



Bonneagar Iompair Éireann  
Transport Infrastructure Ireland

## TII Publications



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# Specification for Road Works Series 100 - Preliminaries

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## About TII

Transport Infrastructure Ireland (TII) is responsible for managing and improving the country's national road and light rail networks.

## About TII Publications

TII maintains an online suite of technical publications, which is managed through the TII Publications website. The contents of TII Publications is clearly split into 'Standards' and 'Technical' documentation. All documentation for implementation on TII schemes is collectively referred to as TII Publications (Standards), and all other documentation within the system is collectively referred to as TII Publications (Technical). This system replaces the NRA Design Manual for Roads and Bridges (NRA DMRB) and the NRA Manual of Contract Documents for Road Works (NRA MCDRW).

## Document Attributes

Each document within TII Publications has a range of attributes associated with it, which allows for efficient access and retrieval of the document from the website. These attributes are also contained on the inside cover of each current document, for reference. For migration of documents from the NRA and RPA to the new system, each current document was assigned with new outer front and rear covers. Apart from the covers, and inside cover pages, the documents contain the same information as previously within the NRA or RPA systems, including historical references such as those contained within NRA DMRB and NRA MCDRW.

## Document Attributes

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## NRA DMRB and MCDRW References

For all documents that existed within the NRA DMRB or the NRA MCDRW prior to the launch of TII Publications, the NRA document reference used previously is listed above under 'historical reference'. The TII Publication Number also shown above now supersedes this historical reference. All historical references within this document are deemed to be replaced by the TII Publication Number. For the equivalent TII Publication Number for all other historical references contained within this document, please refer to the TII Publications website.

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# PRELIMINARIES

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## Preliminaries

### 101 Accommodation and Equipment for the Employer's Representative

- 1 The Contractor shall provide, maintain, service and unless otherwise described in Appendix 1/1, remove on issue of the Defects Certificate, all accommodation including contents, access roads and hard standing thereto, as described in that Appendix, for the use of the Employer's Representative.
- 2 Equipment, furnishings, fittings and supplies shall be located as described in Appendix 1/1. All temporary initial accommodation shall be ready for occupation on the Starting Date and all other accommodation complete with contents, access roads and hard standing shall be ready for occupation and use by the Employer's Representative within four weeks of the Starting Date unless otherwise stated in Appendix 1/1.
- 3 Where stated in Appendix 1/1, the Contractor shall furnish and service accommodation made available by the Employer.
- 4 Telephones shall have a separate connection direct to a telephone exchange of a telecommunication code system with privacy for conversation for the exclusive use of the Employer's Personnel. Applications to the Telephone Company for provision of telephone lines shall be made by the Contractor on behalf of the Employer's Representative. The Contractor shall remain responsible for supply, maintenance and removal of the internal phone system in the Employer's Representative's office. Accounts from the Telephone Company shall be in the name of the Employer. These accounts shall be paid by the Contractor.
- 5 Where required in Appendix 1/1, the Contractor shall procure, establish and maintain for the duration of the Works a Project Extranet facility based on web server and browser technology. The Contractor shall arrange for training and access to the Project Extranet for the relevant Contractor's Personnel, the relevant Employer's Personnel and the Employer. Access by the Employer's Personnel and the Employer to the Project Extranet shall be through the computers of such parties. The format and structure of the Project Extranet shall be to the written satisfaction of the Employer's Representative. The Contractor shall pay all licences (where relevant) to permit the Employer's Personnel

and the Employer to have computerised access to the Project Extranet.

- 6 All accommodation shall be regularly cleaned for so long as it is in use and suitable arrangements be made for the disposal of any waste arising from use of such accommodation. The main cleaning and servicing shall be carried out outside normal site working hours.
- 7 All equipment supplied by the Contractor shall be of a quality and precision appropriate to its proposed use and shall be delivered in a serviceable condition. The Contractor shall maintain all such equipment in serviceable condition and replace, if necessary, any that becomes unserviceable. The Contractor shall ensure that any equipment needing periodic calibration is calibrated on delivery, annually and at other times as and when required by the Employer's Representative.
- 8 When major components of the Works are manufactured off the Site the Contractor shall arrange to make available adequate and secure accommodation as described in Appendix 1/1 at or adjacent to the place of, and during the period of, manufacture and testing.

### 102 Vehicles for the Employer's Personnel

- 1 The Contractor shall provide transport as described in Appendix 1/2 for the exclusive use of the Employer's Personnel for any purpose in connection with the Works. The vehicles shall be delivered and maintained in good roadworthy condition. They shall have a current NCT/CVT Certificate as appropriate, be licensed and insured for use on the public road and shall have comprehensive insurance cover for any qualified driver authorised by the Employer's Representative together with any authorised passengers and the carriage of goods or samples. The Contractor shall provide fuel, oil and maintenance in conformity with the vehicle manufacturer's recommendations and shall clean the vehicles inside and out on a weekly basis, or more frequently where necessary. A suitable replacement shall be provided for any vehicle out of service for more than 8 working hours.

### 103 Communications System for the Employer's Personnel

- 1 The Contractor shall within four weeks of the Starting Date, unless otherwise stated in Appendix 1/3, provide mobile telephones as described in Appendix 1/3 for the exclusive use of the Employer's Personnel which are to be used in connection with the Works. The contractor shall remain responsible for the supply and maintenance of the mobile phones. Accounts from the mobile phone service provider shall be in the name of the Employer. These accounts shall be paid by the Contractor.

