



# Engineering and Works Services Standards and Specifications

## Section 1

### Guidelines and Administration Requirements for Subdivisions and Developments

These Standards and Specifications have been adopted by the Council, and are required to be practiced in the City of Busselton for all civil works designed and carried out by Consultants, Contractors, Developers and City Staff. These Standards and Specifications will be used for processing subdivision and development applications, plan approvals, control of works, and will be maintained by the Director, Engineering and Works Services.

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# **1 General**

## **1.1 Introduction**

These standards and specifications have been adopted by the Council, and are required to be practiced in the City of Busselton for all civil works designed and carried out by Consultants, Contractors, Developers and City Staff. These Standards and Specifications will be used for processing subdivision and development applications, plan approvals, control of works, and will be maintained and applied, under authority delegated by the Council and the Chief Executive Officer and the Director, Engineering and Works Services.

It is acknowledged that accepted industry standards will change over time. In order to accommodate such changes, the contents of this Specification will be reviewed regularly.

It is acknowledged that accepted industry standards will change over time. In order to accommodate such changes, the contents of this document will be reviewed on a regular basis. These standards and specifications will be posted on the City's website at <https://www.busselton.wa.gov.au/develop/Engineering-Technical-Standards-and-Specifications.aspx> and are available for downloading.

## **2 Guidelines and Requirements**

### **2.1 Statutory Requirements**

The *Planning and Development Act 2005* is the Act under which Council regulates works in subdivisional development.

#### PLANNING AND DEVELOPMENT ACT - DESIGN AND SUPERVISION

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 cause these streets to be constructed and drained to the satisfaction of the Council. This requires the services of a Consulting Engineer, appointed by the developer.

*Planning and Development Act 2005 Part 10-Subdivision and development control, Division 6-Miscellaneous* reads as follows:

*"170. Local government to be provided with specifications for roads and waterways:*

*(1) Before a person who is subdividing land commences to construct and drain roads or construct artificial waterways shown in the diagram or plan of survey, that person is to give to the responsible authority -*

*a) drawings showing longitudinal and cross sections of the proposed road or artificial waterway; and*

*(b) specifications of the proposed road or artificial waterway; and*

*(c) such other information including information relating to levels, drainage, nature of soil, and physical features as the local government requires.*

*(3) The responsible authority may by written notice require the person subdividing the land -*

*(a) to amend the drawings or specifications or both; and*

*(b) to comply with such further conditions as the responsible authority thinks fit to impose in respect of the proposed road or waterway,*

*for the purpose of ensuring that the construction and drainage of the road or construction of the artificial waterway is consistent with the approval of the Commission.*

*(4) Without limiting the powers conferred on a responsible authority by subsection (3), where.*

*(a) a person delivers drawings and specifications of a proposed road or artificial waterway to a responsible authority under subsection (1); and*

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*(b) the proposed road or artificial waterway, if constructed in accordance with those plans and specifications, would not satisfy the minimum standards fixed under section 169 applicable to the proposed road or artificial waterway.*

*the responsible authority is to by written notice require the person to so amend the drawing or specifications, or both, as to cause the proposed road or artificial waterway to satisfy those minimum standards."*

Council has delegated its powers, pursuant to clause 95 (Delegation of Authority) of the City of Busselton District Town Planning Scheme No 21, to the Chief Executive Officer with sub delegation to the Director of Engineering and Works Services (City Engineer). "City's Officer" hereafter refers to the Director or his/her authorised representatives.

### 2.2 Design Drawings and Documentation

Prior to the construction of any subdivisional works, the Consulting Engineer shall submit to the City the following Plans and Documentation for review and approval by the Engineering and Works Services and Planning and Development Services Directorates. Approvals should be given as soon as possible but in a period no greater than six (6) weeks:

#### Plans – 2 sets A1 format

- Locality Plan;
- Site Plan showing extent of works, existing features and vegetation;
- Earthworks Plan showing levels for the whole of the site and adjacent lands where earthworks require retaining or filling/cutting into the adjacent land;
- Road longitudinal and cross-section drawings;
- Roads, footpath/share path and drainage layout, including connection to or construction/alteration of existing roads or drains;
- Combined/coordinated services plan (all services), showing provision for common trenching;
- Standard details plans (road signs, road marking (approved by Main Roads), drainage structures retaining walls, paths, bollards, rails, fences, kerbing, pipe bedding and laying, street furniture and others as required);
- Street lighting plan detailing pole/transformer locations with paths. Lighting Plan is to show all lights (new and adjoining) and detail street lighting code and the drawing submission should include a Lux Contour Plan; and
- Vegetation identification, retention and protection plan details of all landscape and re-vegetation and rehabilitation;

The City will not check plans that have not been signed by the consultant. Any amendments to plans, the revision number, issue number, and issue date are to be recorded on the title block.

