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# DEVELOPMENT CONSTRUCTION SPECIFICATION

C101

**GENERAL** 

# **Amendment Record for this Specification Part**

This Specification is Council's edition of the AUS-SPEC generic specification part and includes Council's primary amendments.

Details are provided below outlining the clauses amended from the Council edition of this AUS-SPEC Specification Part. The clause numbering and context of each clause are preserved. New clauses are added towards the rear of the specification part as special requirements clauses. Project specific additional script is shown in the specification as italic font.

The amendment code indicated below is 'A' for additional script 'M' for modification to script and 'O' for omission of script. An additional code 'P' is included when the amendment is project specific.

Amendment Sequence No.	Key Topic addressed in amendment	Clause No.	Amendment Code	Author Initials	Amendment Date
1	Works-as-executed Drawings "red ink" to boxes"	C101.11	М	JM	19/2/99
2	Protection of the Environment "Local Government Act" replaced with "Environmental Planning and Assessment Act"	C101.14	М	JM	19/2/99
3	Environmental paragraph text added.	C101.14	A,M	NB	24-Jan-06
3	Structures additonal text added	C101.02	A,M	NB	24-Jan-06
3	Additional text added to Drawings section	C101.04	A,M	NB	24-Jan-06

# SPECIFICATION C101: DEVELOPMENT CONSTRUCTION - GENERAL

# PROJECT SPECIFIC INFORMATION

### C101.01 LOCATION AND DESCRIPTION OF PROJECT

# EXAMPLE (TO BE COMPLETED BY COMPILER)

- 1. The Works comprise the construction of a subdivision at North Arm Grove, Dubbo, Lots 16-90, D.P. 2315, in the Parish of Cork, City of Dubbo, NSW.
- 2. The subdivision involves the construction of five roads and the provision of services to 68 residential building sites.
- 3. Access to the subdivision is to be from Hastings Road and Gosford Circuit.

### C101.02 EXTENT OF WORK

1. Works under this Contract comprise the supply of labour, materials and plant to construct the Works. It includes but is not limited to the following items of construction which shall be carried out in their entirety in strict accordance with and to the true intent and purpose of, the Conditions of Contract, these Technical Specifications, the Drawings listed herein, and under the supervision of the Superintendent.

# EXAMPLE (TO BE COMPLETED BY COMPILER)

### (a) General

- Any additional investigation for design and construction;
- Design in accordance with the Contract documents;
- Site establishment;
- Provision for control, protection and safety of traffic during construction including notifications to and obtaining approvals from Authorities;
- Notification of all appropriate property owners adjoining the works, giving relevant notices, obtaining permits, payment of fees; any approvals, licenses and/or permits;
- Setting out the Works;
- Erosion and sedimentation control of the Works, including stockpile areas;
- Site clearing and grubbing. Topsoil to stockpile;
- Site regrading;
- Topsoil spreading and revegetation to disturbed areas;
- Site disestablishment;
- Site rectification;
- Establishment and maintenance of Site-specific Safety Management Plan for the work:
- Establishment and maintenance of Site-specific Environmental Management
- Plan for the work (including erosion and sedimentation control); and
- Establishment and maintenance of Quality System for the work in accordance with the Contract Documents.

### (b) Roadworks

- Earthworks, including excavation and embankment construction.
- Stormwater drainage, including kerb and gutter, pipes, pits and headwalls.
- Sub-surface drainage.
- Pavement, consisting of unbound granular subbase and base, bituminous

primer seal, and asphaltic concrete wearing surface.

- Guardfence.
- Signposting and linemarking.
- Ancillary works, including medians, paved footpath, turfing and landscaping.

## (c) Structures & Bridgeworks

- The demolition and removal of the existing bridge;
- Any necessary clearing and grubbing;
- Design and construction of the new bridge;
- The inclusion of approach slabs, if required;
- Scour and erosion protection of the abutments;
- Retaining walls, if required;
- Scour and erosion protection of the abutments;
- The design and placement of abutment protection as necessary;
- Bridges, comprising driven prestressed concrete piles, prestressed concrete
- Bridge beams, and other components as required;
- Crib retaining wall
- Bridge, single span, comprising driven prestressed concrete piles, prestressed concrete bridge beams, and cast-in-situ reinforced concrete headstocks and deck.

# (d) Provision of Services

- Water supply, including pumping station.
- Sewerage services, including pumping station.

