

Planning Scheme Policy Operational Works Inspection, Maintenance and Bonding Procedures



Planning scheme policy – Operational works inspection, maintenance and bonding procedures

Adoption

Moreton Bay Regional Council adopted this planning scheme policy on 24 November 2015.

Commencement

This planning scheme policy will take effect from 1 February 2016.

Amendment

Alignment amendment 1 2017

- Adopted by Moreton Bay Regional Council on 27 June 2017
- Took effect from 3 July 2017

Major amendment 1 2019

- Adopted by Moreton Bay Regional Council on 12 December 2019
- Took effect from 29 January 2020.

1. Introduction

This policy supports the Moreton Bay Regional Council Planning Scheme and has been made by Council in accordance with Chapter 2, Part 3, Division 2 of the *Planning Act 2016*.

1.1 Purpose

The purpose of the policy is to notify developers and their consultants of the required procedures and responsibilities for development works and the supply of relevant documentation, as well as their maintenance period obligations and the minimum security requirements applying for the maintenance period of the completed works.

1.2 Application

This policy relates to all operational work carried out as part of, or in conjunction with, the development of land where Council will be responsible for the subsequent repair and maintenance of the completed works once they are accepted off maintenance.

1.3 Interpretation

Some terms used in this planning scheme policy are defined in Schedule 1 – Definitions of the planning scheme. Section 1.3 Interpretation of the planning scheme applies in all instances and assigns priority for confirming the definition of terms.

2. Supervision of Construction Work by the Developer's Consultants

The developer is to appoint an engineer or some other suitably experienced person approved by Council's representative, to undertake each of the following inspections and all associated administrative functions, and to be the developer's representative for those matters. In addition to undertaking Mandatory Inspections, the Developer's representative is responsible for, but not limited to:

- a) ensuring all construction is undertaken in accordance with the Construction Tolerances as identified in Appendix C.
- b) inspecting all stormwater and subsoil drainage, and approve those works prior to authorising commencement of backfilling operations;

- c) ensuring all compliance testing is undertaken in accordance with Appendix B, and that all the results achieve the minimum requirements;
- d) undertake inspections, on a regular basis, all backfilling operations;
- e) undertake inspections, on a regular basis, all roadwork excavation and embankment operations where the rate of construction is less than 1,000 cubic metres per day and on a full time basis where the rate of construction exceeds 1,000 cubic metres per day;
- f) undertake inspection of concrete works including concrete slabs and pavements;
- g) undertake the inspection and approve the road subgrade prior to authorising commencement of gravelling operations;
- h) undertake inspections and approve the road pavement prior to authorising commencement of road sealing operations;
- i) undertake inspections, on a full time basis, of all road sealing operations;
- j) reinspect and test the functioning of all subsoil drainage prior to authorising sealing of the road pavement;
- k) ensure that all cross-road service conduits are in place and inspected prior to authorising commencement of road sealing operations and reinspect prior to the on maintenance inspection;
- l) undertake inspections and approve all works prior to, and at on maintenance, on completion of required remedial works and at off maintenance.

The developer's representative for works inspection, supervision and associated administrative matters is to keep an accurate written record, in a form satisfactory to Council, of all times that person is present on site and evidence of that record is to be made available to Council's representative on request.

Council reserves the right to withdraw its approval at any time of the developer's nominated representative. Where Council's representative suspects, on reasonable grounds, that the required level of supervision and inspection is not being undertaken, Council will -

- a) notify the developer's representative in writing of the suspected non-compliance, as soon as reasonably practicable after identification of any non-compliance; and
- b) refrain from accepting the works on maintenance until the issue is satisfactorily resolved.

Council reserves the right to fail any inspection and require payment of a reinspection fee if its representative concludes that any work is unsatisfactory or any correspondence submitted by the developer's representative indicating that the site is ready for an inspection is found to be incorrect. The Reinspection Fee is calculation in accordance with Council's Fees and Charges Schedule. The fee must be paid prior to reinspection.

The developer's representative must ensure that prompt action is taken to eliminate hazards or problems experienced by other parties where those hazards or problems result from the development construction activities (for example, dust issues, smoke, machinery noise before 6:30 am Monday to Saturday, redirection of stormwater, and silt washing into adjacent properties). This action is to be taken at the developer's cost, even if the developer's representative is directed either verbally or in writing of such problems by Council's representative. The required remedial works may involve undertaking temporary engineering works acceptable to Council. (Any verbal direction given by Council's representative will be confirmed in writing as soon as reasonably practicable after the initial direction is given).

Where immediate action is not taken to eliminate identified hazards or problems, Council may undertake any necessary permanent or temporary remedial works at the developer's risk and expense and may recover the costs of those remedial works from the developer as a debt payable on demand. Until payment is made, those costs will constitute a charge upon the land.

3. Works Undertaken by Energex, Telstra, Water Service Provider and Other Public Utility Providers

Unless otherwise permitted by Council, all works required to be undertaken by, or on behalf of, Energex, Telstra, a water service provider or some other public utility provider in connection with providing services to the development are to be completed prior to acceptance of the development works.

With regards to off maintenance, if works that had previously been accepted on maintenance by Council are damaged by subsequent work, and the public utility provider does not accept liability for restoring those works, responsibility for reinstatement to the satisfaction of Council's representative transfers to the developer. The reinstated works may be subject to a separate maintenance period, and a sufficient part of the maintenance bond will continue to be held by Council until the restoration work is satisfactorily completed and accepted off maintenance. The value of the maintenance bond for the reinstatement works will be calculated in accordance with the maintenance bond requirements of this policy.

4. Maintenance Requirements and Security

Council will only accept works on maintenance if the following requirements have been met:

- a) a successful on maintenance inspection has been undertaken with Council's officers and the developer's representative (including the acceptance of any remedial works);
- b) 80% stable site cover and rehabilitation of all areas disturbed by the works;
- c) all on maintenance documentation has been submitted and accepted;
- d) maintenance bond (or request to reduce Uncompleted Works Bond) has been submitted and accepted; and
- e) power supply and street lighting have been energised.

Council shall accept all the works (except deferred works) from the same date. Council will not consider accepting individual elements of the works on maintenance separately. The date of on maintenance acceptance is taken to be the date of the successful inspection or the date the last maintenance document was accepted or the date the maintenance bond is accepted by Council, whichever is the latest.

4.1 Maintenance Documentation

Prior to an inspection with Council, the developer's representative must undertake an inspection of the works and submit any relevant documentation confirming that all aspects of the works have been completed to a standard appropriate for acceptance by Council. Prior to (at least 7 days before) the on maintenance inspection with Council, submit to Council:

- a) a request for on maintenance form signed by RPEQ (Appendix H);
- b) preliminary ADAC compliant asset data files created from a copy of the ADAC compliant Design xml file using all relevant as constructed information in accordance with Council's ADAC asset capture guidelines (<https://www.moretonbay.qld.gov.au/adac/>). The ADAC as constructed file must share the same unique scheme Global Feature 'ObjectID's' as like for like assets in the 'Design' ADAC xml file;
- c) preliminary as constructed drawings in PDF format;
- d) the bill of quantities for landscape works, including (as a minimum) the area of garden beds (including bio-retention areas), area of turf within the park, and number of street trees;
- e) a high definition Closed Circuit Television (CCTV) recording of all stormwater pipes including inter allotment roofwater drainage to clearly display all joints (full surrounds) and any form of damage or defects. The recording is to include a report signed by an RPEQ stating that the recording has been reviewed and all works are satisfactory. Where defects have been

- identified, consultant is to provide method of rectification to Council for approval, prior to carrying out any rectification works; and
- f) copy of construction costs (certified by an RPEQ) for determination of maintenance bond amount.