#### Documents

- Storm water Management Plan detailing;
  - a) Catchment Area detailing major (overland) and minor flow paths and flood prone land.
  - b) Storm water disposal and retention plans with calculations.
  - c) Storm water and subsoil water management including ground water levels, flow compensation, nutrient and pollution, erosion and scour,

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quantity and quality of outfall/outlet and discharge from upstream areas.

- Dust control assessment to EPA requirements and soil stabilisation during and after construction;
- Specification for the construction of Earthworks, Roads and Drainage (one set only);
- Geotechnical Assessment of the Site (if required);
- Acid Sulphate Soil Investigation/Dewatering Management Plan (if required);
- Traffic Management Plan;
- Traffic Assessment;
- Traffic Impact Study (if required);
- Road Safety Audit (if required); and
- Other documents as required by subdivisional planning conditions.

### 2.3 Construction Specification for Earthworks, Storm water, Drainage, Roads & Other Pavements

All works to be constructed in accordance with City's Standard Specification for Roads and Drainage Works (Section 3). The technical specification for earthworks, stormwater, drainage, roads and other pavements is based on Auspec standard specification and is modified to suit the City's requirements.

If an alternative specification is not submitted and approved by the City, the City's Standard Specification for Earthworks, Storm water, Drainage, Roads and other pavements shall apply.

Where necessary and appropriate City Officers shall determine and nominate the materials requirements, testing requirements and other materials and workmanship information as necessary during the plan checking stage and on site during construction.

Prior to commencing construction, the Consulting Engineer shall advise in writing:

- The contract value for the works as applicable for;
  - Lots - earthworks and stabilisation;
  - Roads (existing and new) - earthworks, drainage, road construction, paths and landscaping; and
  - Reserves (POS, Foreshore Drainage) - landscape works.
- The name of the Consulting Engineers Representative and Clerk of Works / Resident Engineer / Architect;
- The name of the Contractor;
- The name of the Contractor's Representative;
- The timetable for construction; and
- Staged Inspection.

#### Site Classification

- All residential lots zoned R.10 or greater density, including strata title and grouped housing lots created under a subdivision shall be classified in accordance with provisions of Australian Standard 2870 – 2011 'Residential Slabs and Footings'. This classification shall be provided by a practising Civil / Structural Engineer, prior to

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clearance of the diagram of survey and the classification shall include existing soils and earthworks, carried out as part of the subdivision.

- Site geo-technical classifications should be clearly tabled (showing recordings for each lot) for each lot being created. Every effort should be made to achieve a site classification of 'A'. Where a site classification other than 'A' (ie: 'S', 'M' or 'P') is determined, a Section 70a notification is to appear on the title. This is to provide advice to purchasers of the land **that additional site costs will be incurred at time of building where the classification is other than "A"**.

## **3 Construction Phase**

### **3.1 Supervision**

*Planning and Development Act 2005 Part 10 - Subdivision and Development control, Division 4 - Subdivision Costs reads as follows:-*

*"158. Expenses of construction, etc or roads etc:*

- (1) Where a person who is subdividing land is required under this Part to construct and drain roads or construct artificial waterways shown on the plan of subdivision that person may.-
  - (a) carry out or cause to be carried out the construction and drainage at his or her own expense; or*
  - (b) arrange for the local government to carry out the work on behalf, and at the cost and expense, of that person.**
- (2) Where the person does not make the arrangement with the local government, that person is to pay to the local government, on demand, an amount (calculated under subsection (3)) to cover the reasonable costs of the local government in supervising the construction and drainage.*
- (3) For the purposes of subsection (2) the amount is to be calculated as follows:-
  - (a) where the person has not engaged a consulting engineer and clerk of works to design and supervise the construction and drainage, the amount is to be 3% of the cost of the construction and drainage as estimated by the local government.*
  - (b) Where the person has engaged a consulting engineer and clerk of works to design and supervise the construction and drainage, the amount is to be 1½% of the cost of the construction and drainage as estimated by the local government.**
- (4) The local government may require the person to employ a consulting engineer and clerk of works to design and supervise the construction and drainage and that person, when required to do so by the local government, is to carry out the requirement".*

The City requires that the works are constructed to a suitable and acceptable standard. To ensure quality construction the City requires a Clerk of Works / Resident Engineer / Architect to supervise the construction required for the development.

