

6.12. PROPOSED AMENDMENT TO THE FAR NORTH QUEENSLAND REGIONAL ORGANISATION OF COUNCILS DEVELOPMENT MANUAL PLANNING SCHEME POLICY

REPORT AUTHOR Pieter Kleinhans, Acting Manager Infrastructure

MANAGER Rachel Brophy, Chief Executive Officer

DEPARTMENT Infrastructure

RECOMMENDATION

That Council:

- 1. Resolves to amend the Douglas Shire Council's Planning Scheme Policy FNQROC Regional Development Manual; and**
- 2. Resolves to undertake public consultation on the proposed amendments to Douglas Shire Council's Planning Scheme Policy FNQROC Regional Development Manual in accordance with the requirements for a Qualified State Interest Amendments in the Minister's Guidelines and Rules under the *Planning Act 2016*; and**
- 3. Delegates authority under s 257 of the *Local Government Act 2009* to the Chief Executive Officer to finalise any and all matters associated with the preparation of the amendment to, and public consultation of the Douglas Shire Council's Planning Scheme Policy FNQROC Regional Development Manual.**

EXECUTIVE SUMMARY

The Far North Queensland Regional Organisation of Councils (FNQROC) represents twelve (12) member Councils from Hinchinbrook to Cooktown inclusive of Hope Vale. FNQROC maintain the FNQROC Regional Development Manual (the Manual) which provides a comprehensive set of guidelines and specifications for carrying out various civil engineering works within the FNQROC local government areas. The Manual sets out the region's:

- Application procedures,
- Construction procedures,
- Development principles,
- Design Guidelines, and
- Specifications for various civil engineering works.

The Manual is also a Douglas Shire Council's Planning Scheme Policy.

FNQROC has recently undertaken a review of the Manual incorporating FNQROC Council and Industry representative comments made on the current version of the Manual (version 8) to date. Proposed changes have been made to the Manual in response to these comments (referred to as proposed Version 9). The proposed amendments are to ensure the manual continues to be functional and up to date and to provide a consistent set of standards to which all can refer.

The public consultation period on the proposed amendments to the Douglas Shire Council's Planning Scheme Policy FNQROC Development Manual will commence on 12 August 2023 and will conclude on 15 September 2023.

During this time, two workshops will be undertaken with the development industry to explain the changes. The process and timing for the amendment to the Manual is consistent across all FNQROC Councils. The public notification period across all FNQROC Councils is also aligned.

Following the public consultation and subsequent review of submissions received on the proposed amendments, a Consultation Report will be presented to Council, prior to the consideration and adoption of the amendments.

BACKGROUND

The current version of the Manual (Version 8) is a Douglas Shire Council Planning Scheme Policy. The Planning Scheme Policy was adopted on 21 January 2021.

Planning Scheme Policies provide information that may be required or requested for a development application; contain standards and include guidelines or advice about satisfying assessment criteria in the planning scheme.

COMMENT

Representatives from each of the local governments and the development industry continually work together to review and make amendments to the Manual. FNQROC has recently undertaken a review of the Manual incorporating FNQROC Council and Industry representative comments made on the current version of the Manual (version 8) to date.

Proposed changes have been made to the Manual in response to these comments (referred to as proposed Version 9). The proposed amendments include:

- Modernising terminology;
- Rectifying cross reference errors;
- Expanding explanatory notes;
- Updating to current and new standards; and
- Inclusions for asset classes and/or equipment.

These amendments ensure the Manual continues to be functional and up to date and to provide a consistent set of standards to which all member Councils can refer.

A summary of the proposed amendments is attached as Attachment 1. Proposed Version 9 of the Manual is available at <https://www.fnqroc.qld.gov.au/regional-programs/regional-development-manual>.

The public consultation is currently planned to commence on 12 August 2023 and conclude on 15 September 2023. During this time, two workshops will be undertaken with Industry to explain the proposed changes.

The FNQROC Executive Officer has managed the review process and will coordinate the advertising. The FNQROC Infrastructure Coordinator will respond to any submissions (in consultation with FNQROC representatives).

Following the public consultation and subsequent review of submissions received on the proposed amendments, a Consultation Report will be presented to Council, prior to the adoption of the amendments. The proposed process for the finalisation of the proposed amendments is attached as an attachment to this report.

PROPOSAL

That Council:

1. Resolves to amend the Douglas Shire Council Planning Scheme Policy FNQROC Regional Development Manual; and
2. Resolves to undertake public consultation on the proposed amendments to Douglas Shire Council Planning Scheme Policy FNQROC Regional Development Manual in accordance with the requirements for a Qualified State Interest Amendments in the Minister's Guidelines and Rules under the *Planning Act 2016*; and
3. Delegates authority under s 257 of the *Local Government Act 2009* to the Chief Executive Officer to finalise any and all matters associated with the preparation of the amendment to, and public consultation of the Douglas Shire Council's Planning Scheme Policy FNQROC Regional Development Manual.

FINANCIAL/RESOURCE IMPLICATIONS

It is not anticipated that the proposed amendments will have a significant impact on Council finance or the local economy.

RISK MANAGEMENT IMPLICATIONS

The risk associated with the proposed amendments is limited. The proposed amendments are to ensure the Manual continues to be functional and up to date and to provide a consistent set of standards to which all can refer. There is greater risk to Council and the development industry associated with an outdated and irrelevant manual. Continually updating the manual will enable Council to control the standard

SUSTAINABILITY IMPLICATIONS

- Economic:** Provision of well planned, integrated and timely infrastructure is a core matter to be considered in the preparation of a planning scheme and in achieving financial, environmental and social sustainability.
- Environmental:** Well planned, integrated and timely infrastructure based on well-established development manual provisions will ensure compliance with federal, state and local government environmental legislation which will preserve and enhance the natural environment.
- Social:** Well planned, integrated and timely infrastructure based on well-established development manual provisions will ensure a consistent approach to development across the region which reflects the community's expectations and enhance community capital.

CORPORATE/OPERATIONAL PLAN, POLICY REFERENCE

This report has been prepared in accordance with the following:

Corporate Plan 2019-2024 Initiatives:

Theme 4 - Inclusive Engagement, Planning and Partnerships

In delivering for our communities, economy and environment, Douglas Shire will ensure open and transparent engagement and communication. We will develop robust strategic plans and we will partner with our community and key stakeholders.

Goal 1 - *We will implement transparent decision making through inclusive community engagement and communication.*

COUNCIL'S ROLE

Council can play a number of different roles in certain circumstances and it is important to be clear about which role is appropriate for a specific purpose or circumstance.

The implementation of actions will be a collective effort and Council's involvement will vary from information only through to full responsibility for delivery.

The following areas outline where Council has a clear responsibility to act:

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| Builder/Owner | Council makes a significant investment every year in the infrastructure that underpins the Shire through its capital works program. Council will manage its assets with appropriate frameworks and deliver its projects through robust project management. |
| Custodian | Council owns and manages infrastructure, facilities, reserves, resources and natural areas. In fulfilling its role as custodian, Council will be mindful of the community, the economy, the environment, and good governance. |

CONSULTATION

Internal: Council Officers from the Infrastructure, Sustainable Communities and Water & Wastewater Groups have reviewed the document. Councillor Workshop in June 2023.