# (e) Work by Others

- Provision of electricity and gas services to the subdivision will be undertaken by the relevant authorities.
- The excluded work will be the responsibility of the Principal and Utility Authorities. Attention is drawn to the Conditions of Contract regarding the obligation of the Contractor to co-ordinate the works with any simultaneous and/or adjacent work by others. The Contractor shall liaise with these Contractors and Authorities to avoid disruption, delays and possible conflict.

# C101.03 SUBSURFACE CONDITIONS

### EXAMPLE (TO BE COMPLETED BY COMPILER)

- 1. A geotechnical investigation was carried out during February 1992 for design purposes. A copy of the report from this geotechnical investigation is available for the information of the Contractor upon request to the Superintendent.
- 2. The Contractor's attention is drawn to the General Conditions of Contract Clause "Site Conditions". The Contractor should make his own assessment of the in-situ moisture content likely to be encountered at the actual time work is to be carried out.

Contractor to Inform Himself

# **GENERAL REQUIREMENTS**

### C101.04 DRAWINGS

1. The Drawings that form part of the Contract Documents are bound in a separate volume.

2. All designs shall be certified by a qualified engineer in accordance with GTCC Aus-Spec DQS as complying with GTCC Aus-Spec and the relevant Australian Standards as applicable. The design certification shall mention the specific Aus-Spec and Australian standards in the certification that the design seeks to comply with. Design qualifications and limitations shall be included in the design certification as applicable eg. maximum live load or design life and others as applicable for the suitable Australian Standard.

### C101.05 STANDARDS AND TEST METHODS

1. Unless otherwise specified in the Contract, and where applicable, materials and workmanship shall be in accordance with the relevant standard of the Standards Association of Australia.

Australian Standards

- 2. A standard applicable to the Works shall be the edition last published 14 days prior to the closing date for tenders unless otherwise specified.
- 3. Overseas standards and other standard documents named in the Specification shall be applicable in the same manner as Australian Standards to relevant materials and workmanship.

Overseas Standards

4. Copies of any standards quoted or referred to in the Specification shall be kept on the site if so specified.

Copies to be kept on Site

5. Where no suitable AS test methods are available, those of the relevant State Road Authority shall be used. These are designated T123 etc.

Other Test Methods

### C101.06 TESTING AND SURVEY

1. All testing and survey as required by the Technical Specifications shall be arranged and carried out by the Contractor and all test results and survey records made available to the Superintendent and Council. The cost of all such testing and survey shall be borne by the Contractor.

Contractor's Cost

2. The minimum frequency of testing and survey shall be in accordance with either the Specification for QUALITY SYSTEM REQUIREMENTS or QUALITY CONTROL REQUIREMENTS as appropriate for quality assurance or quality control contracts respectively. The appropriate requirements for this Contract are cited on the Form of Tender.

Minimum Frequency

# C101.07 WORKING AREAS

1. The Principal will not be responsible for the safe-keeping of any of the Contractor's plant, equipment, tools, materials or other property. The Contractor may provide, and pay for, any security fencing considered necessary around any office, workshop or storage area, subject to the Superintendent's approval.

Security

2. If existing fencing is cut or altered by the Contractor, the Contractor shall provide and maintain temporary fencing to the satisfaction of the Superintendent during the Contract to prevent unauthorised entry into the property, and shall reinstate the fencing and remove temporary fencing on completion of the work.

Temporary Fencing

### C101.08 SMOOTH JUNCTIONS

1. Construction work carried out under this Contract adjacent to or adjoining existing works, shall make smooth junctions with the existing work.

### C101.09 SETTING OUT THE WORKS

1. The Superintendent will provide Permanent Marks as shown on the Drawings. The Superintendent will also establish bench marks related to the level datum.

Provision of Marks

2. Before any of the given survey marks on the base lines or the various control lines are affected by the works, the Contractor shall transfer such survey marks to side positions clear of operations and shall note, and inform the Superintendent in writing, of the extent of such movement.

Transfer of Marks

3. The Contractor shall give the Superintendent not less than two full working days' notice of the intention to perform any portion of the relocation of survey control, establishment of recovery pegs, or setting out or levelling, so that suitable arrangements can be made for checking of the work by the Superintendent. If no such notification is given and a control mark is disturbed or destroyed, then the cost of re-establishing the control shall be borne by the Contractor.

Notice for Relocation

Contractor's Cost

4. The Contractor shall provide and fix adequate recovery pegs in suitable locations adjacent to the elements of work to enable location and construction to be checked.

Recovery Pegs

5. All pegs and profiles placed by the Contractor shall be removed on completion of work unless otherwise directed by the Superintendent.