### 104 Standards, Quality Assurance Schemes, Agrément Certificates and Other Approvals

#### Standards

- 1 Work, goods and materials shall comply with the standards specified in the Contract.
- 2 Except where the specified standard implements or is technically equivalent to a Harmonised European Standard or to a European Standard adopted for use within the European Communities after 31 December 1985, any requirement for goods or materials to comply with the specified standard shall be satisfied by compliance with:
  - (i) a relevant standard or code of practice of a national standards body or equivalent body of any EEA State which is a contracting party to the EEA Agreement; or
  - (ii) a relevant international standard recognised for use in any EEA State which is a contracting party to the EEA Agreement; or
  - (iii) a relevant specification acknowledged for use as a standard by a public authority of any EEA State which is a contracting party to the EEA Agreement; or
  - (iv) traditional procedures of manufacture of any EEA State which is a contracting party to the EEA Agreement where these are the subject of a written technical description sufficiently detailed to permit assessment of the goods or materials for the use specified; or

- (v) a European Technical Approval (ETA) issued in accordance with the Construction Products Directive 89/106/EEC) and any subsequent amendments (or, until procedures are available for the issue of ETAs, a specification sufficiently detailed to permit assessment) for goods or materials of an innovative nature or subject to innovative processes of manufacture and which fulfil the purpose provided for by the specified standard;

Provided that the proposed standard, code of practice, specification, technical description or European Technical Approval provides, in use, levels of safety, suitability and fitness for purpose equivalent to those required by the specified standard in so far as they are not inconsistent with the "Essential Requirements" of the Construction Products Directive (89/106/EEC) and any subsequent amendments. This Clause applies also to works only in so far as the means of carrying out such works are indivisibly associated with the goods or materials for which an alternative standard, code of practice, specification or technical description is proposed.

#### Quality Assurance Schemes

- 3 Where any work, goods or materials to be used in the Works are the subject of a quality management scheme or product certification scheme listed in Appendix 1/24 or 1/25 respectively only work, goods or materials conforming with such a scheme shall be used and the Contractor shall in each case provide to the Employer's Representative a copy of the certificate of conformity affirming compliance with the scheme, unless the goods or materials bear a prescribed certification mark.
- 4 The requirement for any goods or materials to be manufactured or supplied subject to a quality management scheme or product certification scheme listed in Appendix 1/24 or 1/25 respectively shall be satisfied by compliance with an equivalent quality management scheme or product certification scheme of any member state of the European Communities, provided that the proposed scheme is designed to ensure in use levels of safety, suitability and fitness for purpose equivalent to those provided for by the scheme specified. This sub-Clause applies also to works only in so far as the means of carrying out such works are indivisibly associated with the goods or materials for which an alternative quality management scheme or product certification scheme is proposed.

### NSAI Agrément Certificates

- 5 Where any work, goods or materials are required to have a current NSAI Agrément Certificate, or equivalent, only work, goods or materials so certificated shall be used and the Contractor shall in each case provide to the Employer's Representative a copy of the certificate. Types of work, goods and materials subject to such requirements are listed in Appendix 1/26.
- 6 The requirement for types of goods or materials listed in Appendix 1/26 to have an NSAI Agrément Certificate shall be satisfied by goods or materials having an equivalent Agrément certificate issued in any member state of the European Communities, provided that the goods or materials covered by such certificate offer in use levels of safety, suitability and fitness for purpose equivalent to those incorporated in the NSAI Agrément Certificate. This sub-Clause applies also to works only in so far as the means of carrying out such works are indivisibly associated with the goods or materials for which an alternative Agrément certificate is proposed.

### Named Suppliers or Manufacturers

- 7 Any requirement in the Contract to use goods or materials which are defined by reference to a named supplier or manufacturer shall be construed as referring to those goods or materials or equivalent. For the purposes of this sub-Clause equivalent goods or materials are those supplied from within the EEA which provide in use levels of safety, suitability and fitness for purpose equivalent to those provided by the specified goods or materials in so far as they are not inconsistent with the 'Essential Requirements' of the Construction Products Directive (89/106/EEC) and any subsequent amendments.

### Provision of Information

- 8 Unless otherwise specified, two copies of all information, including valid certificates, in respect of work, goods or materials proposed by the Contractor shall be supplied to the Employer's Representative. Where the original documentation is in a language other than English, it shall be accompanied by an English translation. Information and certificates shall be supplied at least four weeks prior to the use of the work, goods or materials in the Works.
- 9 When required in Appendix 1/4, three copies of detailed working and fabrication drawings, prepared by or on behalf of the Contractor shall be submitted to the Employer's Representative.

- 10 When the Contractor proposes to use a different standard, quality management scheme, product certification scheme or Agrément Certificate from that specified the Contractor shall provide all the relevant information to enable the Employer's Representative to ascertain whether or not the proposal is equivalent to the specified requirement. The information shall be supplied at least 4 weeks prior to commencing the related works, to enable the evaluation of equivalence to be made, taking into account the programme for the Works.

## 105 Goods, Materials, Sampling and Testing

### Goods and Materials

- 1 The Contractor shall submit a list to the Employer's Representative of the suppliers from whom he proposes to purchase the goods and materials necessary for the execution of the Works. Where a choice of goods or materials is listed in the Contract, the Contractor shall inform the Employer's Representative of the goods or materials he proposes to use. No change in the list of suppliers and the Contractor's proposals shall be made without the consent of the Employer's Representative.

### Sampling and Testing

- 2 The testing scheduled in Appendix 1/5, including provision of the associated samples, shall be undertaken by the Contractor who shall supply to the Employer's Representative, within 24 hours of the completion of each test, a copy of the results. Where accreditation by the Irish National Accreditation Board (INAB) or equivalent, is required the results shall be reported on an official INAB (or equivalent) test report or certificate.

The following operations are not included in Appendix 1/5:

- (i) checking, inspecting, examining, measuring (except in connection with testing);
- (ii) trials and demonstrations;
- (iii) routine testing carried out by manufacturers and suppliers in compliance with a specified standard or specification;
- (iv) testing of plant.

Where required in Appendix 1/5 a test certificate, complying with the provisions of the relevant standard or specification where applicable and certifying that the goods or materials have been tested and meet the specified requirements, shall be supplied to the Employer's Representative by the Contractor at least four weeks prior to the incorporation of the goods or materials in the Works.