Prior to any development works being accepted on maintenance the developer's representative must submit and have approved the following documentation:

- a) final accepted ADAC compliant asset data files in accordance with Council's ADAC asset capture guidelines (<https://www.moretonbay.qld.gov.au/adac>). The ADAC as constructed file must share the same unique scheme Global Feature 'ObjectID's' as like for like assets in the 'Design' ADAC xml file
- b) as constructed drawings in PDF format, certified by RPEQ, in accordance with Council's certification wording, in accordance with Appendix F.
- c) As constructed drawings in PDF format, certified by a suitably qualified licenced surveyor, in accordance with Council's certification wording, in accordance with Appendix G;
- d) test certificates for compaction, material quality, strength, etc. in accordance with Appendix B, including a plan identifying the locations where testing has occurred.
- e) completed checklists in Appendix D and Appendix E;
- f) instruction manuals for infrastructure, e.g. Gross Pollutant Traps; and
- g) documents listed in Approval Conditions as required prior to on maintenance.

4.2 Maintenance Period and Bonding Requirements

4.2.1 Maintenance Period

All operational work covered by this policy is subject to a maintenance period of 12 months unless otherwise stated in a condition of development approval, a condition of a compliance permit, or a written agreement with Council. The maintenance period commences at the date identified in the written notification sent by Council's representative. The acceptance of the work on maintenance is subject to all conditions set in the notification of acceptance and receipt of the pre-requisite security and works documentation.

4.2.2 Maintenance Security

The security required as the maintenance bond is to have a monetary value equivalent to 5% of the agreed construction cost of the development work or \$2000.00, whichever is greater, and is to be in a form acceptable to Council. Guidance on what constitutes an appropriate form for security in this context is provided in Council's policy on the provision of financial securities.

4.2.3 Maintenance Period Obligations

The developer's representative must inspect the works for defects at least once every 3 months during the maintenance period. Appendix I - Subdivision Maintenance Inspection Report is to be submitted to Council after each inspection. During the maintenance period, any defects which are both evident and directly attributable to any cause (including design, workmanship or materials) from the developer's works are to be remedied by the developer in the manner directed by Council's representative. Any direction to undertake remedial works will indicate in what respect the works are defective and the date by which the necessary remedial works must be completed. Where it becomes necessary for remedial works to be undertaken during the maintenance period, a separate maintenance period of 12 months, commencing on the date on which the remedial work is accepted by Council's representative, will apply to those remedial works unless otherwise approved by Council's representative.

If any defect is not remedied within the time specified by Council's representative in either a written direction to undertake remedial works or a subsequent agreement between that representative and the developer's representative, Council may remedy the defect at the developer's risk and expense, without

prejudice to any other rights which the Council may have against the developer in respect of that defect. Council may use the maintenance bond to pay the costs and expenses incurred by it in undertaking the remedial work and any shortfall may be recovered from the developer as a debt payable on demand. Until any shortfall is paid in full, it will remain a charge upon the land.

4.2.4 Off Maintenance and Extended Maintenance Periods

Prior to requesting any off maintenance inspection, the developer's representative is to have inspected the works and confirmed that they are in a satisfactory condition and submitted the necessary documentation to Council, including duly completed Appendix J - Request for Off Maintenance form and a copy of the three monthly inspection reports. Where the need for remedial works is identified during the off maintenance inspection, the maintenance period may be extended by a term commensurate with the size and nature of the identified defects. Generally, an extension of 3 months will apply unless Council's representative believes that a longer time period is required to ensure that all works are performing satisfactorily and will not pose an unreasonable future maintenance problem for Council.

Council shall accept all the works (excepting works subject to extended maintenance periods) off maintenance on the same date. Council will not consider accepting the individual elements of the works separately. Council will notify the developer's representative, in writing, that the works are satisfactorily completed and confirm the off maintenance acceptance date. Council undertakes to release all unexpended maintenance bond security held by it against satisfactory completion of the development within one month of all required development works being accepted off maintenance. For purposes of determining the amount of any unexpended security to be returned, no allowance will be made for accrual of interest on the security for the period that it is held by Council.

4.3 Deferred Works

Some infrastructure, such as bio-retention basin planting, need to be delayed beyond the acceptance of on maintenance to avoid expensive rectification works. Only the works that do not compromise the legal or practical development for the public and that are likely to be damaged during building construction are eligible as deferred works.

Works may be deferred when these works are covered by an Agreement and Bond.

The majority of the civil infrastructure works shall be accepted on maintenance and any deferred works bonded. The value of the bond being the cost of deferred works plus 25% and subject to a separate maintenance period with the same maintenance requirements as all infrastructure works. Deferred works are to be completed by 80% of the build out of the development or within a maximum of 2 years from the date of the civil works being placed on maintenance. Council shall accept all the deferred works as a package meaning all deferred works are accepted on maintenance at the same time and off maintenance at the same time. As such, deferred works maintenance bonds are not eligible for release until all of the deferred works are accepted off maintenance.

Works eligible for consideration as deferred works include;

- a) Bio-retention basin planting
- b) Street trees
- c) Turfing of the full verge
- d) Concrete footpaths to the agreement of Council*
- e) Driveways.

*Topography and alignment between driveway crossovers and footpaths among other factors will be key considerations.

Under Council's Early Endorsement Policy, Outstanding Works are to be completed and accepted on maintenance within three (3) months of the survey plan being endorsed as part of an Infrastructure Agreement. When a Deferred Works Agreement and Bond are provided the works covered under this Infrastructure Agreement will be considered to be satisfied for the Early Endorsement.

5. Council Inspections and Testing Standards

It is the responsibility of the developer's representative to arrange for all inspections, testing and certifications. The developer's representative must be present during all mandatory inspections. Council's officer will not deal directly with Contractors.

5.1 Inspections

The following mandatory inspections (hold point inspections) apply to development construction works for assets to be transferred to Council and must be carried out with Council's delegated officer:-

a) Subgrade/Box Inspection

The subgrade level is taken to be the full box depth as identified in the pavement approval. The subgrade will be tested at this level. Inspection of the subgrade involves a visual test and a load test.

The subgrade visual test ensures that, among other things:

- The pavement depth and width is in accordance with the approved depth and geometric design;
- The base of the box is even with specified crown and crossfall;
- The subgrade material is consistent in type and colour with the tested material on which the design was based;
- The subgrade is free from wet spots or any other visually defective areas e.g. tree stumps and other organic/inorganic matter.

The subgrade load test involves:

- Load testing with a single rear axle water cart or other approved vehicle (rollers/ graders are generally not acceptable) which is driven along the subgrade at a speed equivalent to a slow walk i.e. about 2 kilometres per hour. The minimum weight on the rear axle shall be eight (8) tonne;
- Ensuring that the subgrade does not show signs of deflection which indicate a weakness in the sub strata.

b) Preseal Inspection

The preseal inspection involves a visual test and a load test. The preseal visual test ensures that, among other things:

- The pavement surface is even and complies with the design crossfall;
- The base course has been trimmed to the correct level to allow for the placement of the specified thickness of surfacing;
- The surface should be clean, coarse and tight with a stone matrix. The surface should be drag broomed beforehand so that the true surface is visible. The surface and pavement should not be excessively wet. Testing of base course gravel is required in accordance with Appendix B prior to surfacing to demonstrate DOS <65%;
- Any kerb and channel which has been damaged during construction (including kerb which contains excessive visual defects, scraping, etc.) is to be replaced/ repaired prior to the preseal inspection;

- Where new work joins to an existing sealed pavement, a saw cut edge 150-300mm into the existing pavement is to be provided to enable a smooth joint to be made. Where the sequence of construction dictates otherwise and the edge is liable to be damaged prior to the placement of the AC, this may be done immediately prior to the AC being placed.

The preseat load test involves:

- Load testing with a single rear axle water cart or other approved vehicle (rollers/graders are generally not acceptable) which is driven along the pavement at a speed equivalent to a slow walk i.e. about 2 kilometres per hour. The minimum weight on the rear axle shall be eight (8) tonne;
 - Ensuring that the pavement does not show signs of deflection
- c) Concrete slabs and concrete pavements
- d) Subsoil and stormwater backfilling
- e) On Maintenance Inspection
- Civil works (roadworks, drainage, earthworks, stormwater, etc.);
 - Landscaping works (parks and reserves)
- f) Off Maintenance Inspection
- Civil works (roadworks, drainage, earthworks, stormwater, etc.);
 - Landscaping works (parks and reserves)

Where works are not considered to be at the appropriate standard, the developer's representative is required to provide remedial treatment and a further inspection is required with Council officers once remedial treatments have been undertaken.