Removal

### C101.10 SITE MEETINGS

1. Regular site meetings will be held for the purpose of discussion of the progress and co-ordination of the work under the Contract and any matters of doubt regarding the intent or interpretation of the Drawings or the Specification. The Contractor shall arrange for relevant sub-contractors or their responsible representatives to be present at these meetings. The meetings will be held at a time nominated by the Superintendent.

Representation

2. The Superintendent shall also give Council 48 hours notice of the date, time and location of the meetings. A Council representative may attend these meetings.

Advice to Council

3. The Superintendent or Superintendent's Representative shall chair site meetings, keep minutes of the proceedings and shall provide copies of the minutes for the Contractor, all present at the meeting and others concerned with the matters discussed.

Responsibility for Minutes

### C101.11 WORK-AS-EXECUTED DRAWINGS

1. The Contractor shall supply the Superintendent with fully marked-up and certified Work-as-Executed Drawings for the whole of the Contract prior to issue of the Final Certificate. Prints or reproducibles of the Contract Drawings will be supplied by the Principal free of charge for this purpose.

Submission

2. Work-as-Executed Drawings for Roadworks shall show in boxes all changes to the Contract Drawings and actual values of all levels shown on the Drawings. The Drawings shall be signed by a Surveyor and certified by the Contractor.

Roadworks

3. Work-as-Executed Drawings for Bridgeworks shall show in boxes all changes to the Contract Drawings, including variations to levels, dimensions, concrete, reinforcement, prestressing and other materials, all non-conformances accepted without rectification, suppliers and model numbers of bearings and proprietary joints and type of barrier railings installed where both steel and aluminium alternatives are detailed. The Drawings shall be certified by the Contractor.

**Bridgeworks** 

### C101.12 ITEMS TO BE SUPPLIED BY THE PRINCIPAL

1. Items listed in the Schedule of Items to be supplied by the Principal (TBS Items) will be supplied and delivered free on truck by the Principal free of cost to the Contractor at points to be nominated. The Contractor shall give the Superintendent notice of the time he requires delivery of TBS Items in accordance with the Requirements of the Technical Specification or as specified below.

Delivery

2. If any TBS Item is found to be damaged or defective the Contractor shall so inform the Superintendent within 2 days of taking delivery of such item. If the Contractor does not report damage or defect, it shall be deemed that the TBS Item was free from damage or defect when received. The Contractor shall then be responsible for any replacement or making good as may be directed by the Superintendent.

Damage or Defect

3. The Contractor shall be responsible for the storage, protection and insurance of all TBS Items received.

Contractor's Responsibility

# C101.13 SCHEDULE RATES

1. Requirements in respect of all matters specified in this General Specification shall be considered as incidental to the Works and no separate Rates shall be provided in the Schedule in respect thereof.

No Separate Rates

# **ENVIRONMENTAL REQUIREMENTS**

### C101.14 PROTECTION OF THE ENVIRONMENT

1. All work shall be carried out in such a manner as to avoid nuisance and/or damage to the environment. The Contractor shall comply with the requirements of the conditions of approval imposed by Greater Taree City Council, the Environment Protection Authority, the Clean Waters Act, the Clean Air Act, the Noise Control Act, the Bushfire Act, the Protection of the Environment Operations Act (POEO) and all other Acts as identified within the Contractors Environmental Management Plan, the REF, or by Law. No variation in costs or extensions of time will be considered due to these requirements.

Conformance to Acts

2. The Contractor shall plan and carry out the Works to avoid erosion, contamination and sedimentation of the site and its surroundings.

**Erosion Control** 

3. Herbicides and other toxic chemicals shall not be used on the site without the prior written approval of the Superintendent.

Herbicides and Toxic Chemicals

4. No noise or smoke or other nuisance, which in the opinion of the Superintendent is unnecessary or excessive shall be permitted by the Contractor in the performance of the Works under this Contract. Should work outside customary working hours be approved, the Contractor shall not use, during such period, any plant, machinery or equipment which in the opinion of the Superintendent is causing or is likely to cause a nuisance to the public. No noisy works and/or works likely to disturb nearby residents shall be undertaken during the hours precluding such activity as specified by Council in accordance with the requirements for development consent and building approval made under the Environmental Planning and Assessment Act and the Noise Control Act.

Noise, Smoke or Other Nuisances

5. The Contractor shall ensure that fugitive dust from disturbed areas is minimised by a method approved by the Superintendent.

**Dust Control** 

### C101.15 DRAINAGE OF WORKS

1. The control and management of stormwater drainage through the site will be important during construction of the Works.

Stormwater Control

2. The Contractor shall provide for the effectual diversion of surface water from the Works and provide and ensure proper flushing for storm and subsoil water across and beyond the Works at all times. The flow of stormwater and drainage along existing gutters and water tables shall not be interrupted.