- 3 Where required in Appendix 1/5 tests shall, except as allowed in sub-Clause 4 of this Clause, be undertaken only by testing laboratories accredited in accordance with IS EN ISO/IEC 17025 by the Irish National Accreditation Board (INAB), or equivalent, for such tests.
- 4 Where testing is carried out in another member state of the European Communities such tests shall be undertaken by an appropriate organisation offering suitable and satisfactory evidence of technical and professional competence and independence. The condition shall be satisfied if the organisation is accredited in a member state of the European Communities in accordance with the relevant parts of the EN ISE/IEC 17000 series of standards for the tests carried out.
- 5 Where goods or materials are accepted on the basis of an equivalent standard, code of practice, specification, technical description, quality management scheme, product certification scheme or Agrément certificate as provided for in Clause 104, testing and sampling as specified in or applicable to such an equivalent standard, code of practice, specification, technical description, quality management scheme, product certification scheme or Agrément certificate is accepted and shall be substituted for those specified in Appendices 1/5 and 1/6 respectively.
- 6 The Contractor shall provide samples of goods and materials and deliver these to the Employer's Representative as described in Appendix 1/6. Where required in Appendix 1/6, the Contractor shall arrange for the sampling of such goods and materials to be undertaken by testing laboratories holding INAB, or equivalent, accreditation to EN ISO/IEC 17025 for such sampling. These samples shall be supplied in sufficient time for them to be tested and approved by the Employer's Representative, taking into account the programme for the Works.
- 7 Where testing is undertaken by a supplier or manufacturer in accordance with the Contract the Contractor shall ensure that each supplier

and manufacturer will admit the Employer's Representative, or his representative, to his premises at all reasonable times for the purposes of inspecting, selecting the samples and witnessing the testing.

## 106 Design of Permanent Works by the Contractor

### Structures

- 1 The Contractor shall design the structures listed in Appendix 1/10 (A) to comply with the design specifications and requirements therein. Where the Contractor proposes to design a structure (for which a choice of designs is offered) listed in Appendix 1/10 (B) he shall comply with the design specification and requirements therein. The Contractor shall follow the technical approval procedures given in NRA BD2: Part 1A.
- 2 Where the Contractor is required to complete the NRA BD2 Procedure, the Contractor shall forward two copies of the completed report to the Employer's Representative for acknowledgement.
- 3 The Contractor shall submit two copies of the completed design and check certificates and drawings for each structure listed in Appendix 1/10 to the Employer's Representative.

### Structural Elements and Other Features

- 4 The Contractor shall design the structural elements and other features listed in Appendix 1/11 to comply with the design specifications therein. Alternatively, the Contractor may propose an element or feature designed by the manufacturer. In either case, the Contractor shall submit his proposals to the Employer's Representative.

## 107 Site Extent and Limitations on Use

- 1 The extent of the Site and any limitations on its use shall be as described in Appendix 1/7.

## 108 Operatives for the Employer's Representative

- 1 The Contractor shall provide the Employer's Representative with, and maintain continuity of, operatives equal to the tasks, and capable of performing the functions, described in Appendix 1/8.



- 2 For site surveys and setting out, operatives shall be experienced in assisting engineers in such work.
- 3 For laboratory-related duties, operatives shall be capable of assisting laboratory staff in routine tasks.
- 4 Operatives provided under sub-Clauses 2 and 3 of this Clause shall have valid driving licences and driving experience suitable for the vehicles supplied under Clause 102.

### 109 Control of Noise and Vibration

- 1 The Contractor shall comply with the recommendations for practical measures to reduce noise set out in BS 5228: Parts 1 and 2 and with any specific requirements stated in Appendix 1/9.
- 2 The Contractor shall comply with any specific requirements for the control of vibration stated in Appendices 1/9, 2/4, 6/3, 6/13 and Clause 607, and any damage criteria and monitoring requirements for adjacent structures or services stated in Appendix 16/1.
- 3 Compliance with sub-Clauses 1 and 2 of this Clause does not confer immunity from relevant legal requirements.

### 110 Information Boards

- 1 The Contractor shall, within four weeks of the Starting Date, provide and erect information boards at the locations and to the specification given in Appendix 1/21. The Contractor shall ensure that they are kept clean and maintained in a safe and legible condition and remove them on completion of the Works. The Contractor or any sub-contractor employed by him shall not erect any advertising sign on the site without the written permission of the Employer's Representative.

### 111 Existing Ground Levels

- 1 The Contractor shall satisfy himself that the existing ground levels as described in Appendix 1/12 are correct. Work shall not proceed until the existing ground levels are agreed. Disturbance of the existing ground shall be deemed to indicate that the Contractor is in agreement with the levels contained in the Contract. Should the Contractor wish to dispute any levels he shall

submit to the Employer's Representative a schedule of the position of the levels considered to be in error and a set of revised levels. The existing ground relevant to the disputed levels shall not be disturbed before the correct levels are determined.

### 112 Setting Out

- 1 The Contractor shall, unless otherwise stated in Appendix 1/12, within 3 weeks of the Starting Date, carry out a check of the co-ordinates and levels of all permanent ground markers and permanent bench marks described in Appendix 1/12 and shall supply the Employer's Representative with their position and level in order that they may be checked and revised if necessary. The Contractor shall identify and bring to the attention of the Employer's Representative any markers that are missing. The Contractor shall comply with any specific requirements for setting out described in Appendix 1/12.
- 2 The Contractor shall keep updated schedules and drawings of all bench marks (which shall be based on Ordnance Datum at Malin Head) used in the setting out and shall make these available to the Employer's Representative when required.
- 3 The Contractor shall ensure that where necessary, in order to maintain his programme, lines and levels are set out in such time as to enable Statutory Undertakers plant and other publicly or privately owned services or supplies to be installed, altered or removed.

### 113 Programme of Works

- 1 Subject and without prejudice to the Conditions, the programme which the Contractor submits to the Employer's Representative shall comply with any specific requirements stated in Appendix 1/13.

### 114 Payment Statements

- 1 Subject and without prejudice to the Conditions, the Contractor shall comply with any requirements described in Appendix 1/14 concerning payment statements.

