



**Engineering  
Standards / Specifications  
and  
Planning Guidelines  
Part Two – Construction**

**Adopted 14 July 2010  
Effective 21 July 2010**



**DEVELOPMENT  
CONSTRUCTION  
SPECIFICATION**

**C101**

**GENERAL**



## SPECIFICATION C101 - GENERAL

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**SPECIFICATION C101 : DEVELOPMENT CONSTRUCTION - GENERAL****PROJECT SPECIFIC INFORMATION****C101.01 NOT USED****C101.02 SCHEDULE OF WORKS**

1. A minimum of seven (7) days prior to commencement of any work on the site, the Developer is to provide a Schedule of Works to Council's Development Engineer for written concurrence. The Schedule of Works is to show the logical commencement order of each work activity to be undertaken and 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 these Technical Specifications, the Drawings, and in accordance with any directions from Council's Development Engineer.

**EXAMPLE (TO BE COMPLETED FOR EACH SPECIFIC PROJECT)****(a) General**

- *Provision for control, protection and safety of traffic during construction including notifications to and obtaining approvals from Authorities.*
- *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.*

**(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.*
- *Guardrail.*
- *Signposting and linemarking.*
- *Ancillary works, including medians, paved footpath, turfing and landscaping.*

**(c) Structures**

- *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**

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- *Provision of electricity and gas services and the like to the subdivision by the relevant authorities will be the responsibility of the Developers.*

**C101.03 NOT USED**

**GENERAL REQUIREMENTS**

**C101.04 NOT USED**

**C101.05 STANDARDS AND TEST METHODS**

1. Unless otherwise specified herein, 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 issue of the Construction Certificate unless otherwise specified.
3. Overseas standards and other standard documents named in this Development 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 this Development Specification shall be kept on the site. **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 typically designated T123 etc. **Other Test Methods**

**C101.06 TESTING AND SURVEY**

1. All testing and survey as required by this Development Specification shall be arranged and carried out by the Developer and all test results and survey records made available to Council's Development Engineer. The cost of all such testing, survey and report preparation shall be borne by the Developer. **Developer's Cost**
2. The minimum frequency of testing and survey shall be in accordance with Annexure CQS-C. **Minimum Frequency**

**C101.07 WORKING AREAS**

1. Not Used
2. If existing fencing is cut or altered by the Developer, the Developer shall provide and maintain temporary fencing to the satisfaction of Council's Development Engineer to maintain security during the works, 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 development adjacent to, or adjoining existing private property or Council infrastructure or works, shall make smooth junctions with that which is existing.

**C101.09 SETTING OUT THE WORKS**

1. The Developer will establish bench marks related to Australian Height Datum. **Provision of Marks**



2. Before any survey marks are affected by the works, the Developer shall transfer such survey marks to side positions clear of operations and shall note, and inform Council's Development Engineer in writing, of the extent of such movement. Council's Development Engineer has the discretion to waive the requirement for the provision of written advice on a case-by-case basis. **Transfer of Marks**
3. The Developer shall give Council's Development Engineer 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 Council's Development Engineer. 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 Developer. **Notice for Relocation**  
**Developer's Cost**
4. The Developer 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 Developer shall be removed on completion of work unless otherwise directed by Council's Development Engineer. **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 and any matters of doubt regarding the intent or interpretation of the Drawings or the Development Specification. The Developer shall arrange for relevant parties or their responsible representatives to be present at these meetings. The meetings will be held at a mutually convenient time in consultation with Council's Development Engineer. **Representation**
2. The Developer shall also give Council's Development Engineer 48 hours notice of the date, time and location of any meetings. **Advice to Council**
3. The Council's Development Engineer or a representative shall chair site meetings. The Developer shall keep minutes of the proceedings and shall provide copies of the minutes for Council and all others present at the meeting and others concerned with the matters discussed. **Responsibility for Minutes**