5.2 Testing

The developer's representative shall be responsible for ensuring that all works are tested in accordance with the appropriate standards to the satisfaction of Council's representative. Minimum compliance testing frequencies are provided in Appendix B - Minimum compliance testing frequencies of this PSP.

The developer's representative is required to provide a plan identifying locations where testing has occurred. The plan is to be submitted prior to acceptance of on maintenance and as part of the required on maintenance documentation (as highlighted in section 4.1 of this PSP).

It should be noted that Council's delegated officer may vary the frequency of testing to suit site conditions but must provide written advice to the supervising engineer prior to commencement of the relevant works.

6. Stormwater Assets

Council expects to receive and take ownership of stormwater assets that are in good working order and meeting their design intent. Council has a number of procedures in place to avoid the transfer of assets that function poorly and are likely to become maintenance burdens.

Vegetated stormwater assets must be designed constructed and established using best practice as described in *Healthy Waterways* and *Water by Design guidelines*. The guidelines provide advice on best practice processes and compliance checklists covering practical completion, compliance, bonds, on-maintenance, off-maintenance and handover.

Vegetated stormwater assets are to be handed over to Council in good condition and at an appropriate stage of development. Handover of assets to Council is to be in accordance with the *Water By Design Transferring Ownership of Vegetated Stormwater Assets* guideline

(<https://hlw.org.au/download/transferring-ownership-of-vegetated-stormwater-assets-version-1/>) and this PSP. The handover of vegetated stormwater assets must ensure that Council is inheriting a well-functioning and effective asset.

It is expected that the sign off forms as described in the Construction and Establishment Guidelines will be completed by designers and construction supervisors. They must be provided to and accepted by Council prior to acceptance of any infrastructure. Should the inspections or checklists highlight the need for maintenance or rectification, the relevant Water By Design guideline should be referenced (*Maintaining Vegetated Stormwater Assets and/or Rectifying Vegetated Stormwater Assets*) and any records forwarded to Council in accordance with this PSP.

The handover compliance checklists for the relevant asset types as described in the *Transferring Ownership of Vegetated Assets Guideline* must be completed and forwarded prior to Council accepting any new infrastructure. Inspection checklists must be provided for the following stages of development;

- Pre-start meeting
- Practical completion
- On- maintenance
- Off-maintenance

The purpose of the inspections is to confirm that the assets have been constructed and established appropriately, the approval conditions have been met and that the assets meet the handover requirements.

The practical completion and maintenance periods may differ between the civil and landscaped elements. The timing of Council takeover is critical for vegetated assets as the largest risk to their performance is during the allotment-building phase when large volumes of sediment may choke assets.

All design and construction data is to be provided to Council in accordance with Appendix D and E of this PSP.

Appendix A – As Constructed Information Guideline

As constructed drawings and asset information will be used by Council as a record of the constructed assets, and for their continued maintenance. Council will also provide this information to other parties where it is required to assist with identifying the location of infrastructure, connecting to existing infrastructure, to avoid damage to the infrastructure, for its alteration, or other relevant reasons.

1. Scope

1.1. Included Works

This Guideline covers the presentation of as constructed drawings and asset information for civil infrastructure including-

- bulk earthworks
- road works
- allotment earthworks
- allotment conditioning works
- retaining structures
- stormwater drainage infrastructure
- stormwater quality improvement devices
- wetlands water supply mains and associated works
- landscaping works on public land
- all works generally associated with a project except as discussed in 1.2 below

These standards shall apply to all works whether they are constructed in association with new or existing developments, and shall also apply to such works to be constructed in privately or publicly owned land.

1.2. Works Not Covered by this Guideline

Whilst this Guideline does not cover the following, the principles included in this Guideline in addition to industry professional standards and best practice should be followed for:-

- reservoirs and elevated storage tanks
- major pumping installations
- raw water delivery systems
- associated major infrastructure such as treatment plants, etc.

2. Preparation of Drawings

2.1. General

As constructed drawings shall be prepared by a consulting engineer or designer, or a consulting surveyor competent in each discipline associated with the project.

A consulting engineer or consulting surveyor shall certify the as constructed drawings prior to their submission to Council.

2.2. Scales

As constructed drawings are to be produced based on the suite of accepted engineering scales, or multiples of these scales. These are:-

| | | |
|-------------------------------|--------|-----------------------------|
| Overall Plans | 1:5000 | |
| | 1:2500 | |
| | 1:1000 | |
| Layout Plans | 1:500 | |
| | 1:1000 | |
| Longitudinal Sections | 1:500 | Horizontal / 1:50 Vertical |
| | 1:1000 | Horizontal / 1:100 Vertical |
| Cross-sections | 1:100 | Horizontal / 1:50 Vertical* |
| | 1:100 | Horizontal and Vertical* |
| Details | 1:200 | |
| | 1:250 | |
| | 1:100 | |
| Pipework and Pit Details etc. | 1:100 | |
| | 1:50 | |
| | 1:20 | |

Although not preferred, 1:25 and 1:125 and 1:1250 may be used on occasion.

* The selection of distorted scales will depend on the cross slope of the ground and clarity required on the drawing.

2.3. Media and Sheet Sizes

All as constructed drawings for civil infrastructure shall be based on standard size sheets, the following sheet sizes being the only ones accepted:-

- A1 841 mm x 594 mm
- A3 420 mm x 297 mm
- A4 297 mm x 210 mm - building site plans only

2.4. Survey Datum

2.4.1 Horizontal

As constructed control shall be based on the Geocentric Datum of Australia (GDA 94) and be projected to the Map Grid of Australia 1994 (MGA 94) Zone.

2.4.2 Vertical Datum

As constructed levels shall be levelled to Australian Height datum (AHD)

3. As Constructed Drawings

As constructed drawings and asset information will provide all information necessary to show and describe the infrastructure as, and where, it has been constructed.

As constructed drawings and asset information shall be prepared, or checked by the consulting engineer, superintendent or project manager for the project to ensure the information is a complete and accurate record of the constructed works.

Generally, professionally produced AutoCAD based design drawings will be suitable as the basis for preparation of as constructed drawings, depending on the variation between the original design and constructed works.

Drawings produced at the design phase with the collection and presentation of as constructed information in mind may be suitable as the basis for as constructed plans and information. The validity of the design drawings must be checked for compliance with this Guideline, as their suitability should not be assumed.

Design drawings produced as standalone drawings without their future use for as constructed drawings may not be suitable as a basis for as constructed drawings.

Design drawings may not be satisfactory where Council's various standard drawings for the presentation of as constructed drawings differ from conventional design practices.

3.1. Compliance with Operational Works Permit

The operational works permit will require the applicant to submit as constructed information or drawings as a condition of the permit. Information and drawings are to be submitted in accordance with this Guideline.

3.2. Information Required for Council Projects

Design drawings prepared for Council projects should be suitable as the basis for preparation of as constructed drawings.

Where an arrangement exists between Council and another party (e.g. the superintendent, project manager, or a contractor) for the collection and supply of as constructed information, the information shall be collected and presented to Council in accordance with this Guideline.

3.3. Tolerances

Where variations have been approved between the constructed location of the works, and the design position, level and details, for valid reasons and during the construction phase of the project the drawings and asset information shall be amended to show the infrastructure in its as construction location and form. Construction tolerances are provided in Appendix C.

Any deviations outside these tolerances, as approved by Council's representative, must be shown on the as constructed drawings in accordance with this PSP.

These tolerances have been compiled from a number of specifications and publications. Variations may exist between these tolerances and those indicated in some specifications, in which case, the applicable tolerance shall be at the discretion of Council's representative.