### 115 Accommodation Works

- 1 The Contractor shall undertake and complete the accommodation works as described in

Appendix 1/15 or shown in the Accommodation Works drawings listed in Appendix 0/4 of the Specification. The Contractor shall give the Employer's Representative at least ten days notice of the date he intends to start work on individual plots, for the benefit of each owner, lessee or occupier.

- 2 All agreements made by the Contractor with landowners or occupiers shall be confirmed to the Employer's Representative in writing.
- 3 The Contractor shall be aware that all landowner Accommodation Works are identified in this Contract as specified in Appendix 1/15 of the Specification.
- 4 The Contract shall be deemed to include for putting all instructed Accommodation Works arrangements in place. The Contractor shall confirm pre-entry requirements with each individual landowner in writing and inform the Employer's Representative.

## 116 Privately and Publicly Owned Services or Supplies

- 1 The Contractor shall satisfy himself as to the exact position of Statutory Undertakers and other publicly and privately owned services or supplies affected by the Works.
- 2 The Contractor shall, during the progress of the Works liaise with and take all measures required by any Statutory Undertaker or the management of other publicly or privately owned services or supplies, for the support and full protection of all such services or supplies but subject to any instructions or contrary directions by the Employer's Representative. He shall keep the Employer's Representative informed of such liaison and measures. No such services or supplies shall be interrupted without the written consent of the appropriate authority or owner. Where any service or supply is affected by the Works the Contractor shall provide a satisfactory alternative before interrupting the existing service or supply unless otherwise stated in Appendix 1/16.
- 3 The Contractor shall include for the programming consequences of all temporary and permanent diversions in his construction programme to the satisfaction of the Employer's Representative and the Statutory Undertakers.
- 4 Where privately or publicly owned services or supplies affected by the Works are subject to alteration, removal or addition, the Contractor

shall be responsible for all arrangements with the owners and/or their agents for the execution and phasing of such works in accordance with his programme. Details of such work, preliminary arrangements made by the Employer's Representative, and any orders already placed are given in Appendix 1/16.

- 5 Where work is being undertaken on a motorway the Contractor shall take all measures required by the Road Authority for the location and protection of all cabling, ducts and other devices which form part of the motorway communications system or other systems of the road authority. Where the motorway communications system or other systems will be affected by the Works the Contractor shall ensure that an alternative system as described in Appendix 1/16 is fully operational prior to interrupting the existing systems. Any connections or disconnections to the existing systems may only be undertaken by the maintenance authority concerned. The Contractor shall be responsible for liaising, through the Employer's Representative with the maintenance authority.

## 117 Traffic Safety and Management

- 1 When planning and undertaking work on roads open to traffic the Contractor shall take account of the recommendations contained in the publication "Guidance for the Control and Management of Traffic at Road Works" issued by the Department of Transport.
- 2 When planning traffic safety and management measures the Contractor shall take into account the information contained in Appendices 1/17 and 1/18.
- 3 The Contractor shall, unless otherwise stated in Appendix 1/17, after consultation with the appropriate road authority and subsequently with any statutory authority concerned and An Garda Siochana, prepare and submit traffic safety and management proposals within the timescale described in Appendix 1/17 to the Employer's Representative. These shall show the proposed traffic safety and management measures including provision of safety zones which he proposes for carrying out the Works. If stated in Appendix 1/17, the proposals shall include the provision of running lanes for the use of emergency vehicles within the Site. If required the Contractor shall make such changes to his proposals as may be necessary to meet the requirements of the Contract. Thereafter the Contractor shall furnish such details and information as may be necessitated by the

- Works or as the Employer's Representative may direct.
- 4 The Contractor shall design, construct and maintain, or if Appendix 1/17 so provides shall construct and maintain, the temporary diversions described in Appendix 1/17 in accordance with the information stated therein. Unless otherwise described in Appendix 1/17, the Contractor shall remove those diversions when no longer required and reinstate the area to its original condition.
- 5 If the Contractor intends to construct central reserve crossovers as part of his traffic safety and management proposals he shall submit an outline of the proposals to the Employer's Representative in advance, in accordance with the requirements of sub-clause 3 of this clause.
- 6 The Contractor shall submit a formal application through the Employer's Representative, as described in Appendix 1/17, to the appropriate authority for any statutory orders required to be made or notices required to be published in connection with his traffic safety and management proposals. The Contractor shall inform the Employer's Representative of details the Contractor has agreed with the road authority for traffic signs, lighting, construction, maintenance and removal of any central reserve crossovers.
- 7 If stated in Appendix 1/17, the Contractor shall undertake the maintenance functions described therein and to the extent there described, on the lengths of road there specified, until the issue of the relevant certificate of Substantial Completion.
- 8 Nothing in this Clause 117 shall relieve the Contractor from his obligations under sub-Clause 3.6.1 of the Conditions.
- 9 The Contractor shall, unless otherwise stated in Appendix 1/17, provide, erect, maintain, reposition, cover and uncover and finally remove traffic signs as necessary for the execution of the Works. In so doing, such other measures shall be taken by the Contractor as may be necessitated by the Works in accordance with any special requirements in Appendix 1/17, recommendations in the Department of Transport Traffic Signs Manual, or other instructions of the road authority listed in Appendix 1/17. Where the circumstances of any particular situation are not covered by the recommendations or described in Appendices 1/17 or 1/18, the Contractor shall submit proposals for dealing with that situation to the Employer's Representative.
- 10 Traffic signs shall comply with the Department of Transport Traffic Signs Manual and the appropriate Clauses in Series 1200 of this Specification. The Contractor shall unless otherwise stated in Appendix 1/17 keep traffic signs clean, secure and legible and ensure that all signs required to be lit, whether by external or internal lighting, are so lit during periods when road vehicles are required to display lights.
- 11 Where the Contract provides that the Contractor shall not erect, maintain or reposition traffic signs, the Contractor shall not change in any manner the permanent or temporary traffic signs without instruction from the Employer's Representative and shall give such notice as is stated in Appendix 1/17 to indicate when signs should be moved compatible with the progress of the Works.
- 12 All traffic safety and management measures shall be fully operational and shall have been submitted to the Employer's Representative before the Contractor commences any work which affects the public road or the use of it.
- 13 Any area of road which has been closed because of the Works shall not be re-opened until all appropriate traffic safety and management measures have been completed and the road is in a suitable condition for public use.
- 14 Where work is carried out on, or adjacent to a road open to traffic the Contractor shall ensure that vehicles and mobile plant under his control operating frequently or regularly on or adjacent to that road in the execution of the Works shall be painted in a conspicuous colour and shall have sign boards reading Road Maintenance or where appropriate Motorway Maintenance, fixed at the rear. The lettering shall be 150 mm X height for vehicles and plant except that for light vans and cars it shall be the largest X height that can be accommodated out of the following heights: 37.5, 50, 62.5, 75 or 100 mm. The lettering shall be in black capital letters from the "Transport Heavy" alphabet, on a yellow non-reflectorised background in accordance with BS 381C lemon yellow No. 355. In addition each such vehicle or item of plant shall be provided with a roof mounted amber flashing distinctive lamp. The lamp shall be switched on:
- (i) when the vehicle or plant is manoeuvring into or out of the Site or operating at low speed on a carriageway or hard shoulder open to vehicles and;