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

1. The Developer shall supply Council's Development Engineer with fully marked-up and certified Work-as-Executed Drawings for the whole of the works prior to issue of the Subdivision or Occupation Certificate. The Developer will supply, free of charge, prints or reproducibles of the Drawings for this purpose. **Submission**
2. Work-as-Executed Drawings for Roadworks shall show in red ink all changes to the approved Drawings and actual values of all levels shown on the Drawings. The Drawings shall be certified by a Civil Engineer or Surveyor and by the Developer's construction contractor(s). **Roadworks**
3. Work-as-Executed Drawings for Bridgeworks and other structural works shall show in red ink all changes to the approved 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/or aluminium alternatives are detailed. The Drawings shall be certified by a practising Structural Engineer and by the Developer's construction contractor(s). **Bridgeworks & Structural Works**

#### **C101.12 ITEMS TO BE SUPPLIED BY THE COUNCIL**

1. Items to be supplied by the Council (TBS Items) will be supplied and delivered free on truck by the Council free of cost to the Developer at points to be nominated. **Delivery**

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Developer shall give Council's Development Engineer a minimum of two weeks notice of the time he requires delivery of TBS Items in accordance with the requirements of the Development Specification or as specified below.

2. If any TBS Item is found to be damaged or defective the Developer shall so inform Council's Development Engineer within 24 hours of taking delivery of such item. If the Developer does not report damage or defect, it shall be deemed that the TBS Item was free from damage or defect when received. The Developer shall then be responsible for any replacement or making good as may be directed by Council's Development Engineer.

*Damage or Defect*

3. The Developer shall be responsible for the storage, protection and insurance of all TBS Items from the time of receipt.

*Developer's Responsibility*

### C101.13 NOT USED

## 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 Developer and all parties involved in the construction of the development shall comply with the requirements of the conditions of approval imposed by Wingecarribee Shire Council, the Environment Protection Authority, the Protection of the Environment (Operations) Act, the Noise Control Act, the Bushfire Act and any other relevant legislation.

*Conformance to Acts*

2. The Developer shall plan and carry out the Works to avoid erosion, contamination and sedimentation of the site and its surroundings including maintenance of all erosion and sediment control devices/structures.

*Erosion Control*

3. Herbicides and other toxic chemicals shall not be used on the site without the prior written approval of Council's Development Engineer.

*Herbicides and Toxic Chemicals*

4. No noise or smoke or other nuisance, which in the opinion of Council's Development Engineer is unnecessary or excessive shall be permitted in the construction of the development. Should work outside customary working hours be approved, the Developer shall not use, during such period, any plant, machinery or equipment, which in the opinion of Council's Development Engineer 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/or building approval made under the Local Government Act and the Noise Control Act.

*Noise, Smoke or Other Nuisances*

5. The Developer shall ensure that dust originating from the development is controlled to meet the requirements of the Protection of the Environment (Operations) Act.

*Dust Control*

### C101.15 DRAINAGE OF WORKS

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

*Stormwater Control*

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

*Stormwater Diversion*

3. The Developer 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 any other ground disturbance including tree and/or stump removal and stripping of topsoil prior to 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 – C213 – EARTHWORKS.

#### **C101.17 LIMITS ON NOISE**

1. The Developer 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 ( $L_{MAX}$ ) less than 80 dB(A) when measured at a distance of 7 metres.

2. 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 Friday and 8 am to 1 pm Saturday and at no times on Sundays or public holidays. Work outside of the hours specified shall not be undertaken without the prior written approval of Council's Development Engineer.

***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 Developer will be responsible for any damage and compensation payments as a result of non-observance of the above requirements. The Council will not consider any claim by the Developer arising out of these requirements.

***Developer's Responsibility***

#### **C101.18 LIMITS ON GROUND VIBRATION**

1. It is the intent of this Development 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

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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 Developer shall be responsible for any damage and compensation payments as a result of non-observance of the above requirements. The Council will not consider any claim by the Developer.

**Developer's Responsibility**