External: Council Officers across the region have been involved in and contributed to the review of the FNQROC Development Manual.

COMMUNITY ENGAGEMENT

Representatives from each of the local governments and the development industry continually work together to review and make amendments to the Manual. FNQROC has recently undertaken a review of the Manual, incorporating FNQROC, Council and Industry representative comments made on the current version of the Manual (version 8) to date.

In accordance with the statutory requirements, the public consultation period is currently planned to commence on 12 August 2023 and conclude on 15 September 2023.

During this time, two (2) workshops will also be undertaken with the development industry to explain the changes. This is an aligned public notification period across all FNQROC Councils.

ATTACHMENTS

1. Proposed Amendments To FNQROC Development Manual [6.12.1 - 41 pages]

| Item | Section | Title | Amend / New / Removal | Description | Comments | Action | Submissions on proposed changes | Recommendation |
|-------------------------------------|-----------------------|---|-----------------------|---|--|---|---------------------------------|----------------|
| Application Procedures (AP1) | | | | | | | | |
| 1 | MISC | Reporting | Add | All operational works applications are to be provided with a Safety in Design Report and Safe Systems Assessment. | | Not recommended | | |
| 2 | AP1.01 | Introduction | add | <p style="text-align: center;">Add</p> <p>9. For clarity, landscapers are responsible for 'soft scope' and RPEQs are responsible for structural components i.e. footpaths, buffer mounds etc.</p> <p>10. RPEQs are required to verify that the operational works design complies with the FNQROC Development Manual.</p> | Added to try and resolve submission from UDIA regarding RPEQ vs Landscaper | Recommended | | |
| 3 | Landscaping generally | | Amend. | Currently an RPEQ is required to lodge landscaping drawings and be involved in prestart/works acceptance. Very few RPEQ's would be experts in landscaping matters and it seems contradictory to have an RPEQ responsible for matters they are not proficient in | Recommend that a Landscape Architect is required for landscaping matters and remove the need for an RPEQ to be involved. | amendments recommended to try and resolve this. | | |
| 4 | AP1.08 (1)(f-g) | Application Procedures Supporting Information | Amend | Remove reference to "IDAS" forms and replace with "Development application forms" or "DA Forms" | Proposed change to refer to current application form | Recommended | | |
| 5 | AP1.08 | Design Guidelines Water Reticulation General New Clause | New | <p>Proposed to include a new item in D6.05 to include a description of the minimum report requirements.</p> <p style="text-align: center;">NEW</p> <p>Insert new clause 9 after 8 as follows:</p> <p>9. A water network report must be submitted, including the following items as a minimum;</p> <ul style="list-style-type: none"> • Locality map clearly identifying the current stage under application and the full development extent <ul style="list-style-type: none"> • Updated Masterplan for the entire development site with each submitted stage • Node and Link Identification layout • Demand Calculations (Ultimate Development and Current Stage) • Identification of external demand impacting on the development site <ul style="list-style-type: none"> • Boundary Conditions • Assumptions • Minimum, Maximum and Fire Flow Scenario (2/3 Peak Hour and Peak Hour) Pressure Results <ul style="list-style-type: none"> • Velocity Results • Capacity calculations for impacted reservoirs and pumps stations • Summary of deficiencies that need addressing and proposed resolutions • Description of operational setpoints and operating methodology (pumps and pressure reducing valves). <p>All results are to be provided in legible figure format, with results and input data provided in table format in an Appendix</p> | <p>This amendment is proposed by CRC's modelling team.</p> <p>In the past, it has been observed that many developers do not include the average day (AD), peak day (PD), peak hour (PH) demand calculations in their submissions, mainly when submissions for individual stages are made.</p> <p>This new clause is seeking to improve the quality of water supply reports beings submitted.</p> <p>The Design Report section under AP1.08 maybe a suitable alternative place for it rather than D6.05</p> | Recommended | | |

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| 6 | AP1.08 | Design Guidelines Sewerage System General | New | <p>NEW</p> <p>Add new item 5 after 4. as follows:</p> <p>5. A sewer network report must be submitted, including the following items as a minimum;</p> <ul style="list-style-type: none"> • Locality map clearly identifying the current stage under application and the full development extent • Updated Masterplan for the entire development site with each submitted stage • Node and Link Identification layout • Load Calculations (Ultimate Development and Current Stage) • Identification of external loads impacting on the development site <ul style="list-style-type: none"> • Assumptions • Proposed pipe grades layout • Peak Dry Weather Flow and Peak Wet Weather Flow Depth and Velocity Results • Pump System and Emergency Storage Analysis • Capacity calculations for impacted downstream sewers and pump stations • Summary of deficiencies that need addressing and proposed resolutions • Description of operational setpoints and operating methodology (pumps). <p>All results are to be provided in legible figure format, with results and input data provided in table format in an Appendix.</p> | <p>This amendment is proposed by CRC's modelling team.</p> <p>Minimum reporting requirements for sewerage. The Design Report section under AP1.08 maybe a suitable alternative place for it rather than D7.05</p> | Recommended | | | |
| Construction Procedures (CP1) | | | | | | | | | |
| 7 | CP1.01 | Introduction | Add | <p>Add points</p> <p>4. For clarity, landscapers are responsible for 'soft scope' and RPEQs are responsible for structural components i.e. footpaths, buffer mounds etc.</p> <p>5. RPEQs are required to verify that the works have been completed or otherwise in the Works Acceptance Inspection Checklist and final acceptance checklist.</p> | <p>Added to try and resolve submission from UDIA and Aurecon regarding RPEQ vs Landscaper</p> | recommended | | | |
| 8 | OFF Maintenance / Development defects | | Amend. | <p>Council has begun defecting developments at off maintenance for 3rd party activities (i.e., skip bins on verges, owners using astroturf on verges, owners building planter boxes around street trees, gardens boxed out for landscaping - trip hazard etc). In addition, council has begun insisting verges are 'weed free', mown and edged prior to final works acceptance. There is no where in FNQROC where this is a requirement. The requirement is for 80% grass cover. Again, while houses are under construction, verges, no longer in the control of the developer, may have less than 80% cover due to building works. The developer is no longer the owner and has no control over these matters.</p> | <p>We need clarification for council staff what is and what is not a defect or the developers responsibility. 80% grass cover is a requirement of the Final Acceptance Checklist, contained in CP1 at Appendix H, page 1 of 3 D9.06 also related to verges and is silent on weeds</p> | comments noted and raised with council | | | |

