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1.0 GENERAL

This chapter is intended to provide guidance to Developers and Consultants in respect of a number of key Council requirements, from the construction phase to the sealing of survey plans (for subdivisions) or the issuance of a certificate of classification (for other developments).

2.0 CONTRIBUTIONS

Occasionally, Developers provide monetary contributions for specific works that cannot be constructed in isolation at the time of the subdivision or development and these funds are paid into Trust. In general, Council will not accept monetary contributions in lieu of undertaking the works unless there are exceptional circumstances. Further the approval of Council Delegate is required.

3.0 BONDING OF UNCOMPLETED WORKS

Bonding of uncompleted works by a Developer enables Council to permit early signing and sealing of survey plan. The following criteria should be met at the time of lodging the request for sealing of the survey plan to the Council:

1. All bulk earthworks are completed. Bulk earthworks include excavation and filling of the road formations and allotments.
2. Council has approved engineering and landscape drawings for all the works.
3. The total value of all uncompleted works, including internal water supply and sewerage works, does not exceed 50% of the total value of all subdivisional works.
4. **All outstanding rates are paid to Council.**
5. **All monetary contributions required by the conditions of approval (water, sewerage, drainage, waterways, transport, public recreational land, etc) are paid.**
6. The Superintendent (Consultant) should provide the following information:
 - Certification of the value of uncompleted works.
 - Detailed schedule of the scope and cost of the uncompleted works for auditing purposes.
 - Certification that all external and internal works can be completed and accepted On Maintenance within three (3) months of plan sealing.
 - Certification that the contract has been let for the construction of the remaining external and internal works and the name of the Contractor.
 - Proposed finish dates for remaining internal and external works.
7. An uncompleted works bond has been prepared and executed. The amount of the bond should be 125% of the certified value of the uncompleted works including the cost of any works to be carried out by the Council for which payments have not been received.



The release of the uncompleted works bond can be arranged through the Licensing, Sealing & Certificates Unit on the advice by Council Delegate that works have been satisfactorily completed. **Council will not bond minor one off item such as driveways or footpaths due to unnecessary administrative burden.**

Where the amount of security for uncompleted works is \$200 000 or less, the Developer is required to provide a letter of undertaking and submit a bond document. The bond is executed by the bank in a standard Council format and incorporates a schedule of outstanding works and estimates.

Where the amount of security for uncompleted works exceeds \$200 000, the Developer is required to enter into a subdivision deed drawn up by Council at the Developer's expense and provide security, generally in the form of a bank guarantee.

4.0 NOTIFICATION AND INSPECTION PROTOCOLS

The Superintendent (Consultant) is responsible for undertaking inspections and certifying that:

- The design intent of the approved engineering drawings and relevant standards has been satisfactorily achieved.
- The works are constructed to within the tolerances specified in the approved engineering drawings, technical specifications and contract documents.

Council officers will not deal directly with the Contractor. The Superintendent is responsible for liaising with Council Delegate at the key joint inspections and sufficient notice should be given, as follows:

- Pre-start meeting (mandatory) - minimum 5 working days.
- Inspections during construction (as required) - minimum 48 hours.
- On Maintenance inspection (mandatory) - minimum 5 working days.
- Off Maintenance inspection (mandatory) - minimum 5 working days.

During the progress of the works on site, the Superintendent should notify Council Delegate of the information and requests for key activities outlined **Table D4.1**. **It should be noted that joint inspection and submission of compliance certificates to Council are generally only required for the following developments.**

- **All subdivisions.**
- **Site developments incorporating one or more of the following activities:**
 - **Substantial quantities of contributed assets (external works) are involved.**
 - **Significant ecological constraints exist.**
 - **Significant landscape management works are involved.**