Where a Consulting Engineer has designed the works and the Clerk of Works / Resident Engineer / Architect is in attendance during **all** works the payment to the City for supervision will be based on 1.5% of the contract value:-

- Earthworks (taken as 15% of total volume of sub divisional earthworks).
- Road Reserve (existing and new) - drainage, road construction, paths and landscaping.
- Construction of artificial waterways.



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Where a Clerk of Works / Resident Engineer / Architect is **not in** attendance during **all** works the payment to the City for supervision will be based on 3.0% of the contract value:-

- Lot Development - earthworks and stabilisation.
- Road Reserve (existing and new) - earthworks, drainage, road construction, paths and landscaping.
- Reserve Development (POS, Foreshore Drainage) - landscape works.

The Contractor shall, when not personally present on site, be represented by a competent and experienced Clerk of Works / Resident Engineer / Architect.

The Consulting Engineer only shall be responsible to the City for the performance of the works in accordance with the approved documents.

### **OCCUPATIONAL HEALTH, SAFETY AND WELFARE**

Prior to work commencing on site a safe method of working statements (JSAs) for high risk construction work and the preparation of Occupational Safety and Health Management Plans are required for all construction sites where five or more people are working, or are likely to be working, at the same time. Procedure for the works shall be developed and be maintained throughout the works by the Consulting Engineer.

The Consulting Engineer shall confirm to the City Officer that persons on site are qualified, experienced and have the necessary certification for the tasks undertaken.

Attention is also drawn to the noise limitations as outlined in the Noise Abatement Act.

### **PROGRAM OF WORKS**

The Consulting Engineer shall supply the City Officer with a program of works in the form of a bar chart, indicating the starting and finishing dates of each stage of works.

### **INSPECTIONS**

The local authority's representative, Consulting Engineer and contractor/clerk of works shall jointly inspect the site prior to any work commencing to discuss the methods of construction, preservation of significant vegetation, dust control and any other matters to minimise the likelihood of any problems associated with the subdivisional works.

In circumstances where there is concern about workmanship or materials, the local authority representative may request a certificate endorsed by the Consulting Engineer who certifies the correctness of any work in accordance with the approved drawings and specifications for all or any of the main stages of construction. No further stages shall proceed until this certificate is received by the local authority.

The Consulting Engineer shall advise the City Officer not less than forty eight (48) hours prior, so that inspections may be carried out, at completion of each of the following stages, or sections thereof:

- (a) Pegging of clearing for construction.

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- (b) Clearing, levelling, preparatory earthworks, soil and water management for construction and rock removal.
- (c) Subgrade preparation and pegging of grades, cross sections, levels and widths.
- (d) Drainage (Consulting Engineer to inspect and certify that drainage has been installed correctly/properly).
- (e) Installation of public utility trenching and road crossings.
- (f) Placement and preparation of sub-base material (if any) and base course.
- (g) Final grading, trimming and water binding.
- (h) Prime or primer seal.
- (i) Kerb, drainage headwalls, spillways, drop weirs and erosion control structures.
- (j) Preparation and placement of final surface treatment.
- (k) Verge backfill and trimming of batters.
- (l) Street signs, name plates and verge furniture, fencing, rehabilitation, revegetation and stabilisation.

Note: Cleaning of all drainage systems, sweeping of road surfaces, levelling and trimming of verges and the clean up of the site generally is required before the final inspection.

The Consulting Engineer shall be present at formal inspections, and keep and distribute notes required by City Officer.

No stage of the works affected by the next stage shall proceed until the preceding stages have been approved.

The City Officer may, at any time upon notifying the site supervisor if available, enter the site for the purpose of inspecting the works.

### SITE MEETINGS

The Consulting Engineer shall hold minuted site meetings on a regular basis to review the progress of the works. City Officer may attend and shall be given not less than forty-eight hours notice of site meetings, and shall be issued with a copy of the agenda and minutes, whether the meeting was attended or not.

## 3.2 Testing

Pavement testing shall be carried out in accordance with City's Construction Standards and Specifications (ie. Section 3). Testing shall be carried out by a NATA registered laboratory in accordance with the relevant Australian Standards, and at the cost of the Developer. Copies of all test results shall be forwarded to the City Officer for consideration of approval.