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| 9 | CP1 | entire document | amend | Replace Registered Surveyor (Consulting) with Registered cadastral surveyor. | <p>The definitions document in FNQROC refers to a surveyor as "Registered Surveyor with the Surveyors Board Qld", however the Statement of Compliance example in the Manual refers to "Certification by Registered Surveyor (Consulting)"</p> <p>The surveyors board considers the term "Consulting" as being an endorsement that is only available to registered surveyors that also have a cadastral endorsement. Additionally, the Surveyors Boards own guidelines state If a certification is required regarding the location of any building, improvement, or utility in relation to a property boundary, this should be provided by a registered cadastral surveyor.</p> <p>Based on the above, we believe the definition of a Surveyor should be updated to reflect the correct qualification requirements, as currently a registered surveyor without the necessary endorsements would</p> | Alternative recommended | | |
| 10 | CP1 | entire document | add | add description of Surveyor as Appropriately Qualified Surveyor in accordance with the Surveyors Act AND simply use the term Surveyor | Surveyor has to work in accordance with the governing act, similar to RPEQ's. There is nothing in the act to say only registered Qld Surveyors can work in Qld. This will keep the manual consistent in terms of naming conventions | Recommended+H 14 | | |
| 11 | Construction Procedures | entire document | amend | amend to reflect Registered Surveyor (Qld) or Registered Cadastral Surveyor (Qld) | | Recommended | | |
| 12 | Construction Procedures | entire document | Amend | Remove words "Annual Recurrence Interval" and "ARI" located in document. Substitute with "Annual Exceedance Probability" and "AEP" equivalent. See webpage http://www.bom.gov.au/water/designRainfalls/#sec1q5 for conversions | Proposed change to refer to reflect current terminology | Recommended | | |
| 13 | Construction Procedures | entire document | Amend | Remove "facsimile" from entire document | | Recommended | | |
| 14 | Landscaping generally | | Amend. | Currently an RPEQ is required to lodge landscaping drawings and be involved in prestart/works acceptance. Very few RPEQ's would be experts in landscaping matters and it seems contradictory to have an RPEQ responsible for matters they are not proficient in | Recommend that a Landscape Architect is required for landscaping matters and remove the need for an RPEQ to be involved. | amendments recommended to try and resolve this. | | |

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| 15 | CP1 | Construction Procedures | Amend whole section to reflect that Op Works can include Landscaping works applications. | Where the Op Works application is for Landscaping works and are designed and run by Landscape Architects, an RPEQ does not need to be involved (and doesn't want to be involved). Amend the requirements so that the LA has the responsibilities and duties of the RPEQ in these Approvals. If the Landscape works include elements designed by an RPEQ, they can provide support to the LA at the appropriate times. | | amendments recommended to try and resolve this. | | |
| 16 | CP1.13(1) | Construction Procedures Erosion and Sediment Control | Amend | Erosion and sediment control plans must address Engineering Best Practice, the Environment Protection Act and other relevant portions of the FNQROC Development Manual | | already in the manual | | |
| 17 | CP1.19 | Introduction | Amend. | CP1.19 section 4 states the date of works acceptance will be the date of the issue of the certificate. This needs additional clarification as recently, Council undertook a works acceptance inspection and subsequently issued the certificate 2 months later. This has resulted in arguments over 3rd party damage. We do not consider that CP1.19, CP1.25 and CP 1.26 contemplated such a delay between the inspection and issue of the certificate. | Reword that the DATE of the SUCCESSFUL Works Acceptance inspection is the date that will be provided on the certificate. | Not recommended | | |
| 18 | CP1.25 (2d) | Project Documentation | Amend. | CP1.19 section 4 states the date of works acceptance will be the date of the issue of the certificate. This needs additional clarification as recently, Council undertook a works acceptance inspection and subsequently issued the certificate 2 months later. This has resulted in arguments over 3rd party damage. We do not consider that CP1.19, CP1.25 and CP 1.26 contemplated such a delay between the inspection and issue of the certificate. | Reword that the DATE of the SUCCESSFUL Works Acceptance inspection is the date that will be provided on the certificate. | Not recommended | | |
| 19 | CP1.26 | Works Acceptance inspection | Amend. | CP1.19 section 4 states the date of works acceptance will be the date of the issue of the certificate. This needs additional clarification as recently, Council undertook a works acceptance inspection and subsequently issued the certificate 2 months later. This has resulted in arguments over 3rd party damage. We do not consider that CP1.19, CP1.25 and CP 1.26 contemplated such a delay between the inspection and issue of the certificate. | Reword that the DATE of the SUCCESSFUL Works Acceptance inspection is the date that will be provided on the certificate. | Not recommended | | |
| 20 | CP1.26 4© | Works Acceptance inspection | amend | c. the above listed items are in accordance with the approved drawings, Council's technical specifications and accepted engineering and landscaping practice works. | | Recommended | | |

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| 21 | CP1.27 (4) | Construction Procedures Early Plan Approval and Bonding of Uncompleted Works | Remove | Upon confirmation that the above matters have been completed, the Applicant or Engineer shall submit the deed of agreement to Council containing the following Remove words "Deed of Agreement" located in CP1.27 (4). Substitute with " the following documentation " | Remove reference to redundant document | recommended | | |
| 22 | CP1.28 | | Plan of Survey should be Plan of Subdivision now | | | recommended | | |
| 23 | CP1.28 (1) | Construction Procedures Approval of plan of survey | Amend | 1. Where operational works are associated with the reconfiguration of land or creation of new titles the Applicant is required to submit plan of survey which accords with the proposal plan approved by Council, suitable for deposit in the office of the Registrar of Titles and duly certified by a Registered Surveyor (Consulting Cadastral), together with 4 copies of the plan , and a completed application form for approval of survey plans, building units, or group titles plan within 2 years from the date of approval of engineering drawings and specifications for subdivisions involving works. Change "4 copies of plans" to " legible electronic plan " | | recommended | | |
| 24 | Appendix | Appendix | New | Checklist for plan of subdivision Insert section 8 of "Application form - approval of plan of subdivision" - Add the checklist | Insert section 8 of "Application form - approval of plan of subdivision" - Add the checklist | Not recommended | | |
| 25 | CP1.28 (3) | Construction Procedures Approval of plan of survey | Amend | The application form and plans, certificate(s) of compliance for any water, sewer reticulation and stormwater drainage system (including CCTV survey), together with the relevant fee are to be lodged with Council. The checklist in Appendix X defines relevant information to be lodged with an application. | Linked to appendix O | Not recommended | | |
| 26 | CP1.29 | | Does not say anything about verges being freshly mowed, weed free, free of residential home builders materials | | | commentary | | |
| 27 | CP1.30 | | Does not say anything about verges being freshly mowed, weed free, free of residential home builders materials (editor note - think this is linked to comment on council process rather than DM) | | | no action | | |
| 28 | CP1 Appendix G | Construction Procedures Appendix G Works Acceptance Inspection Checklist | Multiple amendments to Appendix G | Inclusions of more definitions of defects in multiple asset categories including stormwater drainage system, ESC, sewer reticulation, footpaths, lighting, building and other. Ref Doc No. 7055285 | | recommended | | |