- (ii) when the vehicle or plant is standing on a carriageway or hard shoulder open to vehicles, unless Appendix 1/17 permits hazard warning lights to be switched on and they are.
- 15 Temporary lighting shall be provided in accordance with Series 1400 where required by Appendix 1/17, or by the Contractor in the execution of the Works.
- 16 The Contractor shall provide and suitably sign points of entry to and exit from the Site, for vehicles and plant engaged on the Works. Such provision shall be subject to the agreement of the Employer's Representative. The Contractor shall ensure that when any vehicle or item of plant is reversing within the Site on or adjacent to a road open to traffic, it does so only under the supervision of a person designated for the purpose of regulating traffic within the Site who shall be readily distinguishable from the remainder of the workforce.
- 17 Where work is carried out on or adjacent to a road open to traffic the Contractor shall ensure that the workforce and site supervisory staff at all times wear high visibility warning clothing complying with IS EN 471. Clothing shall be to Table 1, Class 2 or 3 (Class 3 on motorways or other high speed roads) and shall comply with the requirements of para 4.2.3(b). In addition on motorways or other high speed roads full length sleeves meeting the requirements of para 4.2.4 shall be provided for coveralls and jackets. The colour of the clothing shall normally be dark. The colour of the clothing shall normally be dark. The retroreflective material used shall be to Class 2 as defined at Table 5. Clothing complying with other specifications may be used, in accordance with Clause 104.2 where they offer equivalent levels of performance in so far as the specification given is not inconsistent with the basic health and safety requirements set out in Annex 2 of the Personal Protective Equipment Directive (89/686/EEC). The Contractor shall ensure that the person in charge of the workforce is readily distinguishable from the person designated in sub-Clause 16 of this Clause and from the remainder of the workforce.
- 18 Where required in Appendix 1/17, the Contractor shall appoint a Traffic Safety and Control Officer who shall make all arrangements necessary for traffic safety and control, including the provision and operation of breakdown recovery vehicles where required in Appendix 1/20. The Traffic Safety and Control Officer shall have one or more nominated deputies. The Contractor shall provide the Employer's Representative with the names of this Officer and his nominated deputies and with telephone numbers or details of other means by which they or one of them can be contacted at any time. Unless otherwise described in Appendix 1/17 the Traffic Safety and Control Officer or a nominated deputy shall be on the Site at all times when traffic management is in operation and shall be readily available to deal with matters related to traffic safety and control, including breakdown recovery vehicles where required in Appendix 1/20.
- 19 If an accident or breakdown occurs on a carriageway or hard shoulder open to traffic within or in the vicinity of the Site, the Contractor and operators of recovery vehicles provided in accordance with Clause 120 shall act as requested by An Garda Síochána acting under their statutory powers.
- 20 Where required in Appendix 1/17, the Contractor shall provide, erect, maintain and remove Driver Information Signs and temporary variable message signs in accordance with sub-clauses 21 to 26 of this clause.
- 21 Sign face layouts shall be in accordance with Chapter 8 of the Department of the Transport Traffic Signs Manual. Variable message sign messages shall be provided at locations agreed by the roads authority and the Employer's Representative.
- 22 The Driver Information Signs shall be located within roadworks when part of the road is coned off, for any length of time.
- 23 Signs located within roadworks shall only be used where they can be located in advance of a taper and in a position which does not prejudice traffic safety.
- 24 Driver information signs shall be sited at the beginning and end of the works. They shall not be placed where they may distract drivers negotiating traffic management provisions.
- 25 The Contractor shall provide adequate storage facilities clear of any safety zone.
- 26 Information signs shall only be displayed within roadworks where they accurately reflect the reason for the traffic restrictions.
- 27 All necessary traffic safety precautions shall be taken by the Contractor to ensure the safety of all traffic and pedestrians using the existing roads adjacent to the Site and

connecting minor roads during the execution and completion of the Works, and all precautions shall be taken to minimise disruption to the local residents.

- 28 The Contractor shall ensure that no item of plant, goods or equipment (including stores or offices) shall be placed or parked on the public roadway or its verges in a manner which shall / may result in danger to the personnel on the Site or members of the public, or which shall / may restrict sight distances on all accesses to the Site or on public roads.

### 118 Temporary Diversions for Traffic

- 1 The provisions of this Clause do not apply to any temporary access or accommodation works which the Contractor may construct for his sole use in the execution of the Works.
- 2 Each temporary diversion for traffic shall be made operative in advance of any interference with the existing arrangements and shall be maintained to the standard stated in Appendix 1/18 or if no standard is so stated, in accordance with sub-Clause 6 of this Clause. During the execution and completion of the Works, the Contractor shall provide appropriate diversion or reasonable and suitable access for each owner/occupier of adjacent lands to enable him/her to continue operations where it is severed or flanked by the Works.