4. Presentation of As Constructed Information

4.1. General Information

The project as constructed drawings shall include the following general information:-

- all relevant items listed in Appendix E
- estate or development name and stage
- developer's name
- consultant's name, address and contact details
- scale and scale bar
- drawing title and number
- drawing revision schedule and description of amendments
- locality plan (may be included on a title sheet covering a multi-faceted project)
- legend
- area for indicating approval of the drawing (including amendments)

As constructed plans and asset information files are to show the true nature and extent of construction works carried out. Any ambiguities between notes or values (e.g. minimum depth etc.) are to be deleted and confirmed as actual figures.

Information on the plans submitted for approval and acceptance "on maintenance" is to be limited to only that stage or stages of the development for which approval is sought. All information for other stages shown on plan, sections or details, apart from general allotment layout and road network, is to be removed from the drawings or crossed through with the wording "**NOT IN THIS STAGE**" in large bold lettering.

4.2. ADAC Information File

Council requires ADAC information to be supplied as electronic files. Information contained in this format does not replace hard copy plans, but supplements these. The ADAC file shall contain all relevant information for each asset group. This shall be created using a recognised ADAC compliant tool using the most recent ADAC schema.

All modules in the latest ADAC schema are to be completed to represent the As Constructed attributes of the infrastructure.

4.3. Certifications

All as constructed drawings and information manuals are to include signed certificates. The certificates are to be fixed onto the drawings, and bound into the manuals. Electronic copies of drawings and manuals are to include the signed certificate.

Electronic drawings or files are to contain the consulting engineer or consulting surveyor's certification, including electronic. Certificates may be included on each drawing or file, or as a separate file supplied with and referencing the electronic file name or drawings to which it applies.

Drawings clearly identifying any change in elevation must be certified by a suitably qualified licenced surveyor. Surveyor's certification is required on plans prepared by the Consulting Surveyor.. An engineer's certification will not be required on these drawings.

An engineer's certification will be required on all other drawings associated with the project. The matter of assurances between the engineer certifying the drawing and any other party collecting or presenting the information on drawings is an arrangement between those parties.

A suitably qualified landscape architect may certify plans prepared solely for landscape works. Landscape plans with civil works aspects will need to be co-signed by the certifying consulting engineer.

4.4. Manuals

Council requires copies of operating manuals and similar documents to be supplied in PDF file format.

5. Information Required

As constructed drawings and asset information is to be presented in accordance with Council's various sample presentation standard drawings and the following general requirements.

In general, a drawing and digital data set for a project will contain:-

- locality plan
- layout plan for the project
- layout, locations and details of existing services
- final allotment layout
- details of any "future works" designed to enable detailing of proposed work
- stage boundaries where applicable, or limit of work
- origin of levels and set out information
- ground level data including:
 - horizontal Datum geo-referenced to GDA 1994 MGA Zone 56
 - vertical Datum Digital Terrain Model referenced to AHD provided in one of the following digital formats:
 - 12da file in xml or ascii format;
 - DEM Tin file;
 - 3d triangulation data in DXF AutoCAD format.
- All digital ground level files are to display 0.25m contour intervals

The ADAC As constructed xml must be created using as constructed information in accordance with Council's ADAC Asset Capture Guidelines (<http://www.moretonbay.qld.gov.au/adac>) which from time to time will be amended and updated to reflect the latest version of ADAC and Council's requirements.

The ADAC xml file must share the same unique schema Global Feature 'ObjectId's' as like for like assets represented in the 'Design' ADAC xml file. The design ADAC xml file is to be provided at the approved design stage.

5.1. Allotment Works

Engineering drawings for allotment works are to include the following information:-

- clearing plans
- retaining walls and similar
- drawings showing designated building site locations
- allotment earthworks – extent of cut and fill. Drawings showing allotment earthworks shall include final contours over the allotment, the area over which fill has been placed designated by translucent hatching or shading, and spot depths of fill shown at not more than 15m spacing and along gullies or ridges.

5.2. Roadworks

As constructed drawings for road works are to include the following information:-

- plan of each new road
- detailed plan of each intersection, cul-de-sac or speed control device

- longitudinal section of each road
- cross-sections of each road
- standard (typical) cross-section for each road
- access cross-sections (where necessary)
- noise attenuation barriers
- speed control devices
- signs and line marking
- other details as apply to the project

5.3. Stormwater Drainage Works

As constructed drawings for stormwater drainage works are to include the following information:-

- longitudinal sections of each drain line, showing pipeline, natural surface, and pipeline details at regular spacing (nominal 20 m)
- plan, longitudinal and cross-sections of open drain systems
- layout plan including the stormwater drainage system with numbered manholes and catchpits and culverts etc.
- inter-allotment drainage layout plan in accordance with Council's standard drawing sample
- drainage details including information on manholes, catchpits, culverts etc. catchment plan
- drainage calculations sheet
- detention basin details
- gross pollutant traps
- wetlands systems
- erosion and sedimentation control plans and details of devices

5.4 Structural Works

Where structures and structural works form part of the project works, complete working drawings detailing all structures, (above and below ground) and structural elements are to be provided as part of the drawing set to be submitted.

By example, structures will include concrete pits for assorted valves, pipe galleries, pump stations, and other similar installations.

5.5 Landscaping Works on Public Land

As constructed drawings for landscaping works are to include the following information:

- playground equipment
- playground softfalls
- edging
- gardens
- pathways (if not covered elsewhere)
- lighting and security
- shelters
- BBQs
- park furniture
- paved areas
- irrigation
- underground services
- fencing

6. Submission of As Constructed Information

The requirements for submitting As Constructed information to Council will depend on whether the project is part of an operation works permit, or a project commissioned by Council.

Electronic files are to be submitted on CD, DVD, USB storage device or by email.

6.1. Information Required Under an Operational Works Permit

The information required is as per the details contained with this PSP

6.2. Information Required for Council Commissioned Projects

Where As constructed drawings are required as part of an agreement for a project, the following information is to be provided:-

- one hard copy set of all drawings for the works (except Council standards) in accordance with this guideline. Drawings are to be original size (not reduced).
- ADAC compliant asset data files
- two sets of hard copy operating manuals for pumps, multitrode controllers etc.
- one set of electronic drawings (AutoCAD DWG). This includes all associated files used in drawing creation and printing.
- one set of electronic files (PDF file format) for operating manuals for pumps, multitrode controllers etc.

6.3. As Constructed Drawings and ADAC files

Any as constructed drawing or ADAC file which fails to comply with the requirements of this Guideline or which fails a validation check may be rejected. As constructed information will not be accepted, or works placed "on maintenance" until all as constructed information and presentation complies with this Guideline.

As Constructed Drawings and ADAC files may also be rejected after the works have been accepted on maintenance should Council's representative find they are unsuitable in any way with respect to this Guideline or contain errors or omissions.

These cases would normally come to notice during the transfer of information from the original drawings and files supplied, onto Council's information systems.

Material rejected by Council is to be duly revised, re-certified and re-submitted to Council within fourteen days.

6.4. Recovery of costs

Council reserves the right to recover any relevant costs from a consulting engineer and/or developer who, in the opinion of the Director, Assets and Infrastructure Services Division, has not performed satisfactorily in the preparation of as constructed drawings and asset information.