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| 29 | not (S5.25) - sits in CP1 | Thrust Blocks | New | NEW 7. The Contractor shall provide certification that the anchor/thrust blocks have been constructed in accordance with the design and the certification shall be witnessed and accepted (counter-signed) by the Superintendent. | Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts. These amendments make FNQROC consistent with practices used for capital works. | not recommended | | |
| 30 | not (S5.27) - sits in CP1 | Backfilling and Compaction | New | NEW 9. Backfilling shall not be started until all tests and inspections have been carried out and until the Superintendent has given written approval. | Proposed amendments from CRC Design and Delivery team and are based on information included in Council contracts. These amendments make FNQROC consistent with practices used for capital works. | Not recommended | | |
| 31 | CP1 Appendix H | Construction Procedures Appendix H Final Works Acceptance Inspection Checklist | Multiple amendments to Appendix H | Inclusions of more definitions of defects in multiple asset categories including ESC, new categories/headings for concrete works, lighting/electrical and landscaping. | Ref Doc No. 7055293 | recommended | | |
| 32 | CP1 Appendix P | Construction Procedures Appendix P "As-constructed Data" | | Digital data as cons trunk flag in attribute data in Appendix P for all asset classes | Ricky Hewitt: This appears to be an asset management request. Spoke to Steve Albrecht. They would like this flag of "Trunk" or "Reticulation" being a Compulsory Attribute | Held over to be considered in issue 10 | | |
| 33 | CP1 Appendix P | | Amend | Various amendments made to include ACDC as the submission platform for as-constructed for CRC | | Recommended | | |
| 34 | CP1 Appendix P (19) | Construction Procedures Appendix P "As-constructed Data" 19. Attribute Information Requirements 1) Water | Amend | AMEND Amend Sect 19 Attribute Information Requirements 1) Water Under a. Mains amend item i. as follows: i) Nominal Pipe diameter | This amendment was requested by Asset Management | Recommended | | |
| 35 | CP1 Appendix P (19) | Construction Procedures Appendix P "As-constructed Data" 19. Attribute Information Requirements 2) Sewer | Amed | AMEND Amend Sect 19 Attribute Information Requirements 2) Sewer d. Sewer Pipes Under compulsory attributes make i) Size - Internal Nominal Diameter of pipeline is connected to. | This amendment was requested by Asset Management | Recommended | | |
| Road Geometry (D1) | | | | | | | | |
| 36 | D1.01(2) | Design Guidelines Road Geometry Scope | Amend | Replace IPWEA _ Street Design Manual" with most recent document being Institute of Public Works and Engineering Australia Queensland (IPWEAQ) Street Design Manual Walkable Neighbourhoods 2020 | | recommended | | |
| 37 | D1.03 | Reference documents | Amend AS2890 to AS/NA 2890 | | | Recommended | | |

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| 38 | D1.03 | Reference documents | Add "Disability (Access to Premises - Buildings) Standards | | | Recommended | | |
| 39 | D1.03 | Reference documents | Add "Planning Regulations - Schedule 12A Parts 1 - 3 | | | Not recommended | | |
| 40 | D1.03 | Reference Documents | Consider inclusion of IPWEQ Lower Order Road Design Guidelines | A great percentage of the rural roads have AADT<50 , which a higher level of specs would only make the maintenance more expensive for Council and unviable for Developers to develop. | | Recommended | | |
| 41 | D1- table D1.1 | Table D1.1 Street and Road Hierarchy - Deemed to Comply Requirements, Lighting category | 1. Lighting Category as per the table rather than V5 for type 3. 3. Remove footnote 16. | | | Recommended | | |
| 42 | D1.09 Table D1.1 | Design Guidelines Road Geometry Street and Road Hierarchy | Amend | Table D1.1 Street and Road Hierarchy - Deemed to Comply Requirements Amend. Access Place to include footpath on one side as per Street Design Manual: Walkable Neighbourhoods Section 2.3.3 | https://www.fnqroc.qld.gov.au/files/media/original/005/01c/13a/e67/D1-Road-Geometry---Operational-Works-Design-Manual-V8.pdf #6477100 Street Design Manual: Walkable Neighbourhoods 2020 IPWEAQ | Recommended | | |
| 43 | D1.09 Table D1.1 | Design Guidelines Road Geometry Street and Road Hierarchy | New | Collector Road - Major - Add footpath both sides | | Recommended | | |
| 44 | D1.09 Table D1.1 | Design Guidelines Road Geometry Street and Road Hierarchy | Amend | Design speed listed is 30km/hr for Access Street. Proposed is 50km/hr and amend Note 14 accordingly | 50km/h is more in alignment with current MUTCD | Not recommended | | |
| 45 | D1.09 Table D1.1 | Design Guidelines Road Geometry Street and Road Hierarchy | New | Include within the table, characteristics for: - Residential Frontage Access (RFA) - Intersection spacing (minimum), and - On-road Cycling Facilities (min) | | Recommended | | |
| 46 | D1.14 (1) | Design Guidelines Road Geometry Cul-de-sac Turning Areas | Amend | AMEND Amend clause 1 items a and c. as follows: a. In urban areas where lots are or will likely be serviced by a waste collection service, three-point turns (T-Heads) will not be permitted. without the prior consent of Council. Council may review site specific alternatives where topography and site constraints exist, however it must be demonstrated by the consultant how the waste collection service can collect waste bins in forward gear for the adjacent lots. b. Where..... c. All dead end roads whether permanent or temporary between stages of multistage subdivision, must have a turning circle and not a Tee. | This amendment is to ensure that a waste collection vehicle can access and turnaround safely when undertaking its collection service. Often it is found that T head do not allow a waste collection vehicle to enter and exist safely due to parked cars and other obstructions. A turnaround where the truck can operate in forward gear enables efficient collection of waste bins. In some instances a waste collection service cannot be provided if it cannot access the frontage. | Alternative wording recommended | | |

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| 47 | D1.14(1) | Design Guidelines Road Geometry Cul-de-sac Turning Areas | Amend | Amend. Section 1. a. to state "Three-point turns (T-Heads and Y-Heads) will not be permitted without the prior consent of Council. Council may review site specific alternatives where topography and site constraints exist". | https://www.fnqroc.qld.gov.au/files/media/original/005/01c/13a/e67/D1-Road-Geometry---Operational-Works-Design-Manual-V8.pdf | Alternative wording recommended | | |
| 48 | D1.17(4) driveway access standards | | Amend. | Recommend that FNQROC notes that AS2890.1 does not apply to residential lots AS2890.1 Clause 3.2.3a - All residential lots are entitled to access irrespective of the constraints of location | Recently Cairns regional Council has become concerned with driveway accesses and trying to apply AS2890.1 in situations where the Standard simply does not apply. Conditions have been made at Operational Works which are attempting to override ROL approvals. This situation needs resolving as the Council officers have advised RPEQ's that the RPEQ is not interpreting the Standard correctly. The Standard relates to intersections. The officers are applying the Standards to corners. See attached commentary and additional information. | alternative recommended alter must to should | | |
| 49 | D1.19 | Pathways | Include the definition of access pathways | Definition of access pathway should be included in the manual. Is it the same as pathway link? | | Not recommended | | |
| 50 | D1.19(10) Table D1.3 | Design Guidelines Road Geometry Pathways | Amend | Item 10 and Table D1.3 Table d1.3 - Access Place - 2.0m pathway one side | | recommended | | |
| 51 | D1.19(10) Table D1.3 | Design Guidelines Road Geometry Pathways | add | Collector Streets and 2.0m wide pathway on both sides of reserve | To be consistence with Table D1.1 | Recommended | | |
| 52 | D1.19(9) | Design Guidelines Road Geometry Pathways | Amend | item 9 needs to make provision for a kerb ramp - see diagram at # 702 3924 - clash between kerb ramp and catch pit | | Recommended | | |
| 53 | D1.21(9) | Design Guidelines Road Geometry Kerb & Channel | Amend | Item 9 refers to Access ramps change to kerb ramps | | Recommended | | |