The following test results may be required as determined by the City Officer:

- CBR of sub grade.

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- Particle size distribution (PSD) test.
- Gravel Test (Grading, Maximum Dry Density and PI Plasticity Index).
- Compaction Test of sub grade, sub-base and base course.
- Concrete strength @ 28 days.
- Asphalt. (thickness and density).

### 3.3 Practical Completion Inspection

Upon the satisfactory completion of all subdivisional work (or at least a minimum of 95% of the contract value) and soil stabilisation, the Consulting Engineer is to provide certification that the works have been completed in accordance with the approved drawings and specifications.

Upon receipt of this notification, the City shall arrange a practical completion inspection of the completed works at a mutually convenient time. There may be a need, by negotiation, for water sensitive urban design (WSUD) and landscaping to have different dates for practical completion.

The inspection shall require the presence of the local authority's representative, the Consulting Engineer and the contractor. The contractor shall arrange for the stormwater drainage pit covers to be temporarily removed for inspection. Where applicable stormwater drainage pits should be cleaned prior to inspection.

At the time of practical completion or as soon as possible thereafter, the local authority representative shall inform the Consulting Engineer of any item not in accordance with the specification and drawings. Any such items shall be divided into:

- those items requiring completion, repair or alteration before clearance will be issued. A further inspection of these works when completed shall be deemed to be a continuation of the practical completion inspection; and
- those items that may be completed, repaired or altered during the defects liability period.

### 3.4 Maintenance / Defects Liability Period

The Maintenance/Defects Liability Period will only commence when the following items have been satisfactorily addressed:

- All subdivisional works have been completed in accordance with approved drawings and specifications.
- All outstanding works have been bonded and payments received.
- All fees, charges and maintenance bond has been paid.

The standard length of time for the Maintenance/Defects Liability period will be 12 months. Council Officers may at times require this period to be extended where works were not carried out according to the approved drawings or specifications.

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If at any time after the granting of practical completion, and during the defects liability period, the subdivisional work is found to be not in accordance with the approved specification and drawings then the works shall be rectified at the developer's cost. Minor items as agreed between the local authority and the Consulting Engineer may be undertaken towards the end of the defects liability period, subject to the discretion of Director, Engineering and Works Services, or his delegated representative.

## **4 Bonding of Outstanding Works**

### **4.1 Early Clearance - Council Policy (Policy 144/3)**

In accordance with the City's Early Subdivision Clearance policy and as determined by City's Officer, the City may accept payment from the Developer, of a Bond or Certified Guarantee with no expiry date *in lieu* of completion of more than 65% and less than 95% (excluding a final seal of two coat seal finish) of the value of the subdivisional works.

The completed works shall include a fully trafficable road to prime or primer seal standard. The Consulting Engineer shall note that the date of practical completion will apply only from the date of completion of all outstanding items as determined by the City Officer pertaining to the defect retention period.

Outstanding works bonds will not be returned or refunded in separate portions.

### **4.2 Information Required**

Applications for bonding outstanding works shall be in writing from the Consulting Engineer to the City's Officer and shall include the following information:

- (a) Concise extent, nature and location for the work to be bonded, including lot numbers and road names and WAPC subdivision reference.
- (b) A timetable and arrangements for completion of the bonded work.
- (c) An itemised estimate and the name and address of the Contractors responsible for the bonded works. The estimate will be checked by the City's Officer and the figure approved will be loaded according to the City's Early Subdivision policy to account for time delay, cost increase, small job lots etc.
- (d) Reasons for requesting the bonding of the incomplete works.
- (e) A written undertaking to advise affected parties of incomplete works ie. Owners, Developers, Contractors, Consultants, and including new purchasers. Lot purchasers are also to be notified that Building Licence applications must be accompanied by a plan/diagram indicating Office of Titles approval.
- (f) Any other relevant information which will assist the City's Officer to assess the request.
- (i) Bonds are to be paid by the Developer/Owner of the land in the form of cash or bank guarantee without expiry date nominating name and business address of the person/company paying.
- (j) The Consulting Engineer is to submit a report addressing any safety issues within the site detailing how and who will manage these until the works are completed. If the works are not managed to the satisfaction of the Director Engineering and Works Services, the City may use the outstanding works bond to rectify the issue.

