

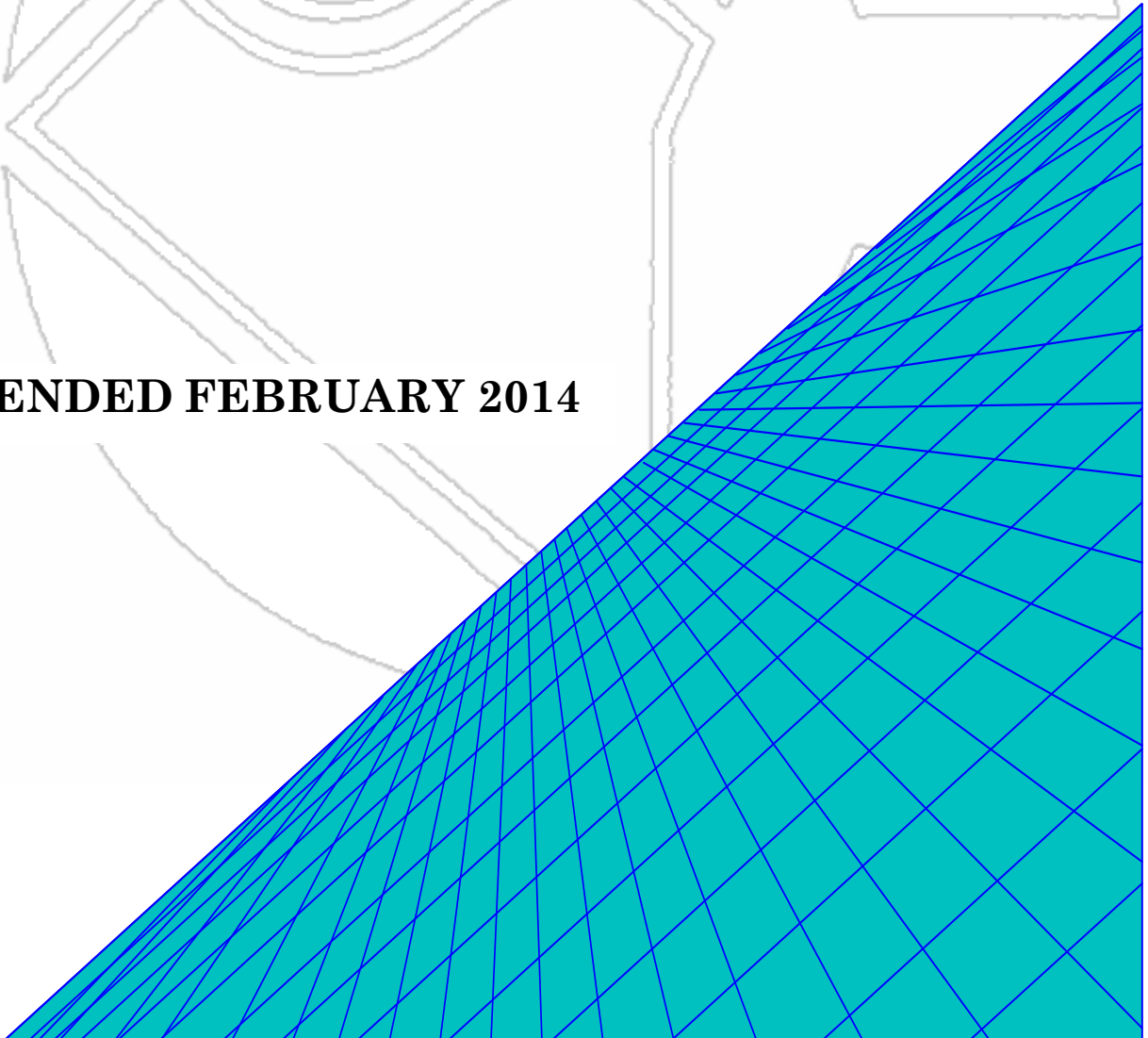


City of Canning

Engineering and Technical Services

STANDARD SPECIFICATIONS
For Subdivisional Development

AMENDED FEBRUARY 2014



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Requirements for Subdivision Development