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| 54 | D1.26 | Design Guideline D9 | New Clause | D1.26 TRANSPORT NOISE MANAGEMENT 1. Where sensitive land use developments are located adjacent to an existing or planned sub-arterial or arterial road, an acoustic barrier fence shall be installed along the full development frontage of the road corridor. 2. Noise barriers must be high and long enough to block the view of traffic on the road. Minimum required height is 1.8m. 3. The minimum acceptable material surface density for noise barriers is 10-15kg/m2. 4. Noise ameliorating barriers shall be wholly contained within the development site, including footings/piling associated with the barrier, and shall be owned and maintained by the private land owner. 5. Noise barrier designs shall be certified by a suitably qualified acoustic consultant and where required, a RPEQ structural engineer. 6. Additional strategies for mitigating noise impacts from adjacent sub-arterial or arterial transport corridors may include site design, building design/layout, building treatments and dense landscaping. 7. Adopted strategies for noise mitigation must have no adverse effect on the safety and operational integrity/efficiency of the road corridor. | | Alternative recommended | | |
| 55 | NEW | Council sound attenuation fence | Amend | Currently a double picketed fence with no gaps is the usual provision for sound attenuation. The section needs clarification if council roads require a drawing/specification. | We recommend formalising the double picketed fence as the standard and alternatives may be acceptable upon application. | Commentary | | |
| 56 | Table D1.4 | Rural Road Elements | 1. The width of pavement and seal for rural road with AADT>100, should be 8m to cover shoulders and minimise future maintenance (Cook Specific if other Councils willing to keep 6.5m) 2. suggest for AADT less than 50 VPD, as per IPWEA Lower Order Road Design. | 1. Leaving 0.75m shoulder will only add up to the future maintenance costs due to the potential for erosion and growing weeds on the gravel shoulder. 2. A great percentage of rural roads have AADT <50VPD for which IPWEA Lower Order Road Design would be more reasonable and encourage further development. | | Recommended | | |
| Site Regrading (D2) | | | | | | | | |
| 57 | D2.03 | Design Guidelines Site Regrading Reference Documents | Amend | Include the document "Best Practice Erosion and Sediment Control (BPESC)" by the International Erosion Control Association | | Recommended | | |
| 58 | D2.17 (4) | | Conflicts with D9.06. D9.06 requires grassed verges in accordance with Councils minimum standards and Specifications, D2.17 (4) says "footpath areas, batters and distributed areas including allotments are to be trimmed and drill seeded with an approved grass. Variously through the manual, it states grass cover to be 80% including the Final Acceptance Inspection Checklist (under ESC) | | See doc No. 7048750 | recommended | | |
| Road Pavements (D3) | | | | | | | | |
| 59 | Table D3.2 and D3.09 | Pavement | Amend | | Appears to be disconnect. Please review. | no acton | | |
| 60 | D3.11 (1) | Flexible Pavements | Flexible pavements shall be designed in accordance with AUSTRROADS publications Part 2: | Typo error | | Recommended | | |
| 61 | D3.13 (a) | Bitumen wearing surface | 14mm/10 for Cook Shire | Cook Specific | | Recommended | | |
| 62 | D3.15 (3) | ASPHALTIC CONCRETE | All roads greater than 10% CV shall have a 10mm Primer seal ... | include "CV" after 10% | | Recommended | | |

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| 63 | D3.16 | Subsoil Drains | Add: (i) locations near shore lines and under the Highest Astronomical Tide (HAT) | | | Not recommended | | |
| Stormwater Drainage (D4) | | | | | | | | |
| 64 | D4.02(b) | Stormwater | AMEND - States..."to acceptable levels." to "no worsening" of stormwater conditions. | Stormwater impacts | Change to state "no worsening" of stormwater conditions. | alternative wording recommended | | |
| 65 | D4.04 (10) | GENERAL | Add: ... extend to a legal point of discharge outside? | Piped drainage system to be extended to the legal point of discharge rather than just the property boundary. | | Recommended | | |
| 66 | D4 | Table 4.3 Recommended Design Average Recurrence Intervals | discussion should we continue with Q5 or adopt Q2 industry standard | | | not recommended | | |
| 67 | D4 | Table 4.3 Recommended Design Average Recurrence Intervals | amend table to include AEP | | | recommended | | |
| 68 | D4.09 | PIPES / BOX CULVERTS | Remove: (Fibre Reinforced Concrete(FRC) pipes are not permitted) for Cook | This was added to the previous edition as someone's experience had been that FRC's were quite susceptible to failure as a result of poor installation. So, it was agreed that they should not be utilized across the region. However, Cook had to procure and install a number of FRC's due to the recent supply issues. Suggest to remove this and instead place some measures such as Hold Points to ensure the installation quality. | | Recommended | | |
| 69 | D4.12 (2) | Open Channels | Maximum side slopes on grass lined open channels shall be 1 in 4, with a preference given to 1 in 6 side slopes. Channel inverts shall generally have maximum cross slopes of 1 in 10. | shouldn't the last sentence be revised to: "Channel inverts shall generally have maximum cross slopes of 1 in 10."? | | Recommended | | |
| 70 | D4 Appendix A & B | Design Guideline Stormwater Drainage - Appendix A and B | Amend | Provide updated IFD Rainfall Charts and remove Kerb Inlet Capacity Charts as part of same document. | | Recommended update to IFD Rainfall Charts and Kerb Inlet Capacity Charts to remain | | |
| Stormwater Quality (D5) | | | | | | | | |
| 71 | Commentary on SPP - Water Quality | | Has this been resolved and what changes do we need to make to the manual? | | Draft commentary currently attached to the DM D5 | keep commentary | | |
| Water Reticulation (D6) | | | | | | | | |
| 72 | D6.07(1) Table 6.1 | Design Guidelines Water Reticulation Design Criteria 1. Flow Parameters Table 6.1 Equivalent Demands | New | NEW Under the Table 6.1 in the notes box. Insert new note 3. after note 2 as follows: 3. The designer can also refer to the LGIP Extrinsic Materials F75 which include density parameters for a range of residential and non-residential zones. | This amendment is proposed by CRC's modelling team. Table 6.1 should also include the EP conversion factor for hotel / accommodation, hospital, school, childcare etc. During development application phase, sometimes the plans for the shops/offices may not be ready and the conversion factor provided in Table 6.1 may not be applicable due to not having GFA. In such a case, the land area instead of GFA will help derive the demand from these developments. | recommended | | |