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- (k) The Director, Engineering and Works Services may in addition require a Road Safety Audit to be conducted by an accredited Road Safety Auditor, with the findings of the audit to have all corrective actions risk assessment as “low or moderate”. Corrective action findings that have a risk assessment listed “high” are to be treated onsite and road safety audit redone until the risk assessment is reduced to low or moderate. The findings of the audit are to be agreed with by the Director, Engineering and Works Services before acceptance.
- (l) Outstanding works are to be completed within 3 months of the works being bonded.

Compliance with the above requirements does not necessarily imply the City's acceptance and each request shall be subject to approval from City Officer's.

### **4.3 Normal Clearance**

Where minor works (5% or less of the value of the value of the works) are required to be completed, the Consulting Engineer may request to bond these works, without being subject to an early clearance fee and give a written undertaking to comply with City's requirements. Any such written undertaking shall include the following:

- (a) The location, extent and nature of the works.
- (b) A timetable and estimate plus a 100% loading for completion of the works.
- (c) Any other relevant information which will assist City's Officer in assessing the request.
- (d) Outstanding works are to be completed within 3 months of the works being bonded.
- (e) If the City's representative is requested to inspect the outstanding works and they have not been completed as stated the City will charge an Outstanding Works supervision fee for each additional site visit after the initial outstanding works site visit. This amount will be deducted from the outstanding works bond. The purpose of the bond is to ensure the City is not called out needlessly.
- (f) Receipt of the Consulting Engineer's written certification that the works have been completed in accordance with the approved drawings and specifications.

## **5 Subdivision Condition Clearance**

### **5.1 Survey Release**

The Consulting Engineer or otherwise approved Superintendent shall satisfy the City that the Developer has complied with all relevant conditions imposed by the Western Australian Planning Commission pertaining to survey diagram release for all titles of all or part of a constructed subdivision or for the issue of a Certificate of Occupancy in the case of a development approved by the City.

The following items refer to the Engineering Approvals additional to completion of works according to approval plans and documents, which must be completed by the Developer prior to the City's survey diagram release of a subdivision, or for the Certificate of Occupancy for a development to be issued. Clearance of engineering conditions is provided by the Planning and Development Services Directorate upon advice from the Engineering and Works Services Directorate:

- Creation and location of all **storm water drainage easements**;
- Creation of any **other easements** rights of access undertakings and covenants (temporary or permanent) relevant to the subdivision or development;
- **Creation of all Reserves** and transfer of land (including drainage and recreation) pertaining to the subdivision;
- Payment of all contributions, bonds, fees and charges required to be paid to the City in consideration of construction or contribution to recent past, proposed or future landscaping, rehabilitation, stabilisation, reserves, roads, drainage, paths, footways, or any other works associated with or external to the subdivision;
- Bonds, Contributions and Fees for Subdivisions and Developments) Clearance will not be granted until such required payment is received. The City may require the Developer or the Consulting Engineer to lodge documentary evidence as to the contract value of the works;
- **Stabilisation** of topsoil, sand or other material or matter, subject to movement by wind, water, human, plant or vehicles over or near the subdivision or development, shall be completed to the satisfaction of City's Officer. Where initial stabilisation is carried out and subsequent works associated with the conditions of subdivisional approvals causes deterioration of effective stabilisation of the area, the area so affected shall be re-stabilised in accordance with the requirements of City's Officer. The City may, at any time, call upon the Developer to effect a varying method of re-stabilisation should initial stabilisation be found to be unsuitable; and
- **Completion of all works** associated with the subdivision or development, including establishment of survey pegs for the cadastre. Such works are to be in compliance with the requirements of City's Officer in relation to Department of Planning and Infrastructure conditions for the subdivision or development, the approved plans and specifications.

### 5.2 As Constructed Information

'As Constructed' information detailing the variations and amendments from approved drawings shall be provided and submitted prior to the clearance of the diagram of survey. Information to be provided in 'As Constructed' form will include drainage, earthworks and road levels and alignment details.

As constructed information detailing the variations and amendments from the approved engineering drawings, shall be provided to the City, prior to clearance of the Diagram of Survey. Information provided in "As Constructed" form will include drainage construction details, earthworks levels and road levels and alignments. The information shall be provided to the City in digital format by disc or emailing, where the Consultant has used computer-aided drafting methods. Data is to be provided in the following preferred format:

- Drainage: D-Spec format (see [www.a-specstandards.com.au](http://www.a-specstandards.com.au) for details).
- Roads: R-Spec format (see [www.a-specstandards.com.au](http://www.a-specstandards.com.au) for details).
- Open Space: O-Spec format (see [www.a-specstandards.com.au](http://www.a-specstandards.com.au) for details).