AMENDED – AUGUST 2012

1. DEVELOPMENT REQUIREMENTS
2. CONTROL AND SUPERVISION OF CONSTRUCTION
3. PRACTICAL COMPLETION OF SUBDIVISIONAL WORKS
4. SURVEY RELEASE
5. BONDING OF OUTSTANDING WORKS
6. MAINTENANCE CLEARANCE



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1. DEVELOPMENT REQUIREMENTS

- 1.1 Where proposals for the subdivision of land in a district include the provision of streets for use by the public, and the proposals have been approved, the owner of the land shall not dispose of it, or part of it, or an estate or interest in it, until he has caused these streets to be constructed and drained to the satisfaction of Council (Section 295, 4A Local Government Miscellaneous Provisions Act 1960).
- 1.2 Any road and/or drains required to be constructed under the above section of the Local Government Miscellaneous Provisions Act, shall be constructed to Council's specifications. It should be noted that this specification deals principally with materials and methods of construction and design and except with addition of legal and administrative clauses, should not be used as a basis for a contract for the construction work. It is not a complete specification but merely a guide to the standard of work and design required before a road will be certified to the Department of Planning and Urban Development (DPUD) as having been made to the satisfaction of the Council. The decision of the Council's Engineer in this regard shall be finally binding and conclusive on all parties.
- 1.3 The word "Council's Engineer" or "Engineer" means and refers to the City of Canning's City Engineer.
- The word "City" means and refers to the City of Canning.
- 1.4 Local Government Miscellaneous Provisions Act 1960, Section 295(6) reads as follows :
- a) Where a person who is subdividing land is by the provisions of this part required to construct and drain streets shown in the plan of subdivision he may :-
 - i) carry out or cause to be carried out the construction and drainage at his own cost and expense; or
 - ii) arrange for the Council to carry out the work on his behalf and at his cost and expense.
 - b) Where the person does not make the arrangement with Council, he shall pay to it, on demand, an amount to cover the reasonable costs of the Council in supervising the construction and drainage which amount shall be reckoned as follows :-
 - i) where the person has not engaged a consulting engineer and clerk of works to design and supervise the construction and drainage the amount shall be three percentum (3%) of the cost of the construction and drainage as estimated by the Council;
 - ii) where the person has employed a consulting engineer and clerk of works to design and supervise the construction and drainage the amount shall be one and one half percentum (1½%) of the cost of the construction and drainage as estimated by the Council.
 - c) The Council may require the person to employ a consulting engineer and clerk of works to design and supervise the construction and drainage and that person shall, when required to do so by Council, carry out the requirement."
- 1.5 It should be noted that where a Consulting Engineer has been employed but the Council is required to liaise directly with the Contractor to remedy problems during construction, the cost for supervision shall be increased to three percentum (3%) of the cost of the road construction and drainage as estimated by the Council.

1.6 Earthworks (Council Policy)

Where land, proposed to be subdivided, is the subject of suspect fill, peat, clay, or where there is concern regarding the water table, the City requires a Geotechnical report to certify that the land is suitable for the proposed development of the land, eg residential, industrial, etc. This report is to be submitted prior to approval of subdivisional design plans in order that any earthworks, including excavation, filling and compaction can be covered by the design plans and specifications.