| 73 | D6.07(2) | Design Guidelines Water Reticulation Design Criteria 2. Pressure Parameters b) Maximum Pressure | New | <p>NEW Insert new note 2. after note 1 as follows: 2. On some sites with varying topography parts of the subdivision may exceed the maximum pressure criteria. Council may consider an application for dispensation where the following applies:</p> <p>a. Where Council considers it impractical to include a PRV for operational reasons. b. Where the number of lots to be serviced by the PRV is less than 10 lots c. Pressure exceedance is not greater than 70m.</p> <p>The consultant should submit a report and associated recommendations for consideration by Council. As a minimum the report should include:</p> <p>a. Reasons for dispensation. b. Details of the pressure zones, lots affected and pressure management.</p> | The clause says the maximum pressure (60 m) location is at the building pad and the Note 1 says, the need of PRV if the pressure in a main exceeds 600 kPa. Sometimes, this criterion cannot be complied due to terrain elevation and the water main layout as seen in Goldsborough Valley development application (DA) despite with one PRV proposed. | recommended | | | | | | | | | | | | |
|----------------------------------|---|---|-------|--|---|---|-----------------|-----|----------------------------------|------|-----------|-----|------|-----|---|-------------|--|--|
| 74 | D6.07(3)(b)(iv) | Design Guidelines Design Criteria | Amend | <p>Amendment Include amendment to item iv as follows...."iv. Any proposal to utilise boosted pumping directly from the mains must be supported by evidential justification that a 'break tank' is not able to be provided and a hydraulic analysis undertaken by a competent RPEQ confirming that the main is adequately protected from very low pressures (ground water intrusion and implosion) and excessive transient water pressures associated with pump and valve operation (water hammer). "</p> | <p>During a recent discussion with Paul Bates about direct connections for on-lot fire pumps, I realised it may be worth including an additional requirement to emphasise that Council's preference is for a 'break tank' and that information needs to be submitted to convince Council that one is not able to be provided.</p> <p>I thought the addition shown below to clause 3.b.iv. of D6 would address this.</p> | recommended | | | | | | | | | | | | |
| 75 | D6.07(6) | Design Guidelines Water Reticulation Design Criteria 6. Pipeline Parameters | Amend | <p>AMEND In the table change the Friction Equation from "Hazen-Williams" to "Darcy-Weisbach"</p> | <p>This amendment is proposed by CRC's modelling team.</p> <p>Clause 6.07.6 says using Hazen-Williams friction equation for pipe capacity calculation/modelling but for headloss Calculation, Clause 6.07.7 suggests using Darcy-Weisbach roughness values depending on the mean velocity. Both equations give the headloss/friction loss component.</p> | recommended | | | | | | | | | | | | |
| 76 | D6.07(7) | Design Guidelines Water Reticulation Design Criteria 7. Headloss Calculations | Amend | <p>AMEND Replace table with the following:</p> <table border="1"> <thead> <tr> <th>Pipe material</th> <th>Proposed Colebrook White Friction Value</th> </tr> </thead> <tbody> <tr> <td>Asbestos Cement</td> <td>0.3</td> </tr> <tr> <td>Plastic (UPVC, MDPE, Hobas, etc)</td> <td>0.15</td> </tr> <tr> <td>MSCL/DICL</td> <td>0.6</td> </tr> <tr> <td>CICL</td> <td>0.6</td> </tr> </tbody> </table> | Pipe material | Proposed Colebrook White Friction Value | Asbestos Cement | 0.3 | Plastic (UPVC, MDPE, Hobas, etc) | 0.15 | MSCL/DICL | 0.6 | CICL | 0.6 | <p>This amendment is proposed by CRC's modelling team.</p> <p>Clause 6.07.6 says using Hazen-Williams friction equation for pipe capacity calculation/modelling but for headloss Calculation, Clause 6.07.7 suggests using Darcy-Weisbach roughness values depending on the mean velocity. Both equations give the headloss/friction loss component.</p> <p>The existing headloss criteria are for sewer. The table that should be included for water is per #5541644 page 34 (>25 years only as the pipes need to be designed for the long-term).</p> <p>Requires a discussion with the wider FNQROC group with regards to acceptability.</p> | Recommended | | |
| Pipe material | Proposed Colebrook White Friction Value | | | | | | | | | | | | | | | | | |
| Asbestos Cement | 0.3 | | | | | | | | | | | | | | | | | |
| Plastic (UPVC, MDPE, Hobas, etc) | 0.15 | | | | | | | | | | | | | | | | | |
| MSCL/DICL | 0.6 | | | | | | | | | | | | | | | | | |
| CICL | 0.6 | | | | | | | | | | | | | | | | | |
| 77 | D6.07(7) | Design Guidelines Water Reticulation Design Criteria 7. Headloss Calculations | | check the wording above the new table - references Darcy-Weisbach but table says Colebrook White Friction Value | | Recommended | | | | | | | | | | | | |

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| 78 | D6.07(8) | Design Guidelines Water Reticulation Design Criteria 8. Road Crossings | Amend | <p>AMEND Add 2 new points after 3. as follows: 4. Water Road Crossings shall not be directionally drilled unless otherwise approved by Council for the specific site. This is due to inadequate space for making the pipework connection level to the existing main. 5. For a water main crossing of an existing road of standard width it is preferred that the works are undertaken by Council under an Order of Private Works. [This could be CRC specific]</p> | Water Road Crossing are not to be directionally drilled. There has been a number of instances where road crossings are being undertaken as directional bores which make it difficult for the connection work within inadequate space of a standard road reserve. Regarding new clause 5. it is more economical for Council to do the works. | alternative recommended | | |
| 79 | D6.07(8.2) | Design Guidelines Water Reticulation Design Criteria 8. Road Crossings | Amend | <p>NEW AMEND Amend Clause 8.2 as follows: "2. All Road crossings shall be constructed in Ductile Iron Cement Lined pipe (Note: DSC accept PVC)."</p> | | Recommended | | |
| 80 | D6.09 | Water reticulation | Amend | <p>AMEND Add new item 2 and renumber: 1. 2. Aerial crossings shall only be in DICL or stainless steel.</p> | These amendments from Utility Services Water Reticulation. This amendment is a clarification. | Recommended | | |
| 81 | D6.09 (10) | Design Guidelines Water Reticulation Rural and Rural Residential Developments | Amend / New | <p>AMEND and NEW Amend item 10 as follows: 10. In low density rural residential areas, where re-subdivision of lots is proposed (reconfiguration for densification), rider mains are also required by the developer/applicant in accordance with Appendix A5.8. In this case, the rider main must be placed across the full length of frontage to provide connection points for densification on both sides (each side) of the developer/applicant's lot(s). Should a rider main exist on one or both sides of the lot(s), the applicant/developer is required to connect to that rider main as well as providing full frontage coverage himself." 11. In rural residential areas a subdivision development shall be provided with at least two feeds for security of supply.</p> | <p>This amendment is proposed by CRC's modelling team. The historical low density residential classification had been superseded in the planning scheme with rural residential. For noting – this clause would most likely be activated in circumstances where rural residential lot are serviced by sewage or in immediate proximity of a sewer area, as this is the primary limitation for subdivision. Suggest inclusion of an additional criteria that specifically addresses security of supply (minimum of 2 feeds into a development).</p> | alternative recommended | | |
| 82 | D6.09(10) | Design Guidelines Water Reticulation Rural and Rural Residential Developments | Amend / New | <p>AMEND and NEW Amend item 10 as follows: 10. In rural residential areas, where re-subdivision of lots is proposed (reconfiguration for densification), rider mains are also required by the developer/applicant in accordance with Appendix A5.8. In this case, the rider main must be placed across the full length of frontage to provide connection points for densification on both sides (each side) of the developer/applicant's lot(s). Should a rider main exist on one or both sides of the lot(s), the applicant/developer is required to connect to that rider main as well as providing full frontage coverage himself." 11. In rural residential areas a subdivision development shall be provided with at least two feeds for security of supply.</p> | <p>This amendment is proposed by CRC's modelling team. The historical low density residential classification had been superseded in the planning scheme with rural residential. For noting – this clause would most likely be activated in circumstances where rural residential lot are serviced by sewage or in immediate proximity of a sewer area, as this is the primary limitation for subdivision. Suggest inclusion of an additional criteria that specifically addresses security of supply (minimum of 2 feeds into a development).</p> | recommended | | |
| 83 | D6.11 | Water Reticulation Cover Amend Table for scenario 3 | Amend | <p>AMEND Amend Treatment Option 1 for Scenario 1, 2 and 3: Change "concrete encasement" to "marker tape and sand".</p> | Concrete encasement of water mains make it difficult to repair the mains as they need to break or cut the concrete. CRC often conditions deletion of any encasement. | recommended | | |