The City requires the data to be provided in GDA 94 (horizontal) and Australian Height Datum (vertical) format.

Information provided on as constructed plans shall include:

#### Drainage Construction Details

- Manhole Surface Levels.
- Pipe Inverts at manholes and gully pits.
- Structure details/dimensions.
- Alignments and locations of all Drainage.

#### Lot Earthwork

- Lot fill levels where required to satisfy flood conditions.
- Design finished floor level (FFL), where required.
- Geo-technical site classification (residential lot).



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### Road Details

- Road levels along the centre-line of roads at intersections and at distances of no greater than 60 m along straights (rural) or 30m (urban), low and high points on the longitudinal profile.
- Alignment of centre-line.
- Any variations to the original approved plan in excess of original design standards to be shown.
- Kerb types and positions.
- Road pavement widths.
- Cross-sections, typical details. (pavement design and surface type)

### **5.3 Road Responsibility Hand-over**

After clearance of diagrams by the Department of Planning and Infrastructure and acceptance of “in order for dealing” at the Office of Titles; land delineated and shown as a road or public access way on such diagrams shall be under the control of the City.

Once the development area (freehold land) is made public road or public open space, the contractor will be required to obtain a licence from the City to work for the developer on public land. The contractor will also be required to submit and gain approval for traffic management plans and any other requirements for working on a public road or reserve including ensuring all plant is road worthy.

If defects occur within the twelve months period from “practical completion”, the Consultant Engineer will be advised to rectify the defect within a timetable agreeable by the City, if not then works will be undertaken by the City using the defect bond payment.

## **6 Defect Requirements**

### **6.1 Council Policy**

In accordance with **Council Policy Defect Bonds** (Policy 180/3) and as determined by City’s Officer, the City may accept payment from the Developer, of a Bond or Certified Guarantee with no expiry date of the subdivisional works applied to the value of roads and drainage and associated earthworks, landscaping, footpaths, share paths and all works incidental to these items for a minimum period of 12 months from the date of practical completion.

Practical completion will not apply until at least 95% of all works are completed and the balance of outstanding works is bonded (+ 100% margin).

### **6.2 Defect Period**

A Defect Bond applies to subdivision work and is held for 12 months (24 months for works requiring a deferred final seal) from the date of practical completion.

The Director of Engineering and Works Services may extend the Defect Bond period for an additional 12 months or more where defects have occurred that may affect the integrity of the design or infrastructure.

The defect bond will be applied to subdivision works and held for 12 months from the date of practical completion, and subject to payment of all fees and bonds, excluding final sealing. Defect bonds shall not be refunded until the expiration of 12 months and refund is subject to repair, maintenance correction, adjustment, re-alignment and/or clean up of works deemed to be the responsibility of the contractor or the developer.

The bond shall be applied to the value of roads and drainage, and associated earthworks, landscaping, footpaths, dual use paths and all works incidental to these items at the following rate:

\$0-\$100,000 work value	5%
\$100,001 - \$200,000 work value	4%
\$200,001 - \$400,000 work value	3.5%
\$400,001 - \$600,000 work value	3%
\$600,001 and over work value	2.5%

### **6.3 Defects within the Period**

During the defect retention period, the Contractor shall make good, at their expense any defect in the works. Services installed before or during the defect period shall be deemed to fall under the “defects” for the purpose of this clause, and the Consulting Engineer is required to make provision for repair of related damage and reinstatement of service trenches and defective backfill in the contract documents.

### **6.4 Defects Return**

At the expiry of the defect retention period, the Consulting Engineer shall apply in writing for defect bond release. Prior to this occurring the consulting engineer shall

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have arranged roads and paths to be swept and drainage systems to be cleaned. The City's Officer will inspect the works with the Consulting Engineer, and if satisfied, will issue a certificate accepting the works. If, upon inspection, defects in the works are apparent, then City's Officer will inform the Consulting Engineer, and issue a written notice of defects which will need to be rectified before defect release is granted.

If the defects are not completed within a 3 month period following the inspection the City may complete the required work drawing on the Defect Bond.

### **6.5 Final Acceptance**

**Final acceptance** of the works (hand over to City) will take place on completion of all remedial works referred to above, to the City's satisfaction.

Upon granting of final acceptance, the City's officer will advise the Consulting Engineer and refund the Developer's Defect bond, less any costs incurred by the City for correction of defects.