#### Temporary Diversions for Traffic Specified by the Employer's Representative

- 3 The Contractor shall construct, maintain, remove and reinstate each temporary diversion for traffic specified in Appendix 1/18 in accordance with the details stated therein. Where stated in Appendix 1/18, the Contractor shall design each temporary diversion for traffic, including any temporary structures, in accordance with the details stated therein. Unless otherwise described in Appendix 1/18, the Contractor shall remove each temporary diversion for traffic as soon as it is no longer required.

#### Temporary Diversions for Traffic Proposed by the Contractor

- 4 If the Contractor proposes to construct a temporary diversion for traffic as part of his intended traffic safety and management measures, he shall submit an outline of his proposals to the road authority and An Garda Síochána for their agreement.

- 5 The Contractor shall submit a formal application to the appropriate authority for any statutory orders required to be made or notices required to be published through the Employer's Representative, allowing such time as is stated in Appendix 1/18 for the orders to be made and notices to be published.
- 6 The standard and siting of every temporary diversion for traffic shall be suitable in all respects for the class or classes of traffic using it, and its width shall be not less than that of the existing way except where indicated in Appendix 1/18.
- 7 The Contractor shall inform the Employer's Representative of any details agreed with the road authority for traffic signs, lighting, construction, maintenance, removal and reinstatement of any temporary diversion for traffic proposed by the Contractor.
- 8 Nothing in this Clause 118 shall relieve the Contractor from his obligations under sub-Clause 3.6.1 of the Conditions.

### 119 Routeing of Vehicles

- 1 The Contractor shall comply with the requirements described in Appendix 1/19 in connection with routeing of vehicles.

### 120 Recovery Vehicles for Breakdowns

- 1 When required in Appendix 1/20 the Contractor shall have available for immediate use recovery vehicles as described in Appendix 1/20. The appointment, insurances, equipment and procedures for the operation of recovery vehicles, if required, shall be as described in Appendix 1/20.
- 2 The Contractor shall ensure that the recovery vehicle operatives issue leaflets, as described in Appendix 1/20, before the tow commences, to the drivers of vehicles requiring assistance.

### 121 Tidal, Flowing and Standing Water

- 1 The Contractor shall take measures and carry out any operation necessary for dealing with tidal, flowing or standing water within the Site.

## 122 Progress Photographs

- 1 The Contractor shall arrange, as described in Appendix 1/22, to have record photographs of the Works taken by a professional photographer.
- 2 All prints shall be marked on the reverse side with the date of exposure, name and address of photographer, identification reference number, and brief description of the work or features including chainage and direction of view.
- 3 The copyright of all photographs shall be vested in the Employer and the negatives and prints shall be delivered to the Employer's Representative within 4 weeks of exposure. The photographs shall not be used for any purpose whatsoever without the Employer's Representative's approval.

## 123 Ionising Radiations

- 1 Nuclear gauges or other sources of ionising radiations shall be used only where permitted or required by the Employer's Representative.
- 2 The Contractor shall provide, on request, to the Employer's Representative a copy of the contractor's current valid licence issued by the Radiological Protection Institute of Ireland under S.I. No. 151/1993 — Radiological Protection Act, 1991 (General Control of Radioactive Substances, Nuclear Devices and Irradiating Apparatus) Order, 1993.
- 3 The Contractor shall provide, on request, to the Employer's Representative a copy of the Contractor's "Radiation Safety Procedures", specified in Condition 2 of the RPII Licence.
- 4 The Contractor shall comply with :
  - (i) the Contractor's RPII Licence conditions;
  - (ii) the Contractor's Radiation Safety Procedures;
  - (iii) basic safety standards for the health and protection of the general public and of workers, laid down in the European Communities (Ionising Radiations) Regulations 1991, SI 43.
- 5 The Contractor shall notify the Employer's Representative in writing of any changes to :

- (i) the Contractor's RPII Licence conditions;
- (ii) the Contractor's Radiation Safety Procedures;
- (iii) the Radiological Protection Officers designated in the RPII Licence and in the Radiation Safety Procedures.

## 124 Substances Hazardous to Health

- 1 In this Clause, a hazardous substance is defined as follows:
    - (i) Any substance falling within the classifications of the ADR Agreement set out in the schedule of the Dangerous Substances Act 1972 (Part IV Declaration) Order, 1996;
    - (ii) Any substance, natural or artificial, whether in solid, liquid, gas or vapour state, that in either a concentrated or diluted form and/or mixed with any other substance, can cause an injury to a person(s) or property through ingestion, inhalation or bodily contact or as a result of fire, explosion or chemical reaction;
    - (iii) Any substance that in any form can contaminate/pollute the workplace/ environment.
  - 2 Hazardous substances shall only be used or generated in or about the Works where specified in the Contract or with the consent of the Employer's Representative.
  - 3 Where any hazardous substance is so used or generated the Contractor shall:
    - (i) identify the hazardous substance; and
    - (ii) assess the risks created by its use; and
    - (iii) specify the arrangements made and the resources provided to safeguard the safety and health of persons employed at the work place against the risk posed;
- in his Safety Statement and bring the terms of the Safety Statement to the attention of persons employed by him and to other persons at the place of work who may be effected by the Safety Statement. The Contractor shall also provide the Employer's Representative with a copy of his Safety Statement before the Starting Date.