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| 84 | D6.13(5) | Design Guidelines Water Reticulation Valves | Amend | <p>AMEND Amend D6.13 clause 5 as follows: 5. At tee junctions valves shall be installed on all legs of the TEE. A hydrant shall be located in between the TEE and the valve on one of the legs so the hydrant can serve as a dead end flush point for all off takes.</p> | <p>These amendments from Utility Services Water Reticulation. This amendment is a minor change to reflect current practices.</p> | Recommended | | |
| 85 | D6.15(1 & 2) | Design Guidelines Water Reticulation Building Over or Near Water Infrastructure | Amend | <p>AMEND Amend 1. and 2. to replace "main" with the word "infrastructure" as follows: 1. This section is provided in the development manual to assist developers and property owners understand Council's requirements for building work near Council's water infrastructure and the constraints that may apply to such building work. 2. Any building or structure near Council's water infrastructure is at risk of being impacted or damaged by a burst water main. The location of buildings and structures in close proximity to a water infrastructure can also obstruct Council's access to the infrastructure, delay restoration of services and increases the maintenance cost to Council.</p> | <p>These amendments from Utility Services Water Reticulation. This amendment is a clarification.</p> | alternative recommended | | |
| 86 | D6.16 | Design Guidelines Water Reticulation New section after D6.16 | New | <p>NEW Make new section D6.16 after D6.15 and renumber sections after, alternatively make CRC Specific: D6.16 Trenchless Technology 1. See Specification S9 Trenchless Technology.</p> | <p>Trenchless technology is increasingly being used.</p> | Not recommended | | |
| 87 | D6.17(1) | Design Guidelines Water Reticulation Pump Stations | Amend | <p>AMEND Replace existing item 1 with the following. 1. Pumping stations shall generally be in accordance with the Design Guideline Water Pumping Stations and Switchboards.</p> | | Not recommended | | |
| 88 | D6.22(6) | Design Guidelines Water Reticulation Conduits | Amend | <p>AMEND Amend D6.13 clause 6 to allow a conduit at each side boundaries as follows: 6. Where concrete footpaths are constructed on the road verge and the future water service connections are not being provided, a conduit shall be provided under the footpath near to both side boundaries to facilitate the future installation of water services Where it is located on the same side as the electricity supply then the conduit shall 1.5m away from pillar box.</p> | <p>These amendments from Utility Services Water Reticulation. This amendment provides two options for the water connection point to avoid cutting up the footpath.</p> | Recommended | | |
| 89 | D6.22(7) | Design Guidelines Water Reticulation Conduits | Amend | <p>AMEND Amend clause 7 as follows: 7. Conduits under footpaths shall be a minimum 100mm dia. uPVC Class 6 with 300mm cover and are to extend 300mm past the edge of the footpath. The position of all conduits under footpaths shall be clearly marked by casting a non-ferrous cuphead bolt into the property side of the footpath while the concrete is wet.</p> | <p>These amendments from Utility Services Water Reticulation. This amendment is a clarification to differentiate from 90mm Stormwater.</p> | recommended | | |
| 90 | D6-Appendix A | Addendum to CTM | Request for deletion of item 10.1.4 Inspection and test plans | | | Recommended | | |

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| 91 | D6-Appendix A | Addendum to CTM | Amend | Appendix A Addendum to CTM Code D15.2.3 Curving of pipe, Amend clause 7 as follows 15.2.3 Curving of Pipe | These amendments from Utility Services Water Reticulation. This amendment is a clarification. | recommended | | |
| Sewerage System (D7) | | | | | | | | |
| 92 | D7.08 (1) Table 7.1 | Design Guidelines Sewerage System Design Criteria Equivalent Demands | New | NEW Under the Table 7.1 in the notes box. Insert new note 3. after note 2 as follows: 3. The designer can also refer to the LGIP Extrinsic Materials Report which includes density parameters for a range of residential and non-residential zones. | This amendment is proposed by CRC's modelling team. Table 7.1 should also include the EP conversion factor for hotel / accommodation, hospital, school, childcare etc. During development application phase, sometimes the plans for the shops/offices may not be ready and the conversion factor provided in Table 6.1 may not be applicable due to not having GFA. In such a case, the land area instead of GFA will help derive the demand from these developments. | recommended | | |
| 93 | D7.08 (2) Table 7.3 | Design Guidelines Sewerage System Pipe Velocity | Amend | AMEND Amend Table 7.3 to include new line item as follows: Maximum Velocity 3m/s | This amendment is proposed by CRC's modelling team. 7.08.1 Gravity Pipe Velocity – Maximum velocity is not mentioned. | recommended | | |
| 94 | D7.08 | | new | Bring in the absolute roughness values from D6 (deleted table) into this section | | recommended | | |
| 95 | D7.09(1) Table 7.6 | Design Guidelines Sewerage System Sewer Alignment Preferred Alignment | Amend | AMEND Clause 1 Amend Table 7.6, line item for alignment in verge as follows: Verge - 1.6m subject to approval 1.8m offset from boundary | Lots are now smaller than 20years ago i.e. 800sq.m down to 400sq.m. This amendment is to avoid sewers within smaller lots and the associated issues with access to the infrastructure and building near or over sewers. | Recommended with the removed of 1.6m | | |
| 96 | D7.09 | Sewer | New point 9 | | At end of sewer lines less than 1.5m, to be brought to the surface with a bolted trap screw and protected with 250mm concrete surround. | alternative recommended | | |
| 97 | D7.10.4 | Manholes | And new amended Drawings for Polymer structures to WSAA 137 STD drawings S3000 | 4. Manholes shall be constructed in accordance with the Standard Drawing S3000 Add new drawing numbers for WSAA 137 | See doc No. 7048975 for drawings | Not recommended | | |
| 98 | D7.16 | Trenchless Technology | New | NEW Make new section D7.17 after D7.16 and renumber sections after: D7.17 Trenchless Technology 1. Underbored Gravity sewers are to be by Pipe Jacking not directionally drilled. 2. See Specification S9 Trenchless Technology. | Trenchless technology is increasingly being used. Pipe Jacking is considered the preferred method for underboring to achieve construction tolerances. | Not recommended | | |
| 99 | D7.18 (1) | Sewerage Pump Stations | Amend / New | NEW Add new item after 1. 2. Where a flowmeter is required it shall be a sealed pit resistant to water ingress with a drain back to the valve pit and have a gate valve on the downstream end. Refer to SEQ drawing (SEQ-SPS-1300-4) for the flowmeter pit arrangement. | Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts. These amendments make FNQROC consistent with practices used for capital works. | Recommended | | |