End Notes

| Amendment Number: 2 Adopted: 27 June 2017 Effective from: 3 July 2017 | |
|--|--|
| Planning Scheme Policy Reference | Summary of amendment |
| - | <ul style="list-style-type: none"> Amendment to reflect the terminology used in the <i>Planning Act 2016</i>, the <i>Planning Regulation 2017</i> and related state planning instruments. |
| Amendment Number: 3 Adopted: 12 December 2019 Effective from: 29 January 2020 | |
| Planning Scheme Policy Reference | Summary of amendment |
| - | <ul style="list-style-type: none"> The overall purpose and general effect of the adopted amendments to the existing planning scheme policies are to update checklists and pro-forma documents within the appendices, nominate compliance testing standards, clarify on-maintenance requirements, include stormwater asset requirements that were previously in a different PSP, and address a number of terminology issues. |

Appendix B – Minimum Compliance Testing Frequencies and Required Results

| Activity | Operation | Test | Minimum Frequency | Required Result |
|---|--|--|---|---|
| 1. Clearing | | Visual Inspection | | |
| 2. Ground Surface Treatment | (Product approval by Council required) | As per manufacturer's recommendations | | |
| 3. Earthworks | a) Backfill replacement of unsuitable material | Compaction (field density) | 1 per 100m, or 1 per location per 500mm layer | >95% std |
| | b) Allotment fill | Compaction (field density) | AS3798 Table 8.1 | >95% std |
| | c) Roadworks fill formation | Compaction (field density) | Greater of: 1 per 250m; per layer (max 200mm) or, 1 per 100m per 2 layers (max 400mm) | >95% std |
| | d) Minor dam embankments | Materials Compaction (field density) | 1 per 200m 1 per 100m | >98% std |
| | e) Levees, catch banks/drains | Compaction (field density) | 1 per 100m | >98% std |
| 4. Roadworks | a) Subgrade | Soaked CBR Compaction (field density) Geometrics | 1 per change of material 1 per 80m or 500m ² min 1 per road Right hand side, centreline and left hand side levels required every 50m | >3 >100% std |
| | b) Replacement of unsuitable material | Soaked CBR Materials Compaction (field density) | 1 from each source material 1 from each source material 1 per 50m ² , or 1 per location per 2 layers (max 400mm) | >CBR 15 >95% std |
| | c) Unbound Pavement | Lower subbase Materials CBR Compaction (field density) | 1 per 500m ³ 1 per 1000m ³ 1 per 500m ² per course or layer | MRTS05 type 2.5 >CBR 15 >100% std |
| Upper Subbase Materials CBR Compaction (field density) | | 1 per 500m ³ 1 per 1000m ³ 1 per 500m ² per course or layer | MRTS05 type 2.3 >CBR 45 <100% std | |

| | | | | |
|---------------------------------|--|--|---|---|
| | | Base Materials CBR Compaction (field density) DOS | 1 per 500m ³ 1 per 100m ³ 1 per 500m ² per course or layer 1 per 1000m ² (Base Course) | MRTS05 type 2.1 >CBR 80 >100% std <65% |
| | d) Subsoil Drains | Materials | 1 per 100m ³ | IPWEA std drawing RS-140 |
| | e) Concrete kerb, kerb and channel, invert, etc. | Materials Concrete Strength | 1 per 500m ¹ pair of test specimens for 28 day test per 100 lineal metres AS3600, AS1012.9, | >N32 |
| | f) Lean mix backfill | Materials Concrete Strength | AS3600 AS3600, AS1012.9 | |
| | g) AC | Materials Compaction (field density) Thickness | 1 per 250t 1 per 1000m ² 1 per 80m, and min 1 per road (test location 1m from crown, alternate sides) | BCC Type 2 or 3 mix BCC Type 2 >91% density BCC Type 3 >92% density |
| | h) Bitumen Seal | Materials (aggregate) Materials (binder) | 1 per 100m 1 set per Tanker | |
| | i) Pavement Depth Verification | Geometrics <ul style="list-style-type: none"> • Subgrade • Preseal | 3 levels (right hand side, centre and left hand side) every 50m | Tabulated Certified by both the surveyor and consulting engineer |
| 5. Stormwater Reticulation | a) Compaction to trench bottom | Compaction (field density) | 1 per 40m | >95% std |
| | b) Bedding | Materials (sieve analysis) | 1 per 200m; | IPWEA std drawing DS-030 |
| | c) Backfill | Compaction (field density) | 1 per 40m per 2 layers (max 400mm), and 1 set of tests per line (MH to MH) | >95% std |
| | d) Concrete Pipe | Certification of Manufacturer | to cover all pipes | |
| | e) FRC Pipe | Certification of Manufacturer | to cover all pipes | |
| | f) Manhole CI Covers and Frames | Certification of Manufacturer | to cover all pipes | |
| | g) Gully Grates | Certification of Manufacturer | to cover all items | |
| 6. Service Conduits (Sewerage & | a) Compaction to Trench Bottom | Compaction (field density) | 1 per road crossing (to natural subgrade) (if ordered) | >95% std |

| | | | | |
|---------------------|--------------------------------|---|--|---------------|
| Water Reticulation) | b) Bedding | Materials (sieve analysis) | 1 per 200m | |
| | c) Backfill | Compaction (field density) | 1 per road crossing per 2 layers (if not sand) | >95% std |
| | d) Pipes | Certification by Manufacturer | to cover all pipes and fittings | |
| 7. Culverts | a) Compaction to trench bottom | Compaction (field density) | 1 per 50m ³ | >90% std |
| | b) Bedding | Materials (sieve analysis) | 1 per 200m ³ | CBR 15 Gravel |
| | c) Cast Insitu Concrete | Materials Concrete Strength | AS3600 AS3600 | N32 |
| | d) Precast Concrete Items | Certification by Manufacturer | to cover all items | N32 |
| | e) Backfill | Materials Compaction (field density) | 1 per 25m Greater of: 1 per 20m, or 1 per 2 layers (max 400mm) | 95% std |
| 8. Concrete Works | a) Foundation Base | Compaction (field density) | 1 per 50m ³ | >90% std |
| | b) Piles | All | AS2159 | |
| | c) Cast Insitu Concrete | Materials Concrete Strength | AS3600, AS1012.9, AS3600, AS1012.9 | N32 |
| | d) Concrete Pavement | Concrete Strength | 2 pairs of test specimens. 1 pair for 7 day test, 1 pair for 28 day test of each 15m ³ or part thereof or min of pair of tests per pour. AS3600, AS1012.9, | As per design |
| | e) Concrete footpaths | Concrete Strength | 1 pair of test specimens for 28 day test of each 15m ³ or part thereof AS3600, AS1012.9, | N32 |
| | f) General Concrete Works | Concrete Strength | 2 pairs of test specimens. 1 pair for 7 day test, 1 pair for 28 day test of each 15m ³ or part thereof AS3600, AS1012.9 | As per design |
| | g) Manhole and Gully Concrete | Concrete Strength | 2 pairs of test specimens. 1 pair for 7 day test, 1 pair for 28 | N32 |

| | | | | |
|-------------------------------|--------------------------|-------------------------------|---|------------------------------|
| | | | day test of each 15m3 or part thereof AS3600, AS1012.9 | |
| 9. Road Furniture and Signage | a) Supply | Certification by Manufacturer | to cover all materials | |
| | b) Installation | All | Council or Australian Standards | |
| 10. Fencing & Guard Rail | a) Supply | Certification by Manufacturer | to cover all materials | |
| | b) Installation | All | Council Standards | |
| 11. WSUD Elements | a) Bio-retention Systems | Filter Media Materials | Hydraulic conductivity testing pH Electrical Conductivity Nitrogen content Phosphorous content Organic content Particle size distribution | IPWEA standard drawing DS-78 |

Appendix C – Construction Tolerances

1. CLEARING

| | | |
|-------------------------------|--------------------------------|------|
| (a) Roadworks formation | | - 0m |
| | | + 3m |
| (b) Bulk earthworks | not outside approved area | |
| (c) Designated building areas | not outside approved area | |
| (d) Pipelines | (i) centreline | - 0m |
| | | + 3m |
| | (ii) not outside approved area | |

2. BULK EARTHWORKS

| | | |
|-----------------------|-------|---|
| a) Finished levels | (i) | ± 200mm |
| | (ii) | free drainage at not less than min. grade |
| | (iii) | residential allotments not less than specified levels adjacent to rivers, creeks or other drainage features |
| b) Formation position | | ± 200mm |