- 4 It shall be the duty of the Contractor involved in sharing a place of work with another Contractor to co-operate in implementing any safety, health, welfare and occupational hygiene provisions considered necessary and taking into account the nature of the work activities, to co-ordinate their work areas in relation to the protection from and prevention of occupational risks, and to inform each other and their respective employees or safety representatives (or both) of any risks involved in such activities. The Contractor shall provide the Employer's Representative with written details of any such co-operation and/or co-ordination in relation to hazardous substances.
- 5 The Contractor shall:
- (i) ensure that hazard labels are attached to containers or hazardous substances; and
  - (ii) obtain hazard data sheets (Materials Safety Data Sheets) on hazardous substances from the manufacturers/suppliers and shall communicate this information to persons who may in any way be effected by the substances; and
  - (iii) provide proper training in the identification and use of hazardous substances for persons whose duties involve contact with such substances.
- 6 If the Contractor proposes to use or generate any hazardous substance which has not been identified in the Safety Statement he shall:
- (i) revise his Safety Statement accordingly; and
  - (ii) put into effect any additional arrangements required to deal with the new hazardous substance as per the previous sub-Clauses; and
  - (iii) advise the Employer's Representative accordingly.
- 7 The Contractor shall advise the Employer's Representative of the information, instruction, training, equipment and supervision to be provided for the persons described in sub-Clause 5 of this Clause and for the Contractor's employees and any other persons with reason to enter the area in which the hazards exist, and of the provisions to be made in monitoring their health. The Contractor shall provide the Employer's Representative with written details of his proposals to prevent, control or monitor the exposure of members of the public to any substance hazardous to health used or generated in or about the Works.
- 8 Where the measures referred to in this Clause necessitate the use of protective clothing or other safety apparatus by the Employer's Personnel, the Contractor shall:
- (i) provide the Employer's Personnel with sufficient suitable items of such protective clothing and other safety apparatus, so far as they are not otherwise supplied under Appendix 1/1; and
  - (ii) arrange for the proper storage, maintenance and, if necessary, regular testing and replacement of the items provided to the Employer's Personnel ; and
  - (iii) arrange for appropriate training or instruction for the Employer's Personnel in the use of such items.
- 9 Compliance with sub-Clauses 1 through to 8 of this Clause does not confer immunity from relevant legal requirements.
- ## 125 Contractor's Temporary Accommodation
- 1 The location of the Contractor's temporary accommodation and his storage areas shall be arranged to facilitate the most advantageous construction progress by the Contractor. It is the Contractor's responsibility to acquire and service these locations with power, telecommunications, water supply and sewerage disposal and to comply with all Local Authority planning requirements in respect of same.
- 2 The Contractor shall arrange for adequate canteen, sanitary, washing, changing and shelter facilities for the use of his staff at the site of the Works. These facilities shall be provided before construction work commences and shall be maintained for the duration of the Contract.
- ## 126 Damage to Roadways
- 1 The Contractor shall take every reasonable precaution to prevent dirt, mud or other deleterious material being dropped or spread by traffic or equipment associated with the Works on public roads or roadways which are

made available for public use by the Contractor, whether such traffic or equipment is the Contractor's own, his subcontractors or his suppliers or hired by any of them. The Contractor shall clean roadways of any such dirt, mud or other deleterious materials which may be spilt or spread by traffic or equipment travelling to or from the site in connection with the Works, whether such traffic belongs to the Contractor, his subcontractors or his suppliers. On each working day the Contractor shall employ a road suction sweeper to clean all public roads and entrances to public or private property within a distance of 500m of the site. This shall include washing. Such cleaning operations shall be carried out notwithstanding road cleaning work being carried out by the Employer or Employer's Personnel.

- 2 The Contractor shall take particular care to avoid damage to roads, footpaths, grass margins and other surfaces outside of the authorised site and shall be liable for the cost of repairing, to the satisfaction of the Employer's Representative, the Local Authority or the owner, all such damage caused by his operations. He shall take precautions to prevent spillage of diesel fuel or solvents.
- 3 The Contractor shall have regard to the maximum legal permissible loads for public roads in Ireland and where requested by the Employer's Representative shall provide evidence of compliance with regard to delivery of material to site. He shall also prohibit the use of tracked plant on road surfaces outside of the site unless suitably approved protective measures are taken to safeguard the integrity of the road surfaces. Pumping of water onto a public road or private property shall not be permitted. Heavy discharges to gullies and storm drains shall have silt traps incorporated in the temporary discharge arrangement. Any damage so caused shall be made good by the Contractor at his own expense.
- 4 All roads, accesses, drains, ditches and grips shall be kept clear of all dirt, mud and material arising from the execution and completion of the Works and suitable clearing equipment and labour shall be provided by the Contractor for this purpose. Particular attention shall be paid to the loading of lorries carrying bulk materials into the Site and spoil from the Site to ensure that these shall not be overloaded or loaded in such a way that spillage shall be unavoidable. Any dirt or mud adhering to the tyres or chassis of any vehicles shall be thoroughly cleaned off before the vehicle shall be permitted to leave the Site. In the case of delivery to the Site, vehicles shall

be thoroughly cleaned before they leave the point of collection. The Contractor shall be equally responsible for the vehicles of his subcontractors and suppliers and the like.

## 127 Safety

- 1 All accidents reported under The Safety, Health and Welfare at Work (Construction) Regulations 2006 shall be reported immediately to the Project Supervisor Construction Stage (PSCS), Project Supervisor Design Process (PSDP) and the Employer's Representative. A copy of the subsequent written report to the Health and Safety Authority shall also be provided.

## 128 Liaison Officer

- 1 The Contractor shall designate one of his qualified engineering staff as a liaison officer to deal with landowners and utilities. The Liaison Officer shall attend all pre-entry meetings with landowners or occupiers together with the Employer's Representatives. These meetings with individual landowners or occupiers are intended to confirm the arrangements already agreed for temporary and permanent accommodation works.

## 129 Emergency Services

- 1 The Contractor shall include for the provision of a 24-hour, 7-days-a-week emergency service from the start of construction work until Substantial Completion of the Works. This service shall in particular ensure immediate action on the following:
  - (i) Replacement or relocation of warning signs, lights and safety items on public roads;
  - (ii) Repair of damaged or inadequate stockproof fencing;
  - (iii) Restoration of water supplies or other services where interrupted or rendered inadequate.
  - (iv) Repair work on any damaged or inadequate temporary works;
  - (v) All repair work associated with working in public thoroughfares.



- 2 The service shall be based locally and be equipped with vehicles, radio communications and equipment and trained personnel so as to be able to deal effectively and promptly with any risk, threat or hazard to persons, livestock or property arising from the Contractor's operations. The Contractor shall be prepared to work with and co-operate with An Garda Síochána, the Local Authority and service utilities in the event of such emergencies.