TABLE D4.1 JOINT INSPECTION PROTOCOLS

Timing	Activities
Prior to commencement of site works	<p>The Superintendent should submit letter advising:</p> <ul style="list-style-type: none"> ▪ Name, address and telephone number (including after hours contact) of the Superintendent (Consultant) for the development. ▪ Name, address and telephone number of the Contractor(s) and major Sub-Contractor(s) for the development (including after hour contact). ▪ Intended date of commencement of works.
Pre-start meeting	<p>The Superintendent should request pre-start meeting, noting that the meeting can only be held after all the engineering and landscape drawings have been approved. The agenda will generally include:</p> <ul style="list-style-type: none"> ▪ Introduction of stakeholders. ▪ Review of Development Approval conditions and approved engineering and landscape drawings. ▪ Inspection and identification of parks, waterways, and environmentally significant areas. ▪ Construction activities and program. ▪ Issues pertaining to Workplace Health & Safety Act and the Environmental Protection Act. ▪ Any other relevant matters.
Pavement boxed out to subgrade (subgrade box inspection)	<p>The Superintendent should submit subgrade CBR tests accompanied by pavement designs prior to the placement of pavement material. A courtesy phone call is required to advise the information have been sent.</p> <p>Council Delegate will advise the Superintendent within 48 hours from the receipt of notification advice, if he/she wishes to inspect the work at a joint inspection. The construction of the pavement should not proceed until Council Delegate responds.</p> <p>If the Superintendent decides on any changes to the pavement design as a result of the site inspection, a copy of the amended pavement design should be submitted.</p>
Prior to surfacing (pre-seal inspection)	<p>The Superintendent should ensure that all compliance requirements (eg construction tolerances, compaction standards, material quality test reports, etc) are met. The Superintendent should notify Council Delegate of the impending joint inspection.</p> <p>Council Delegate will advise the Superintendent within 48 hours from the receipt of notification advice, if he/she wishes to inspect the pavement at a joint inspection. The surfacing of the pavement should not proceed until Council Delegate responds.</p>
At practical completion (on maintenance inspection)	<p>The Superintendent should submit the On Maintenance Inspection Checklist (refer Appendix A) to Council Delegate and request an On Maintenance inspection.</p> <p>Refer Section 6 for details of the requirements to have the work formally accepted On Maintenance.</p>
Final acceptance of the works (off maintenance inspection)	<p>Following the expiry of the maintenance period (minimum 12 months), the Superintendent should notify Council Delegate of the impending Off Maintenance inspection. The Superintendent should inspect the site prior to the joint inspection to ensure that all the listed faults have been rectified. Refer Section 6 for details on the requirements.</p>



5.0 COMPLIANCE REQUIREMENTS

The Superintendent is responsible for submitting compliance results (field and laboratory tests, and construction tolerances) and the relevant certificates (structural and geotechnical) to Council Delegate. These requirements are summarised in [Table D4.2](#)

TABLE D4.2 COMPLIANCE REQUIREMENTS CHECKLIST

Item	Description	Reference	Timing of submission to Council
1	Earthworks Eg compaction standards, select fill, construction tolerances	Specification S120 – Quality Specification S140 – Earthworks	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
2	Pavement Design Eg 4 day soaked CBR values at subgrade	Chapter 1 of Part B of this document	Prior to placement of pavement material
3	Pavement Materials Eg grading, soaked CBR values, Atterberg limits, flakiness index	Specification S300 – Quarry Products Specification S310 – Supply of Dense Graded Asphalt	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
3	Pavement Construction Eg compaction standards, delivery docket, AC core tests, construction tolerances	Specification S140 – Earthworks Specification S150 – Roadworks Specification S300 – Quarry Products Specification S320 – Laying of Asphalt	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
4	Concrete Structures Eg construction tolerances, slump and strength tests, docket	Specification S120 – Quality Specification S200 – Concrete Work	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
5	Stormwater Drainage Eg trench and backfill compaction results, construction tolerances, closed circuit television camera survey	Specification S140 – Earthworks Specification S160 – Drainage Chapter 2 of Part B of this document	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
6	Landscaping and Park Infrastructure	Specification S190 – Landscaping Chapter 8 of Part B of this document	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
7	On Maintenance Inspection Checklist	Appendix A	Prior to On Maintenance inspection
8	Request for development to go On Maintenance	Section 6	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection



Item	Description	Reference	Timing of submission to Council
9	Structural/ Geotechnical Certificates	Where required	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
10	Certificate of Completion	Appendix C	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
11	As Constructed Drawings including Asset Register	Chapter 2 of Part D of this document and Section 6	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
12	Bonding Arrangement	Section 3 and Section 6	Prior to acceptance On Maintenance and within 2 weeks from On Maintenance inspection
13	Request to take Off Maintenance	Section 6	Following expiry of maintenance period and rectification of all defects
14	Release of bonds and securities	Section 6	Following expiry of maintenance period and acceptance of works by Council