3. ROAD FORMATION

| | | |
|----------------------|-------|---|
| (a) Formation level | | - 15mm |
| | | + 30mm |
| (b) Box width | | + 150mm |
| | | - 0mm |
| (c) Formation width | (i) | top position for cut batter + 200mm |
| | | - 0mm |
| | (ii) | toe position for cut batter + 200mm |
| | | - 0mm |
| | (iii) | top position for fill batter + 200mm |
| | | - 0mm |
| | (iv) | toe position for fill batter + 200mm |
| | | - 0mm |
| | (v) | batters steeper than 1:4 clear of service allocations |
| (d) Batter slope | (i) | not steeper than specified |
| | (ii) | maximum variation to plane of cut batter = 150mm |
| | (iii) | maximum variation to plane of fill batter = 300mm |
| (e) Formation limits | (i) | Trunk Collector, Sub-Arterial and Arterial road formation contained within road reserve |
| | (ii) | comply with relevant verge cross-section |

4. UNBOUND PAVEMENT

| | | | |
|--|------|--|------------------------------|
| (a) Finished level | (i) | any location | + 25mm - 15mm |
| | (ii) | average | ± 10mm |
| (b) Surface | (i) | maximum deviation from 3m straight edge | = 8mm |
| | (ii) | no ponding | |
| (c) Crossfall | (i) | any location | + 0.50% - 0.50% |
| | (ii) | average tolerance | ± 0.20% |
| | (i) | each layer | + 15mm - 10mm |
| (d) Thickness | (ii) | total depth | ± 25mm and not less than min |
| | (i) | for AC seal lip level minus seal thickness | 0mm - 5mm |
| (e) Match to lip level of concrete channel | (ii) | for bitumen seal | - 5mm - 15mm |
| | (f) | Surface evenness (AUSTROADS Count Rate) | ≤ 60 counts / km |

5. SEAL

| | | | |
|------------------|----------|--|--------------------|
| (a) A.C. seal | (i) | match to lip level of concrete channel | + 6mm - 0mm |
| | | (ii) | thickness |
| | | - individual test | + 20mm - 3mm |
| | | - average | + 8mm - 0mm |
| | (iii) | crossfall | |
| | | - any location | + 0.50% - 0.50% |
| | | - average | ± 0.20% |
| | (iv) | horizontal alignment | ± 50mm |
| | (v) | width | |
| | | - unkerbed | + 150mm - 0mm |
| | - kerbed | no gap at channel lip | |
| (b) bitumen seal | (i) | match to lip level of concrete channel | + 10mm + 5mm |
| | | (ii) | crossfall |
| | | - any location | + 0.50% - 0.50% |
| | | - average | ± 0.20% |
| | (iii) | horizontal alignment | ± 50mm |
| | (iv) | width | |
| | | - unkerbed | + 150mm - 0mm |

| | | |
|---|--|---|
| | - kerbed | no gap at channel lip |
| 6. KERB & CHANNEL | | |
| (a) Line and level | | ± 10mm |
| (b) No ponding | | |
| (c) Grade not less than 0.5% slope | | |
| (d) Cross section dimensions | | ± 5mm |
| (e) Maximum deviation from 3.0m straight edge | | 5mm |
| 7. STORMWATER DRAINAGE | | |
| (a) Manholes | (i) plan position (longitudinal and lateral) | ± 75mm |
| | (ii) no ponding in invert | |
| | (iii) top level surface | + 25mm - 15mm |
| | (iv) match to adjacent surface | |
| | - unpaved surface | ± 25mm |
| | - paved surface | ± 6mm |
| (b) Catchpits/Gullies | (i) longitudinal location | ± 100mm |
| | (ii) lateral location | ± 15mm |
| | (iii) no ponding in invert | |
| | (iv) top surface of backstone | true to line and level of adjacent kerb |
| (c) Pipework | (i) invert level vertical | ± 10mm |
| | (ii) invert level horizontal | ± 100mm |
| | (iii) Grade | + 1% - 0% |
| | (iv) joint gap = specified gap | - 0 + pipe dia/100 or + 20mm whichever is least |
| 8. INTERALLOTMENT DRAINAGE | | |
| (a) Pits and chambers | (i) plan position (longitudinal & lateral) | ± 100mm |
| | (ii) no ponding in invert | |
| | (iii) wholly within one property | |
| | (iv) top surface level relative to adjacent ground level | |
| | - grated | + 0mm - 50mm |
| | - ungrated | ± 25mm |
| 9. FENCING | | |
| (a) General | (i) true to line | |
| | (ii) plan position | ± 50mm lateral |
| (b) Noise attenuation fence | (iii) not less than specified height | |
| | (i) true to line | |
| | (ii) plan position | ± 50mm lateral |

- (iii) not less than specified height
- (iv) no gaps

10. CONCRETE FOOTPATH

| | | |
|-------------------------|--|------------------|
| (a) Horizontal position | | ± 25mm |
| (b) Vertical alignment | | ± 25mm |
| (c) Width | | + 25mm - 10mm |
| (d) Surface | (i) maximum deviation from 3m straight edge | 8mm |
| | (ii) no ponding | |

Works constructed outside these tolerances may not be accepted on maintenance.

Appendix D – Construction Checklists

Certified registered engineer details:

Name:

Postal address:

Business phone

Note: Contact numbers which you provide may be used to update council's records.

Subject property information:

Street address:

Real property description (RPD) (if not sealed, please provide previous RPD): Lot: Plan:

Development/subdivision permit number:

Estate name (if applicable): Stage number:

Developer's engineer:

Developer's supervising engineer:

Developer's construction contractor:

The following checklists are to be completed by the developer's engineer progressively throughout the construction phase. The developer's engineer or his nominated inspector (approved by council's engineer) shall carry out inspections as required by Council.

Note: The completed checklist shall form a record of the construction and shall be submitted to council prior to the works being accepted on maintenance.

Critical dates – approvals:

Development permit issued. Date:

Operational works approvals (if applicable)

Roadworks and drainage Date: N/A

Electrical Reticulation. Date: N/A

Landscaping. Date: N/A

Other (specify) Date: N/A

Critical dates – notifications:

Moreton Bay Regional Council
 (7 days prior to commencement, amended A3 drawings also required)

Date: N/A

Adjoining property owners
 (letter box drop, commencement date and duration, copy of notice to council)

Date: N/A

Portable long service levy paid

Date: N/A

Pre-start meeting

Date: N/A

Note: Prior to the pre-start meeting, park areas are to be pegged and delineated to ensure no clearing occurs in park.

Testing reports:

All testing shall be carried out and presented in accordance with Appendix A. The following submissions are required:

- Insitu testing: Subgrade N/A CBR Atterberg limits Densities
 Pavement material N/A CBR Atterberg limits/grading Densities
 Sub base N/A CBR Atterberg limits Densities
 Base N/A CBR Atterberg limits Densities DOS
 Stormwater trenches N/A Densities
 Concrete works N/A Compressive strength test
 A.C. surfacing N/A Core results Marshall stability and flow
 Allotment filling report: N/A Densities

Critical dates – works completed:

Works completed and ready for on maintenance inspections (prior to council's joint inspection date - the development's engineer is to inspect to ensure works are complete and ready for inspection):

- Silt management plan Date: N/A
 Roadworks and drainage Date: N/A
 Electrical Reticulation and street lighting. Date: N/A
 Telecommunications. N/A
 Landscaping. N/A
 Gas. Date: N/A
 Noise attenuation works. Date: N/A
 Other (please specify) Date: N/A

Contractors or major sub-contractors details:

- Principal contractor. Phone: N/A
 Surveyor. Phone: N/A
 Clearing. Phone: N/A
 Earthworks. Phone: N/A
 Geotechnical testing Phone: N/A
 Roadworks formation/pavement. Phone: N/A
 Road seal Phone: N/A
 Drainage works Phone: N/A
 Sewerage reticulation Phone: N/A
 Sewerage pump station (electronic/mechanical) Phone: N/A
 Water reticulation Phone: N/A
 Water pump station (electronic/mechanical) Phone: N/A

| | | | | |
|---|--|--------|--|------------------------------|
| <input type="checkbox"/> Electrical reticulation | | Phone: | | <input type="checkbox"/> N/A |
| <input type="checkbox"/> Streetlighting | | Phone: | | <input type="checkbox"/> N/A |
| <input type="checkbox"/> Telecommunications | | Phone: | | <input type="checkbox"/> N/A |
| <input type="checkbox"/> Landscaping – irrigation | | Phone: | | <input type="checkbox"/> N/A |
| <input type="checkbox"/> Gas | | Phone: | | <input type="checkbox"/> N/A |
| <input type="checkbox"/> Noise attenuation works | | Phone: | | <input type="checkbox"/> N/A |

Customer summary:

I, being a certified registered engineer, certify that the subdivision works have been completed in accordance with council's standards and requirements and that I have had the works supervised as required under this PSP.