The Geotechnical report is to be prepared by a mutually appointed Consultant from this list;

Company	Phone	Contact
Coffey Geotechnics Pty Ltd	(08) 9347 0000	David Fulsham
Golder Associates Pty Ltd	(08) 9213 7600	Doug Stewart
Stats Pty Ltd	(08) 94553654	Aiden Seck
ATC Williams Pty Ltd	(08) 9355 8700	Phil Band
SGS - Western Geotechnics Pty Ltd	1300 781 744 0429 658 546	Kristian Novatsis kristian.novatsis@sgs.com
Parsons Brinckerhoff Pty Ltd	(08) 9489 9700	Paul Hutchinson
Structerre Consulting Chartered Engineers	(08) 9205 4520	Melvyn Castle
Douglas Partners Pty Ltd	(08) 9204 3511	Fred Verheyde
Galt Geotechnics	(08) 6272 0200	Owen Woodland
Prompt Certification	(08) 7324 7130	Michael Young
RSA Consulting Engineers	(08) 9317 3331	Robin Salter
Local Geotechnics	0425 545 508 or 0413 815 899	Dr. Harun Meer admin@localgeotechnics.com.au
Optimum Engineering Consultants	0457 856 134 0424 239 770	Santiago Abueva, JR. Gerald Abueva Optimumengconsultants@gmail.com

and is required to

- (i) Identify the substrata and its classification;
- (ii) Recommend remedial measures to have the site reclassified as Class A or Class S in accordance with AS 2870 -1996 (Amended);
- (iii) Determine the water table level for the site;
- (iv) Recommend measures for the disposal of stormwater either onsite or via a comprehensive subsoil drainage network.
- (v) Supervise the remedial work and certify that the works have been undertaken in accordance with the recommendations of the Geotechnical Report, and the foundation material is capable of an allowable bearing pressure of 100kpa;

1.7 The requirements as laid down in the City's Specifications for the Design and Construction of Roads and Stormwater Drainage shall be complied with and the drawings and specifications approved by the Council, prior to the commencement of any work in the subdivision. It is recommended that consultation with the City's engineering department occurs in the early stages of subdivisional design so that work can progress towards achieving a safe and functional road, drainage and footpath layout that is to the satisfaction of the City Engineer.

1.8 Prior to site works commencing, the potential dust risk of the site is to be assessed in accordance with the "Land development sites and impacts on air quality – Department of Environmental Protection, November 1996". The assessment is to form part of the subdivision submission to the Council.

- 1.9 The construction work shall be carried out in accordance with the approved drawings and specifications, and will be subject to stage inspection and approval by the Engineer or his representative during the course of construction. Final approval shall only be given when the whole of the works shown on the plan of subdivision submitted for clearance have been executed to the true intent and meaning of the approved specification and to the satisfaction of the Engineer.

The Council shall notify the DPUD that the conditions of subdivision relating to road construction have been complied with and that the Diagram of Survey has been cleared.

- 1.10 From the date of registration of the Diagrams of Survey by the DPUD and the Office of Titles, any land delineated and shown as a new road on such diagrams shall be under the control of Council.
- 1.11 Public Road Intersections. Where a planned subdivision shows the joining of a subdivisional road with an existing public road, then the subdivisional road shall be so constructed as to connect the public roadway.
- 1.12 Where footpaths and / or paving of Public Access Ways is required as a condition of subdivision, a non refundable bond shall be paid to Council for construction by Council at a future date.
- 1.13 It should be noted that Council Policy is that any road, path or drainage works associated with a planned subdivision, within a gazetted road reserve shall be carried out by the Council at the developers cost, unless otherwise approved. This includes all reinstatements associated with Sewer Works. In such instances the developer is required to pay the Councils estimated cost of the works in advance and agree to pay the actual costs on completion of the works.

Where sewer or water supply works are to be undertaken, within gazetted road reserves, formal application and approval for permission to work within the road reserve is required.

1.14 Submissions To The City

(a) Submission of Design Calculations and Plans

Drainage design calculations and two (2) copies of the plans and specifications shall be submitted to the City for approval.

One copy of the plans and specifications will be returned to the developer with any comments and variations indicated thereon.

Three (3) further copies of the amended plans and two (2) copies of the amended specifications shall then be submitted for approval.

Once the Engineer has approved, stamped and signed these documents, one copy of each shall be returned. The documents shall be the ones used throughout the Contract and variations shall not be permitted without prior approval of the City Engineer.