Stormwater Diversion

3. The Contractor shall provide efficient pumping equipment on site and shall keep trenches and excavations dewatered at all times during construction.

**Pumping** 

4. All permanent retention basins, and temporary erosion and sedimentation control shall be completed prior to commencement of earthworks.

### C101.16 BLASTING

1. Blasting will not be permitted without the specific approval of the Council. If such approval is given then blasting shall be carried out strictly in accordance with the Specification - EARTHWORKS.

### C101.17 LIMITS ON NOISE

1. The Contractor shall only use plant that have effective residential class silencers fitted to all engine exhaust, have engine covers fitted, are maintained in good order, and in addition meet the following requirements.

Plant with Silencers

- (a) On purchase have met the NAASRA Specification for Noise levels of plant and equipment, or
- (b) Have a Maximum Noise level (L<sub>AMAX</sub>) less than 80 dB(A) when measured at a distance of 7 metres.
- 2. Notwithstanding the requirements contained in the General Conditions of Contract, operational hours of plant, including the entry and/or departure of heavy vehicles, shall be restricted to 7 a.m. to 5 p.m. Monday to Saturday and at no times on Sundays or public holidays. Work outside of the hours specified shall not be undertaken without the prior approval of the Superintendent.

**Working Hours** 

3. Notwithstanding noise emission limits on plant, noise emanating from the construction site when measured at any noise sensitive location (such as a residential premise), as determined by the Environment Protection Authority shall not exceed an L10 sound pressure level (noise level exceeded for 10% of the sample time) the greater of:

Maximum Noise Levels

- (a) Short term (period of up to 1 month) 65dBA or 20dBA above ambient
- (b) Medium term (period of 1 month up to 6 months) 55dBA or 10dBA above ambient
- (c) Long term (any period of more than 6 months) 50dBA or 5dBA above ambient
- 4. The monitoring positions and time period for monitoring purposes shall be set by the EPA with the time period generally based on a series of 10 to 15 minute measurements which shall be averaged over the entire daily working period for the activity concerned.

Monitoring

5. The Contractor will be responsible for any damage and compensation payments as a result of non observance of the above requirements. No claim by the Contractor arising out of these requirements will be considered by the Principal.

Contractor's Responsibility

# C101.18 LIMITS ON GROUND VIBRATION

1. It is the intent of this Specification that ground vibration levels, transmitted from operating items of plant in the vicinity of residential premises shall not exceed levels that are close to the lower level of human perception inside the premise nor will cause structural damage to the building.

Levels

2. Vibration (RMS Z-Axis) generated by construction works shall not exceed

Limits

Curve 4 - for the period of 1 month or less

Curve 2 - for the period of more than 1 month

as defined in British Standard BS6472 "Evaluation of Human Exposure to Vibration in Buildings (1 HZ to 80 HZ)" when measured inside nearby residential premises.

3. Ground vibrations generated by construction works shall not exceed a peak particle velocity ( $V_R$  max) limit of 5 mm/sec when measured within one metre of any residential premise.

Peak Particle Velocity

4. The Contractor shall be responsible for any damage and compensation payments as a result of non-observance of the above requirements. No claim by the Contractor will be considered by the Principal.

Contractor's Responsibility

### SPECIAL REQUIREMENTS

### C101.19 DESIGN REQUIREMENTS

- 1. All design work shall be carried out by suitably qualified engineers with experience in the design of the appropriate structures/roads.
- 2. All design must comply with the current edition of the Greater Taree City Council's Ausspec document.

# C101.20 OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS

Contractor Requirements

The contractor shall, as a minimum requirement, maintain and demonstrate compliance with:

- (a) All the duties of an employer and occupier as specified in the Occupational Health and Safety Act (2000) and its associated regulation, and,
- (b) The requirements of the NSW Government OHS&R Management Systems guidelines.
- (c) Comply with all occupational health and safety policies, procedures or measures implemented or adopted by the Principal and/or the occupiers of any premises at or within which you will perform works under this Contract. In the event of any inconsistency, comply with such procedures or measures that produce the higher level of health and safety.
- (d) Comply with any and all directions of the Principal relating to this Specification.
- 2. Responsibility to Employees, Sub contractors and Members of the Public

You and your subcontractors must at all times identify and exercise all necessary precautions for the health and safety of all persons, including your employees and any sub contractors and agents engaged by you, the Council's employees and members of the public who may be affected by services under this Contract.