Nominated inspector: Date work inspected:

Certified engineer Date:

Privacy statement

Moreton Bay Regional Council is collecting your personal information for the purpose of assessing your construction checklist summary. The collection of this information is authorised under the Planning Act 2016. Your information will not be given to any other person or agency unless required by law.

Appendix E – As constructed drawings

Drawings to be supported by digital versions in one of the formats specified in Appendix A - Section 5 of this PSP

Certified registered engineer details:

Company:
Name: RPEQ number:
Postal address:
Business phone:

Note: Contact numbers which you provide may be used to update council's records.

Subject property information:

Street address:
Real property description (RPD) (if not sealed, please provide previous RPD): Lot: Plan:
Development/subdivision permit number:
Estate name (if applicable): Stage number:

Compliance with development approvals issued by council:

- Material Change of Use development permit conditions
- Reconfiguring a Lot development permit conditions
- Provisions for adjoining development requirements
- Operational Works development permit conditions

Certification of engineering drawings:

All engineering drawings and specifications prepared and signed by a registered engineer in accordance with council's certification; Stage number to be included next to certification. Cross out and print in block "not in this stage" through information pertaining to other stages. See Appendix A & B certification wording for engineers and surveyors certification.

Title block on all engineering drawing to contain the following:

- Estate name (if applicable)
- Developers name
- Consultant's name and address
- Drawing number and sheet number
- Scale with a scale bar
- Locality description
- Origin of levels and location of permanent survey marks
- Schedule showing date and nature of amendments
- Drawing title
- Stage number (if applicable)

Locality plan to contain the following

- North point
- Major road names
- Adjacent localities
- Development area outlined and shaded or crosshatched
- Scale noted

Layout or stage plan drawings to include the following (if applicable):

- Layout of roads
- Approved road names
- Lot layout
- Lot numbers (as per survey plans)
- Stage boundaries clearly shown
- Lot dimensions and areas
- Easements
- North point
- All abandoned services that have been removed shown with a corresponding note

Roadworks plans to include the following (if applicable):

- Road names and road reserve boundaries
- Lot boundaries, including easements
- Centreline or construction line showing
 - Chainages
 - Bearings
 - Off sets if construction line is not the centreline of road
 - All intersection points
- Information for each curve including:
 - Tangent point chainages and offsets
 - Curve radii
 - Arc length
 - Tangent length
 - Super elevation (if applicable)
 - Curve widening (if applicable)
- Kerb lines, including:
 - Kerb radii (where not parallel to centreline)
 - Tangent point chainages (where not parallel to centreline)
- Edge of pavement where no kerb is constructed
- Position and extent of channelisation
- Location and details of all traffic signs, guideposts, guardrail, and other road furniture, etc
- Pavement markings
- Catch pit, manhole and pipeline locations
- Full drainage details where not otherwise shown
- Location and levels of permanent marks or reference marks
- Concrete footpaths and cycle paths
- Location of access points, invert crossing, pram ramps, etc. and details
- North point on each plan view
- Changes in surfacing material
- Scale shown

Intersection, cul-de-sac and speed control devices drawings to include the following (if applicable):

- Road names
- Kerb levels
- Pram ramp location
- Finished surface contours
- Channelisation details including set-out details, radii, etc
- Location of traffic signs, guide posts
- Linemarking (linemarking and signage may be shown on a separate plan)
- Speed control device details
- Section through medians/island etc.
- Details of construction methods for surfacing other than asphaltic concrete or sprayed bitumen
- Design vehicle paths shown on all LATM devices (intersections and mid block)

Road longitudinal sections drawings to include the following (if applicable):

- Road names
- Chainages on centreline (and construction line if used)
- Natural surface or peg levels
- Design road centreline levels
- Design grades
- Length and radii of vertical curves
- Chainage and levels at grade intersection points
- Chainage and levels at vertical curve tangent points
- Section through medians/island etc.
- Cut and/or fill depths
- Horizontal radii and tangent point chainages
- Kerb levels
- Total depth, and depth of pavement courses with CBR values or material used including design CBR
- Type and thickness of surfacing materials
- Road name, centreline and IP chainage of intersection side roads

Cross sections to include the following (if applicable):

- Standard format
- Road names
- Road reserve boundaries
- Road centreline or construction line
- Original natural surface line
- Constructed cross section shape
- Chainage on centreline or construction line together with natural surface level or peg level
- Offset to road centreline from peg line or construction line
- Cross fall batter slopes and dimensions where these differ to that shown on the type cross section
- Side drains shown
- No "open" cross sections - i.e. design and natural surface close
- All cross sections drawn in accordance with Department of Main Roads standard format
- Typical cross section shown for each road to include:
 - Road names
 - Road reserve width
 - Road width between face of kerbs, or pavement width where no kerb is constructed
 - Verge width
 - Location and width of concrete footpath or cycle path, where constructed
 - Off sets if construction line is not the centreline of road
 - Crossfalls and/or grades of pavement, footpaths and batters etc with offsets to change of grade point
 - Type and thickness of surfacing
 - Total depth and depth of pavement courses with CBR values of material used or refer to details on plan

Number:

- Position of subsoil drainage including notation regarding the extent of usage

Accessway (to lots) cross sections to include the following (if applicable)

- Cross section showing offsets to change of grades, including grades and/or levels and to show intersection of design and natural surface
- Any existing car accommodation or features
- Type and details of any surfacing to the access
- Road names and lot numbers being served

Pathways and bikeways drawings to including the following (if applicable):

- All pathways clearly shown
- Chicanes provided to each end of all pathways
- Concrete path shown for all pathways linking to kerb
- Bikepaths clearly shown with widths as per permit or approval
- Drainage pathways
- Drainage pathway cross section
- Verge details to ends of drainage pathways

Stormwater drainage catchment plan drawings to include the following (if applicable):

- Road name
- Existing and proposed property and road boundaries
- All catchments/sub-catchments called up according to the drainage calculation sheet
- Catchment/sub-catchment boundaries indicated by a bold line
- Proposed and As Constructed contours at a suitable interval
- Direction of watershed along the flow path given the longest time of concentration
- Stormwater reticulation schematic layout shown including manhole, inlet and outlet numbers (for urban catchments)
- All internal and external catchment boundaries shown to scale

Stormwater drainage detail plan to include the following (if applicable):

- Detail of pipe junctions in manholes, where pipe centrelines are offset from centre point of manhole
- Full details including reinforcing of non-standard manholes
- Catchpit and field inlet locations (chainage offset, levels, etc.)
- Manhole locations (chainage, offset, levels, etc.) or tie to property boundary
- Culvert locations (chainage, offset, levels, etc.)
- Invert levels and diameters of pipe connections from catchpits to manholes
- Road name

Roof water/inter-lot drainage plans to contain the following (if applicable):

- Road names
- Lot numbers as per survey plans
- Design and as built surface levels
- Pit or inlet locations, surface levels and inlet and outlet invert levels
- Easements
- Roof water lines and kerb outlets under concrete footpath in verge
- Pipe diameter and type of pipe
- Pipe offset from boundaries
- House connection details, tie, length, diameter, IL and SL for each lot

Stormwater details (if applicable):

- Longitudinal sections for each line contain the following:
 - Chainages
 - Original natural surface levels
 - Manhole and endwall chainages together with surface levels and inlet and outlet invert levels
 - Distances between manholes/catchpits/endwalls
 - Grade of each pipe section
 - Diameter and class and material of each pipe section
- Outlet works to contain the following:
 - Open drains
 - Swale / open drain cross sections at each peg chainage (usually 20m intervals)
 - Details of drop structures energy dissipaters, etc. (including top view, section views, etc)