(b) Submission of Quantities and Rates

The developer shall supply full details of quantities and rates used to determine the cost of construction.

This information will assist the City in calculating the supervision fees as set out in Section 1.4.

The supervision fee shall be paid to the City at least seven days prior to the works commencing.

2. CONTROL AND SUPERVISION OF CONSTRUCTION

2.1 Stages Of Construction

The following are the main stages of construction:

- a) Subgrade preparation including clearing, grubbing, leveling and any other preparatory earthworks.
- b) Placement and preparation of sub-base material including pegging of approved grading and cross sectional levels, widths etc. and the placement of service ducts.
- c) Placement and preparation of road base material.
- d) Drainage.
- e) Final grading, trimming and waterbinding.
- f) Primer seal and kerbing.
- g) Placement and preparation of final surface treatment.
- h) Verge backfill behind kerb, construction of footpaths and final trimming of verges and batters. The installation of street signs, name plates and verge furniture including fencing and stabilization as required.
- i) Earthworks/Recontouring of blocks and spreading of topsoil.

2.2 Supervision Requirements

- a) At the Engineer's request, a certificate endorsed by the Consultant shall be submitted to the Engineer certifying quantities of materials used in accordance with approved plans and specifications for any of the main stages of construction.
- b) One working day (24 hours) notice is required so that an inspection can be made prior to the next or following stage of construction being commenced.
- c) The second or following stage of construction shall not proceed until the Engineer or his representative has approved the previous stage of construction. Notwithstanding this requirement it will be taken that the Consultant has inspected each stage of construction to ensure that workmanship and materials conform with approved specifications and drawings.
- d) The Engineer or his representative reserves the right to inspect and take samples of materials being used, and test or ascertain quantity and quality of materials being placed in the road construction work at any time.

The Consultants will be informed by the City of any matters requiring remedial attention. Such requests shall be attended to immediately.

- e) When works are in progress, the Contractor shall, at all times, be personally present or have a competent foreman stationed and present on the works. A representative of the Consultants shall be available at the Engineer's request for the purpose of joint interim inspection where deemed necessary by the Engineer.

2.3 Testing Requirements

Attention is drawn to the City's requirements for pavement testing as detailed in the City of Canning - General Conditions and Specifications for Construction of Subdivisional Roads and Drainage.

The Consultant shall make available to the Engineer, all test results related to the subdivisional works. Testing shall be carried out by a NATA approved testing laboratory to the satisfaction of the Engineer. Where testing of a first or preceding stage of construction is requested by the Engineer, then no second or following stage of work shall proceed until approval to proceed is granted by the Engineer.

2.4 Notification of Works

The Engineer must be advised two (2) working days before commencing work, and after a cessation of work, one day before recommencing work.

2.5 Occupational Health, Safety and Welfare

The Contractor's attention is drawn to the Occupational Health, Safety and Welfare Act 1984, the amendment 1987 and the Regulations 1988. Attention is also drawn to the noise limitations as outlined in the Noise Abatement Act.

3. **PRACTICAL COMPLETION OF SUBDIVISIONAL WORKS**

3.1 Upon the satisfactory completion of all subdivisional works associated with the Council's supervision, including survey lot pegging and stabilization, the Consultant shall notify the Council in writing that the works have been inspected and are in accordance with required standards. Upon receipt of this notification, "as constructed" drawings of the drainage and road networks (Section 4.7), the Engineer shall arrange a Practical Completion Inspection of the completed works as and when suitable to the Engineer.

3.2 Any such inspection shall require the presence of representatives of the Engineer and a representative of the Consultant. At the inspection the Engineer reserves the right to request a water flow test along the gutters.

3.3 At the time of the Practical Completion inspection or any time within the maintenance period, the Engineer shall inform the Consultant of any item not in accordance with the specification. Any such items so indicated shall be rectified in accordance with the Engineer's requirements and a further inspection of these completed works shall be deemed to be a continuation of the Practical Completion inspection.