### 130 Health and the Environment

- 1 The Contractor shall take all necessary precautions to avoid injury to public health, animal health and the surrounding environment. Particular care shall be taken to prevent the discharge of deleterious material to watercourses and streams during road or bridge construction work. The Contractor shall rigorously conform to the provisions of the Local Government (Water Pollution) Act, 1977 and subsequent amendments. The Contractor shall take all necessary precautions on site against the growth of weeds injurious to human or animal health until the expiry of the relevant period of maintenance. He shall be careful not to contaminate any watercourse with the use of weed killers.
- 2 The Contractor shall have regard to the condition of mature trees which do not have to be felled as part of the Works. He shall protect these in an approved manner from damage by moving plant. In the event of accidental damage to tree branches, these shall be sawn back in an approved manner and sealed with an approved compound.

### 131 Public Relations

- 1 The Contractor shall give 14 days' notice to An Garda Síochána, Local Authorities, members of the public and local residents of impending events likely to cause disturbance such as planned temporary disconnection of services, demolition by explosion, prolonged working at nights or at weekends, movements of heavy loads liable to cause traffic congestion or any other planned abnormal occurrence likely to cause disturbance to people in the vicinity of the Works.

### 132 Control of Dust

- 1 The Contractor shall take all necessary steps to control dust caused by construction traffic

to the satisfaction of the Employer's Representative.

- 2 This shall include measures such as:
  - (i) Wetting of haul road and storage areas;
  - (ii) Covering or dousing of any dry, imported or excavated material;
  - (iii) Reducing the duration for stockpiling in fill materials;
  - (iv) Introduction of a wheelwash for construction traffic.

### 133 Protection of Watercourses from Pollution

- 1 The Contractor shall ensure that waste products of whatever description associated with the execution and completion of the Works shall not enter watercourses, whether dry or not, which are adjacent to the execution and completion of the Works.
- 2 The Contractor shall consult and comply with the requirements of relevant authorities in relation to measures to be implemented for the protection of watercourses from pollution in the execution and completion of the Works.

### 134 Protection of Existing Works and Amenities

- 1 Prior to the commencement of the execution of the Works, the Contractor shall provide to the Employer's Representative complete records (photographic or otherwise) of existing structures and other properties that shall or may be affected by the execution and completion of the Works.

### 135 Cleanliness on Completion

- 1 On completion of the Works, the Contractor shall leave the Site and any adjoining property affected by his activities, in a neat and tidy condition to the satisfaction of the Employer's Representative. Carriageway and footway surfaces shall be thoroughly swept and freed from mud and loose chippings. Boundary walls, fences and adjacent properties shall be cleaned of any splashing or dirt which may be attributed to the execution and completion of the Works, and paintwork shall be repaired to the satisfaction of the Employer's

Representative where it has been damaged due to the Contractor's activities.

- 2 Notwithstanding any other provisions of the Contract, any of the Contractor's rubbish, debris, litter, equipment, tools and implements and the like deposited on adjoining property during this Contract shall be removed and the property reinstated as necessary.

### 136 Property Condition Surveys

- 1 The Contractor shall undertake property condition surveys on all buildings and Structures within 50 metres of the extents of the Lands Made Available by the Employer for the Works and where applicable the Lands Made Available by the Contractor for the Works and all other buildings and Structures that the Contractor shall consider appropriate relative to their proximity to the Works. In addition, the Contractor shall also arrange for property condition surveys to be undertaken for all buildings and structures referred to in Appendix 1/9 or Appendix 16/1.
- 2 Such property condition surveys shall be carried out by a qualified Chartered Surveyor or Chartered Structural Engineer.
- 3 The name, relevant qualifications and experience of the Chartered Surveyor or Chartered Structural Engineer that the Contractor intends to use to carry out such surveys shall be submitted for the prior written consent of the Employer's Representative.
- 4 Such property condition surveys shall be carried out in two stages by the Contractor all as the following:
- (i) the first stage shall consist of pre-execution condition surveys including photographic records which shall be carried out prior to the commencement of the execution of the Works. Two copies of the pre-execution condition survey records and reports shall be completed and forwarded to the Employer's Representative in advance of commencing execution of the Works and
  - (ii) the second stage shall consist of post-execution condition surveys including photographic records to be carried out within 4 weeks of the issue of the certificate of Substantial Completion of the Works or any Section.

- 5 The surveys shall record the condition of the existing structure and shall include the following:
- (i) Description of the structure and general condition of all defects recorded.
  - (ii) Length and width of all cracking.
  - (iii) Condition of rendering.
  - (iv) Condition of all fittings and attachments.
  - (v) Condition of surrounding pavements.
  - (vi) Comments on condition from the Chartered Surveyor or Chartered Structural Engineer.
- 6 In case of significant defects and where in the opinion of the Chartered Surveyor or Chartered Structural Engineer tell-tales should be erected by the Contractor, such tell-tales shall be erected by the Contractor and monitored at regular intervals until the completion of the Works by the Contractor.
- 7 Notwithstanding any other provisions of the Contract, two copies of the post-execution condition survey records and reports shall be completed and forwarded to the Employer's Representative within 8 weeks of the issue of the certificate by the Employer's Representative stating that Substantial Completion of the Works or any Section has occurred.
- 8 In respect of all such property condition surveys, the Contractor shall arrange entry to the properties with the property owners. Notwithstanding any other provisions of the Contract, such entry arrangement shall be in writing with a copy of this correspondence issued to the Employer's Representative within 1 day prior to entering the property.
- 9 Notwithstanding any other provisions of the Contract, the Contractor shall provide the property owners with a copy of both the pre-execution start and post-execution completion property condition surveys within 4 weeks of undertaking the relevant survey.
- 10 Notwithstanding any other provisions of the Contract, the Contractor shall consult with and obtain the written agreement of the property owner to the remedial measures proposed to correct any damage caused as a result of the execution and completion of the Works. Prior to the execution of any remedial measures, the Contractor's Proposals in

respect of such shall be submitted to the Employer's Representative for written consent and the work shall be carried out to the satisfaction of the Employer's Representative as soon as shall be practicable.



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