### 3. Compliance

Comply with and ensure that your employees, sub contractors and agents comply with any Acts, regulations, local laws and by-laws, Codes of Practice, Australian Standards and the RTA's policy and procedures which are in any way applicable to this contract or the performance of services under this Contract.

It is a requirement under the Occupational Health and Safety Act (2000) to ensure the health, safety and welfare at work of employees, and of anyone else who may be present at a work site. This responsibility arises from sections 8, 9, and 10 of the Act. This means that all personnel must take sufficient steps to provide a working environment that is safe and without risk to health.

### 4. Project OHS&R Management Plans

Under NSW Government OHS&R Management System Guidelines, before commencing works, develop and document a Project OHS&R Management Plan incorporating site specific Safety Management Plans and Safe Work Method Statements which must adequately address all OHS&R issues particular to the site.

Three copies of the Project OHS&R Management Plan must be submitted and must include:

- (a) A documented risk assessment and risk control plan, completed in accordance with the requirements of AS4360.
- (b) Safe work method statements for all activities assessed as having a health and safety risk and/or high-risk construction activities as listed in Chapter 8, OHS Regulation 2001.
- (c) Site safety rules.
- (d) Statement of occupational health and safety responsibilities for the site.
- (e) Occupational health and safety training, including induction training, for safe work
- (f) OHS consultation arrangements for the site.

The Project OHS&R Management Plan may be submitted progressively to suit construction stages.

Irrespective of how the Project OHS&R Management Plan is submitted it must be made available to employees working at the site during construction of the relevant stage. The Principal will assess the above documents for completeness and compliance with Council requirements prior to authorising the commencement of the Work Under the Contract.

The Principal may require corrective action be implemented prior to authorising commencement of work, or may allow commencement, conditional on the corrective actions being satisfactorily implemented. An activity subject to corrective action must not commence prior to the corrective action being undertaken.

The decision to authorise commencement of works, or to require corrective action to be taken, is solely at the discretion of the Principal and/or its authorised representatives, and will be based on an assessment of whether your plans satisfy relevant requirements set out in the the requirements of this Specification.

### C101.21 ENVIRONMENTAL MANAGEMENT PLAN REQUIREMENTS

The Contractor shall prepare the Contractor's Environmental Management Plan (CEMP) for the Works Under the Contract. The CEMP must cover the environmental protection practices, resources and sequence of activities required to comply with all the

requirements of relevant environmental legislation, conditions of any applicable licence, approval and permit and this Specification.

- (a) Assignment of responsibility for planning, approving, implementing, maintaining, assessing and monitoring of any proposed environmental controls, as required;
- (b) Copies of approvals, licences and permits to meet statutory requirements, as required;
- (c) Details of the potential environmental impacts and the operational control measures which are to be implemented to comply with statutory requirements and provide environmental protection in accordance with the requirements of the Contract, as required;
- (d) Details of how the environment will be protected for each subcontractor's activities, including full details in accordance with (b) and (c) above, as required;
- (e) Environmental monitoring program and report forms for recording all monitoring activities, including periodic inspections and inspections essential for monitoring high risk events, of the adequacy of operational controls together with measurements for aspects where compliance limits have been specified, *as required*;
- (f) Locations of environmental controls and environmentally sensitive areas, with particular reference to how the effectiveness of such controls will be ensured in any environmentally sensitive, as required;
- (g) Supplementary plans for environmental protection and operational control (including, if specified, Erosion and Sedimentation Control Plan, Soil and Water Management Plan, Noise Management Plan, Waste Management Plan, Vegetation Management Plan, Contaminated Land Management Plan and a Vibration and Air Blast Management Plan, as required;
- (h) How nonconformance control, corrective and preventive actions will be implemented and closed out;
- (i) Communication procedures;
- (j) Emergency response procedures for containing environmental damage and Procedures for planning restoration activities;
- (k) Authorised personnel and procedure for changing and issuing the CEMP;
- (I) Details of how the changes to the environmental management documentation and data are to be identified and communicated to relevant project personnel;
- (m) Proposed mechanism for regular evaluation of environmental performance; and
- (n) Environmental auditing program, if required.

The CEMP must identify potential adverse environmental effects, applicable regulatory requirements and/or compliance limits for the physical, human and biological environment. Appropriate environmental protection measures must be documented to keep environmental effects within compliance limits and must show the person responsible for implementation in each case.

Three distinct phases of activity must be addressed, as appropriate:

- (i) Before construction and site establishment;
- (ii) During construction; and
- (iii) After construction (including rehabilitation activities and maintenance of erosion and sedimentation controls).

# **SPECIFICATION C101 - GENERAL**

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