3.4 When all subdivisional works are completed to the Engineer's satisfaction, the Consultant shall be notified of the Practical Completion date. If at any time after the granting of Practical Completion, the subdivisional work is found to be contrary to City's requirements, then the Contractor shall rectify the works at his cost. Minor items may be undertaken at the completion of the 12 months maintenance period.

4. SURVEY RELEASE

The Consultant Engineer shall satisfy Council that the Developer has complied with all relevant conditions imposed by the State Planning Commission pertaining to survey release of all of a constructed subdivision.

The following items refer to the Engineering Conditions that must be completed by the Developer prior to the Engineer's approval of Survey Release of subdivision.

- 4.1 Creation or location of all stormwater drainage easements or indication of such easements on the plans or diagrams of survey.
- 4.2 Creation of any other easements (temporary or permanent) which are relevant to the subdivision.
- 4.3 Creation of all Reserves (including drainage and recreation) pertaining to the subdivisional works.
- 4.4 Payment of all moneys required to be paid to the City in consideration of construction of footpaths, footways or any other unfinished works associated with the subdivision that is to be carried out by the City's workforce.
- 4.5 Stabilization of topsoil, sand or other material or matter subject to movement over or near the subdivision shall be completed to the satisfaction of the Engineer. Where initial stabilization is carried out and subsequent works associated with the conditions of subdivisional approvals causes deterioration of effective stabilization of the area, then the area so affected shall be re-stabilized in accordance with the requirements of the Engineer. The City may at any time, call upon the Developer to effect a varying method of re-stabilization should initial stabilization be found to be unsuitable.
- 4.6 Completion of all roadworks, drainage works and other works associated with the subdivisional construction. Such works are to be in compliance with the requirements of the Engineer in relation to DPUD's Conditions of Approval for the subdivision.
- 4.7 The submission of "As-Constructed" transparencies, and a digital copy in DXF file format, for the drainage subdivision works. The "As-Constructed" transparencies shall include the location of each manhole and entry pit. The length, size and invert level of each pipe entering or leaving the manhole/entry pit shall also be provided together with the level at the top of each manhole/entry pit. "As-Constructed" levels are also required for subgrade and top of base course prior to proceeding with next stage of work.

Any deviation in the levels from the tolerances specified shall be suitably explained or rectified to the satisfaction of the Engineer.

All information supplied must be certified by a Licensed Surveyor, with the Surveyors name and company clearly stated.

5. BONDING OUTSTANDING WORKS

- 5.1 At the discretion of the Engineer, the Council may accept payment from the Developer as and by way of a Bond or Certified Guarantee in lieu of completion of all or part of the subdivisional works. This would normally only be accepted where works have reached a substantial degree of completion or where the Council is undertaking the works on behalf of the Developer.

6. MAINTENANCE CLEARANCE

- 6.1 Upon granting of Practical Completion of works, a 12 months maintenance period shall apply which will cover repair by the contractor at his cost, of defective works. Where major defects become evident during this period, the Engineer may request these works to be rectified immediately.

At the expiry of the Maintenance Period the Consultant shall inform the City of their intention to inspect the subdivision, whereupon the City shall clear the drainage system and sweep the roadways so as to enable a proper inspection.

Ten working days notice of intention to inspect is required to enable sufficient time for the City to program the preparatory cleaning and the consultants will be informed within 48 hours of completion of this cleaning.

Further cleaning for inspection purposes shall be the responsibility of the Consultants.

After repair of any defective works the Consultant shall apply in writing to Council for Maintenance Release. Maintenance Release by Council will be subject to the satisfactory repair of defective works and the Engineer's acceptance of the works.

6.2 Maintenance Bond

The Consultant shall retain from the contractors payment an amount of money equaling not less than 2½% of the total contract price for roads and drainage as and by way of a Maintenance Retention Bond.

This bond is to be held by the Consultant until the Consultant has applied and received written confirmation of Maintenance Clearance from Council (after the 12 months maintenance period).