6.0 MAINTENANCE/ DEFECTS LIABILITY PERIOD

6.1 GENERAL

The maintenance or defects liability period is minimum of **twelve (12) months** from the date of acceptance On Maintenance. However longer periods may be required for specific items on the development where problems have been encountered or where poor workmanship is evident or where non-standard methods or materials have been used. The minimum 12 month maintenance period has been selected for the following reasons:

- Ability to monitor performance of contributed (donated) assets over a full seasonal cycle.
- Ability to monitor performance of contributed (donated) assets for design loads. For example, roads in a new subdivision are not always subject to the design traffic loads (eg refuse collection vehicles) during the first 6 months.
- The nominated period is consistent with industry trend.
- Ability to evaluate the overall performance of contributed (donated) assets especially with the shift towards self certification. Further, maximising the use of ecologically sensitive solutions such as natural channels and wetlands often requires longer establishment and performance monitoring periods.



During the maintenance period, responsibility and liability for rectification of defects and for any damage that may occur (including damages caused by builders or utility service provider) lies with the Developer and not with Council, unless the work may be directly related to Council activities. The Developer should undertake the necessary steps to minimise the occurrences of damages. In circumstances where Council has a duty of care to undertake emergency repair works to safeguard public safety and where the repair works are related defective works or materials, Council will recover costs from the Developer.

6.2 ON MAINTENANCE

Works, including the installation of street signs, street lights, speed control devices, traffic signs and pavement marking, should be completed in order to be accepted On Maintenance.

All park landscaping and infrastructure, including permanent fencing and barriers, should be installed at the commencement of the park On Maintenance. As the park will need to be publicly accessible and useable from this point, the Developer is required to maintain an appropriate public liability insurance cover during the maintenance period.

Where items such as playgrounds, electric barbecues, drinking fountains and buildings are installed in the park, agreement is to be reached between the Superintendent and Council Delegate over responsibility for day to day operational maintenance during the on maintenance period. Council may take responsibility for periodic operational inspections of items such as playgrounds and barbecues where this is a substantial responsibility. Any agreement reached will not reduce the responsibility of the Developer to maintain all soft landscaping (grass, garden beds, trees, etc), and to repair all defects or vandalism damages that arise during the on maintenance period. Council will not accept any park maintenance responsibilities unless a formal agreement is signed by the Superintendent and the Council Delegate, based on the proforma template outlined in [Appendix B](#).

Within two weeks from the date of On Maintenance inspection, the Superintendent should lodge the following documentation with Council Delegate, so that the formal acceptance of the development On Maintenance can be processed. If the documentation is not be supplied within the nominated period, the date of works being accepted On Maintenance will be deferred to the date when all the information is satisfactorily lodged.

- Letter confirming satisfactory completion of the On Maintenance inspection and requesting that the maintenance period commence from the date of inspection and acknowledge that any defects will be attended to as soon as possible within the maintenance period.
- A formal Certificate of Completion issued by the Principal Engineering Consultant, based on the proforma template outlined in [Appendix C](#). The non-compliance records and remedial actions have been incorporated to the Certificate of Completion in order to expedite the checking and approval process by placing the responsibility for identifying and reporting non-conforming works with the Superintendent. Council will only undertake random audit checks.
- One set of hardcopy As Constructed drawings on paper, endorsed by a Licensed Surveyor. In future, hardcopies may be complemented by digital submission.
- As Constructed asset register. Refer [Chapter 2 of Part D of this document](#).
- All quality control testing and monitoring results including construction tolerances.
- A park maintenance program based on the proforma template outlined in [Appendix B](#).



- Where applicable, building approvals and RPEQ certification of structures such as retaining walls and shade structures.
- Where applicable, certification of design, manufacture and installation of play equipment.
- Where applicable, maintenance manuals and reports for specialised infrastructure such as artwork and irrigation systems.
- Advise form of proposed maintenance security. Alternatives may include offsetting against an existing bond, additional cash payment, or bank guarantee. The maintenance security should be a minimum \$2000 but not less than 5% of the contract sum. An additional \$1.00 per m² of park area is required to cover the day to day maintenance demands on parks, including the cost of garden beds, mown areas, landscaping, cleaning of buildings and furniture, and regular inspection and maintenance to playgrounds installed in the park.
- Request to reduce performance bonds if applicable, and bond any uncompleted footpaths, if applicable.