Detention basin details to contain the following (if applicable):

- Plan view showing locality, road name
- Sectional views
- Details of basin wall construction
- Details of all inlet and outlet structures and control devices
- Extent of any permanent storage
- Maximum storage level
- Extent and nature of any landscaping
- Base slopes/crossfall shown
- Batter slopes shown
- Scour protection shown

Gross pollutant traps (if applicable):

- Plan layout/extent
- Long section and cross sections
- All materials specified/indicated
- Structural elements detailed

Noise attenuation works (if applicable):

- Earthworks/mounds - plan, sections and batter slopes
- Barrier/fence details, typical, certified
- Landscaping
- Road names
- Drainage details

Retaining walls and other structures (if applicable):

- Road names
- Lot numbers per survey plans
- Plan layout - extent
- Typical cross section
- Foundation details
- Drainage details
- Construction certified by appropriately experienced engineer

Landscaping plans drawings to include the following (if applicable):

- Road names
- Road reserve and property boundaries together with lot numbers
- Features bounding planting areas such as pathways, medians, etc
- Plan locations of trees and shrubs, etc called up from the schedule including spacings or area allowed between trees and shrubs
- Schedule of plant species with botanical and common names
- The position and type of any existing trees to be retained as part of landscaping or subdivisional works generally (excluding lot works)
- Construction details of any hard landscape elements, planter boxes, retaining walls, fences, etc
- Irrigation system details including valves, main line diameters and conduits
- Positions and extent of root intrusion barriers
- Details of improvement or modification from original design

General earthworks (fill plan) drawings to include the following (if applicable):

- Cut and fill areas clearly shown
- Pre and post contours (legend provided)
- Road and lot layout (indicate numbers)
- Road names
- Plan certified by surveyor

Appendix F – Engineers As Constructed Certification

I: RPEQ
(Engineers name)

being a certified/registered engineer and duly authorised representative of:
(consulting firm or company)

Hereby

- certify the information contained in this drawing is an accurate as constructed representation of the works
- accept responsibility for the as constructed information contained in this drawing
- acknowledge the as constructed information contained in the drawing may be relied on by council and others

Certification of stage: by On
(stage number) (signature) (date)

For
(name of company)

Note: Where consulting firms or company and stage numbers do not apply complete with N/A for not applicable

Privacy statement

Moreton Bay Regional Council is collecting your personal information for the purpose of assessing your construction checklist summary. The collection of this information is authorised under the Planning Act 2016. Your information will not be given to any other person or agency unless required by law.

Appendix G – Surveyors As Constructed Certification

I:
(surveyor's name)

being a certified/registered surveyor and duly authorised representative of:
(company name)

Hereby

- certify the information contained in this drawing is an accurate as constructed representation of the works
- accept responsibility for the as constructed survey information contained in this drawing
- acknowledge the as constructed survey information contained in the drawing may be relied on by council and others

Certification of stage: by On
(stage number) (signature) (date)

For
(name of company)

Note: Where consulting firms or company and stage numbers do not apply complete with N/A for not applicable

Privacy statement

Moreton Bay Regional Council is collecting your personal information for the purpose of assessing your as constructed checklist. The collection of this information is authorised under the Planning Act 2016. Your information will not be given to any other person or agency unless required by law.

Appendix H– Request for On Maintenance

Certified registered engineer details:

Name: RPEQ number:
Company:
Postal address:
Business phone

Note: Contact numbers which you provide may be used to update council's records.

Subject property information:

Street address:
Real property description: Lot: Plan:
Development/subdivision permit number:
Estate name (if applicable): Stage number:
Development engineer:
Construction contractor:

Subdivider's contact for notification of works:

Name: RPEQ number:
Postal address:
Daytime contact
Emergency contact number (24 hours):

Customer summary:

The following works (ticked) are fully completed and ready for on maintenance inspection by council. If there are any defective works and are not minor and require reinspection by council, a reinspection fee will apply.

- Bulk Earthworks
- Roadworks and Stormwater drainage
- Landscape
- Site access and Frontage

I, being a certified/registered engineer, certify that the works are ready for on maintenance.

Signature: Date:

Privacy statement

Moreton Bay Regional Council is collecting your personal information for the purpose of assessing your application for an on maintenance inspection. The collection of this information is authorised under the Planning Act 2016. Your information will not be given to any other person or agency unless required by law.

Terms and conditions:

* Construction checklists are to be completed progressively by the subdivider's engineer throughout the construction phase. The subdivider's engineer or his nominated inspector (approved by council's engineer) shall carry out all inspections required by Council's Planning Scheme Policy.

The consulting engineer shall notify council of the intended date for an on maintenance inspection. At such time the consulting engineer may be requested by council to complete any uncompleted works before an on maintenance inspection and supply council with any outstanding testing or as constructed information.

During an on maintenance inspection council will request that all remedial minor works be completed, if required, and all outstanding information, including all as constructed, quality tests and checklists be submitted to council within 14 days from time of inspection.

In addition, the consulting engineer shall notify council of minor remedial works required to be completed by the contractor for re-inspection. If works have been completed to council's satisfaction, then all works will be accepted on maintenance from the time of the on maintenance inspection.

Should any outstanding works (including all as constructed, quality tests and checklists) not be complete within the prescribed time (i.e. within 14 days from the on maintenance inspection), then council will not accept works on maintenance until these matters have been completed to council's satisfaction.

The completed checklists shall form a record of the construction (attach all appropriate checklists).

Appendix I – Subdivision Maintenance Inspection

Certified registered engineer details:

Company:
Name: RPEQ number:
Postal address:
Business phone:

Note: Contact numbers which you provide may be used to update council's records.

Subject property information:

Street address:
Real property description (RPD): Lot: Plan:
Development/subdivision permit number:
Estate name (if applicable): Stage number:
Contractor:
On maintenance acceptance date:

Report for quarter of (select relevant quarter of maintenance period): 1 2 3 4

If unsatisfactory, remedial works required are to be listed on page 2 of this report.

Roadworks and Stormwater (if applicable):

- | | | |
|--|---------------------------------------|---|
| <input type="checkbox"/> Silt control devices checked | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> Gully pits, manholes and outfalls checked | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> Roofwater system checked | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> Advisory sign in good condition (if applicable) | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> Street signs checked | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> Footpaths in good condition | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> Bikeways and concrete paths checked | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> Kerb and channel | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> AC surface checked | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> Check for trench settlement | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |
| <input type="checkbox"/> Segmental paving sand checked (if applicable) | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Unsatisfactory |

Comments:

Landscaping (if applicable):

Grass cover achieved: % (approx) |
 Trees checked Yes N/A
Comments:

Remedial works required:

Remedial works required:

(Notification to council of works proposed for acceptance)

Remedial works inspected:

(With Moreton Bay Regional Council from previous inspection)

Other comments:

(Notify council of damage or defects for which the subdivider is not responsible)

Privacy statement

Moreton Bay Regional Council is collecting your personal information for the purpose of assessing your monthly subdivision maintenance report. The collection of this information is authorised under the Planning Act 2016. Your information will not be given to any other person or agency unless required by law.

Appendix J – Request for Off Maintenance

Certified registered engineer details:

Company:
Name: RPEQ number:
Postal address:
Business phone:

Subject property information:

Street address:
Real property description: Lot: Plan:
Development/subdivision permit number:
Estate name (if applicable): Stage number:

Off maintenance request details:

Development Engineer:
Construction contractor:
On maintenance acceptance date:

As constructed drawings received by council: Yes No

The following works (ticked) are ready for off maintenance inspection by council. If any remedial works require reinspection by council, a reinspection fee will apply.

Roadworks and Stormwater

Other:

Customer summary:

I, being a certified/registered engineer, certify that the works are ready for off maintenance.

Signature: Date:

Privacy statement

Moreton Bay Regional Council is collecting your personal information for the purpose of assessing your application for an off maintenance inspection. The collection of this information is authorised under the Planning Act 2016. Your information will not be given to any other person or agency unless required by law.