trench as required to take the hedgerow sections that will be translocated that day.

SUPERVISION

The translocation works should be supervised by a suitably experienced person who should be either the project Ecologist, Arboriculturist, or the Landscape Architect. The method statement should be available on site to all operatives prior to commencement and the supervising Ecologist, Arboriculturist or Landscape Architect should go through the method statement with the operatives onsite prior to the start of works. This method statement is a starting point and will be further developed once programme and timings are known.

INTERMEDIATE AFTERCARE

Immediate aftercare is limited to pressing all soils as firmly as possible whilst avoiding excessive compaction above the full width of the trench, tidying up damage, and protecting the translocated hedge from accidental damage.



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The translocated hedgerow is to be thoroughly watered with up to 100 litres per linear metre, to ensure soil is washed into any voids. If any roots become exposed or soil levels drop the levels are to be topped up to ensure coverage with topsoil. Invasion of weeds associated with disturbed ground such as nettle should be dealt with by spot herbicide treatment using a glyphosate-based herbicide.

Bark mulch to a depth of 75-100mm is to be used within 0.5m of the translocated hedgerow to aid soil moisture retention and weed suppression.

A high visibility barrier fence will be erected 1m from the receptor trench on completion of each day's translocation to protect the newly translocated hedge. The temporary fence will remain in place to protect the translocated and retained hedge during the main contract works.

SEASONAL AFTERCARE

Aftercare that might be needed would include:

- Tidying up trees/shrubs that lean or fall after translocation;
- Removing dead or dying plants, although some dead wood can add to the nature conservation value of the hedgerow;
- The translocated hedgerow should be spot weeded with a glyphosate-based herbicide to prevent pernicious weed growth for the initial five-year period;
- The contractor is to ensure an appropriate irrigation plan is in place prior to the commencement of hedgerow translocation works;
- The irrigation plan must identify the water source (including back up source during local drought) and water storage, transport and application operations;
- Watering at base of plants/hedge sections to avoid seasonal moisture deficit. This is the most important aspect of ensuring successful translocation and any signs of drought stress from drying soils are to be addressed by the contractor immediately. If weather conditions following translocation remain dry for a period of more than 5 days the hedgerow should be watered on a daily basis until it precipitates;
- The hedgerow will require trimming back after the first season's growth to encourage bushy growth, followed by annual cutting;
- The hedgerow should be inspected in the growing season following translocation to assess the percentage take of the plants (following heavy pruning and translocation, some plants can be very late to produce leaves);
- Pest control (mammals) by monthly visual monitoring and introduction of preventative measures (installation of appropriate proprietary pest-proof fencing) as required; and
- In-fill hedge sections that fail with new planting of comparable size, establishment and density, from a mix of indigenous species present within the existing hedgerow.

LONG TERM AFTERCARE AND MONITORING

Long term aftercare and monitoring is beyond the scope of this method statement, but should include only;

- Tidying up trees/shrubs that lean or fall after translocation;



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- Removing dead or dying plants, although some dead wood can add to the nature conservation value of the hedgerow; and
- Eventually, carrying out normal hedge trimming operations from 5 to 10 years regrowth as required to meet highways management standards.

The translocated hedgerow will be managed under the 5 years maintenance period. If, during this period, the translocation of all or part of the hedgerow is considered unsuccessful then relevant project team members will need to assess the hedgerow and consider replacement planting of hedgerow shrubs. Any replacement of trees and shrubs within the hedgerow should be native species, locally sourced where possible, and only using species already present within the existing hedgerow.

APPROVAL AND ACCEPTANCE

Approval by Design Organisation	
Bogdan Schiteanu <i>WSP Sizewell C AD6 Design Manager</i>	
Approval by Client (Sizewell Co)	
Jez Porter <i>Sizewell C Project Manager – Highways</i>	
Approval by Overseeing Organisation (SCC)	
Steve Merry <i>Suffolk County Council Transport Policy and Development Manager</i>	