Formal acceptance of On Maintenance will be in the form of a correspondence from the Council Delegate to the Superintendent, confirming the On Maintenance date and listing the defects requiring rectification during the maintenance period, and advising how the maintenance security will be executed.

6.3 OFF MAINTENANCE

Work that may have been bonded for construction during the maintenance period such as footpaths and bikeways should be completed prior to the development being taken Off Maintenance. All temporary facilities, such as irrigation systems installed for park establishment, should be removed. However deferred construction may be considered in multi-stage developments. Any outstanding quality control test results such as asphalt core tests and 28 day concrete strengths not available at the On Maintenance inspection should be supplied during the maintenance period.

The purpose of the Off Maintenance inspection is to ensure that the constructed works had performed satisfactorily during the maintenance period and that omissions and defects have been rectified. The Superintendent is responsible for making sure that all unsatisfactory work and defects have been rectified prior to the Off Maintenance inspection.

Where Council Delegate deems that the Off Maintenance inspection is satisfactory, the Superintendent should request in writing for the development be taken Off Maintenance and that the maintenance security and any other bond monies be released.

Formal acceptance of Off Maintenance and release of security deposit will be in the form of a correspondence from the Council Delegate to the Superintendent. At this time, the donated assets are formally transferred to Council ownership.



7.0 AS CONSTRUCTED REQUIREMENTS

7.1 GENERAL

The Superintendent is responsible for ensuring that the As Constructed information (drawings and asset register) is accurate and reflects the actual construction, endorsed by a Licensed Surveyor.

Cadastre base

The cadastre base provides a graphical representation of property boundaries together with property identifiers such as lot on plan description, house numbers and street names. Drawings should be superimposed on the cadastre base where appropriate.

Earthworks

Submit certification that the As Constructed spot levels are generally in accordance with the approved design drawings and built to within the specified construction tolerances.

Roadworks

Submit certification that the As Constructed grade and cross sectional information is confirmed in areas where roadway overland flow capacities are critical, and built to within the specified construction tolerances. The As Constructed drawings should also:

- Confirm that the permanent street, warning and regulatory signs are installed in accordance with the approved engineering drawings.
- Incorporate the As Constructed pavement thickness and composition. The minimum CBR values for the pavement materials should be noted on the longitudinal sections.

Stormwater and roofwater drainage

The following survey information is required:

- Manholes/inspection pits - location established by two ties, surface level, invert level.
- Stormwater lines - diameter, class, material type, length, grade, alignment, bedding support type.
- Roofwater house connections - location established by two ties, surface level, invert level.
- Overland flow path - surface level.

Digital terrain model

To enable Council to progressively update the citywide levels and contours, the following submissions are required.

- Digital terrain model (xyz file with breaklines) of the development. The accuracy of the survey data should generally conform to the construction tolerances specified in the *Reference Specifications for Civil Engineering Work - S140 Earthworks*. However in non-critical areas such as allotments, the planimetric precision of 0.2 m and vertical precision of 0.15 m are usually sufficient.
- A hardcopy plan depicting the 0.5 m contour intervals and survey spot levels of the development. Certification by a licensed surveyor is required to ensure that the accuracy and reliability of the dataset is maintained.



7.2 HARDCOPY LODGEMENT

One set of hardcopy As Constructed drawings for all asset categories should be submitted on paper. As the drawings are currently microfilmed, linework and lettering should be of suitable thickness and clarity (typically 0.25 mm black stencilled lettering) that maintains legibility in the microfilm. To enable comparison with the approved design drawings, numerical amendments are usually denoted as a diagonal line through the design value with the As Constructed value noted adjacent. Encircling with a notated cloud usually denotes other amendments.

7.3 ELECTRONIC LODGEMENT

In order to facilitate the direct electronic transfer into Council's geographic information database system, a geo-relational model has been developed to provide a link between the geographic features (graphics) and attribute data. Currently, the electronic lodgement process is only available for a limited number of assets including stormwater drainage, water and sewerage.

It will become mandatory to lodge electronic As Constructed files for larger developments. The lodgement procedure can be accessed on the Brisbane City Council Website by following these steps.

1. Go to Ourbrisbane.com (www.ourbrisbane.com).
2. Click on the "Visit Brisbane City Council Website" link on the left of page.
3. Once in the Brisbane City Council Website (<http://www.brisbane.qld.gov.au>), click "Do Business" drop down menu from top access bar.
4. Select "Building and development".
5. Select "As Constructed" from the side menu.

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