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| 100 | D7.18 (7) | Sewerage Pump Stations | Amend | AMEND Amend to included internal diameter: "Water Supply - 25mm (internal diameter) with RPzD...." | Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts. These amendments make FNQROC consistent with practices used for capital works. Amendment is to ensure correct diameter to suit pressure cleaner used for washing wet wells. | Recommended | | |
| 101 | D7.18 | Design Guideline Sewerage Systems Pump Stations | New | NEW Add new item 20. 20. All pump components (impellers, wear plates, etc) shall have high wear resistance i.e. be of a hard iron alloy. Details and grades of components shall be confirmed with the local authority. | Required for extending the life of components subjected to abrasive environment. | Recommended | | |
| 102 | D7.18 | New Clause | New | NEW Add new clause after clause 19 as follows: 20. A 1200mm diameter receiving manhole shall be installed immediately upstream of the pump station so that there is one inlet dropper in the pump station. | These amendments from CRC Design and Delivery team. These amendments make FNQROC consistent with practices used for capital works and the expectations of Utility Services. | alternative recommended | | |
| 103 | D7.19 (1) | Table 7.14 | Amend | Major amendment to Table 7.14 | #70266590 | Recommended | | |
| 104 | after D7.19 - New Clause | New Clause | New | AMEND New clause after 19. "20. The layout of the hardstand adjacent to the pump station is to allow for out riggers extended from the maintenance vehicle. The crossfall of the hardstand must meet the requirements of the maintenance vehicle. Details of the maintenance vehicle shall be obtained from the Local Authority." | These amendments from CRC Design and Delivery team. These amendments make FNQROC consistent with practices used for capital works and the expectations of Utility Services. Hardstands need to be large enough to include the outriggers that stabilise the maintenance truck when using the davit crane. There is also strict criteria for the maximum crossfall when using the outriggers. | recommended | | |
| 105 | D7.20 Table 7.15 | Rising Main Design | Add riser pipe velocity (riser pipe and valve pit pipework) | Add: (Description) Riser Pipe Velocity (riser Pipe and valve pit pipework) (Parameter) As per pump manufacturer's specifications. (Comments) Typically a higher velocity than the rising mains to enable vertical lift of solids and therefore prevent solids settling on the pump. | doc 7026590 | Recommended | | |
| 106 | D7.20.4 | RISING MAINS | All discharge manholes are to have a protective liner as approved by the local authority and installed in accordance with Manufacturers requirements. REHAU Awashaft Maintenance Structures are suitable for discharge Maintenance Holes | With Concrete structures requiring to be lined or coated. Awashaft PP is unaffected by hydrogen sulphide and ideal for discharge structures. | Rehau is already on propriety product register | Not recommended | | |

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| 107 | D7.20 (4) Table 7.15 | Design Guideline Sewerage System Rising Mains Rising Mains Designs | Amend | It is noted that Table 7.14, Item 10 and Table 7.15 Item 1, indicate that the Darcey-Weisbach formula is to be used for pump and pressure main design, however Table 7.14, Item 11 requires the application of Hazen Williams (and most of our consultants still seem to be using Hazen Williams). I believe that in the 2017 version, the relevant friction factors (that inform how to apply Table 7.14, Item 10 and Table 7.15) for sewer may have been migrated into the water supply design manual instead of the sewer manual, hence the consultant understanding is lost. The retention of Hazen Williams may have been adopted due to the other FNQROC parties, but the current application causes confusion in the document. | | There is an error with the version on the website - this had already been enacted | | |
| 108 | D7 Appendix A 7.72 | Design Guideline Sewerage System Appendix A Addendum to CTM Code 7.7.2 Design Parameters for MSs and TMSs | New | NEW After first dot point add the following new dot point: - Minimum shaft diameter must be 600mm. | This amendment is a clarification. The minimum diameter is to allow for access to sewer through the shaft for jet rodding. | Recommended | | |
| Utilities (D8) | | | | | | | | |
| 109 | D8 Commentary | Utilities Road Lighting | Amend | Remove D8 commentary section. The section is now redundant after ergon changed from gas lights to LED lights | Commentary section was included in V8 as ergon was about to release a LED light schedule and it was unsure if it be published in time for the release of V8 so the existing table D8.1 was left in from V7 and labelled as commentary. To be removed to avoid confusion for designers | Recommended | | |
| 110 | D8.06 (10) | Electricity Supply | | Exceptions may be considered in individual circumstances where unusual conditions or lot layouts exist and where approved by Council and the Electricity Authority. | Typo mistake. Replace "were" with "where" | Recommended | | |
| 111 | D8.07(8) | Design Guidelines Utilities Road Lighting | Amend | Amend D8.07.8 - Add requirements for light pole locations at bus stops and requirement to install solar light in bus shelter. | D8.07.8 - Additional lighting shall be provided at a designated bus stop facility; the design shall include the entry and exit lengths of the bus stop. Street lights are to be placed a minimum of 2.5m on the departure side of the bus marker in accordance with TransLink requirements. Bus shelters are to be fitted with an internal solar light in accordance with Council's specification. | Recommended with the removal of 'Solar' | | |
| 112 | D8.07(8) Table 8.1 | Design Guidelines Utilities Road Lighting | Amend | Entire table amended | See amendments on DM #7034717. | Recommended | | |
| 113 | D8.07(8) Table 8.1 | Design Guidelines Utilities Road Lighting | Amend | Amend D8.07 Table 8.1 Lighting Categories - Table Notes. Table Note 3 - Replace wording Nostalgia with Avenue. Replace wording P4 with PR5. | Table Note 3 - The Avenue street light is only to be used for Category PR5 lighting on a residential access street and/or access place road. Installation of the Avenue street light is not permitted on a Minor Collector Road other than to finish an uncompleted stage. | Recommended | | |
| 114 | D8.07(8) Table 8.1 | Design Guidelines Utilities Road Lighting | Amend | Amend D8.07 Table 8.1 Lighting Categories - Table Notes. Table Note 4 - Replace wording Nostalgia with Avenue. | Table Note 4 - All major and minor road lighting luminaires (Except Avenue) are to be an aeroscreen fixture installed with a zero Degree upcast. | Recommended | | |
| 115 | D8.07(8) Table 8.1 | Design Guidelines Utilities Road Lighting | Amend | Amend D8.07 Table 8.1 Lighting Categories - Table Notes. Table Note 6 - Replace wording P5 with PR6. | Table Note 6 - Council may consider a lesser standard for subdivisions with lots greater than 4000m2 and outside the designated urban footprint. e.g. Category PR6 or lighting at intersections, cul-de-sac's and other hazardous locations. | Recommended | | |

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| 116 | D8.07(8) Table 8.1 | Design Guidelines Utilities Road Lighting | Amend | Amend D8.07 Table 8.1 Lighting Categories - Table Notes. New Table Note 7. | Table Note 7 - At the time Ergon Energy revises its luminaire range, use latest luminaire type and wattage that provides the equivalent spacing distance as the luminaires specified in Table D8.1. | Recommended | | |
| 117 | D8.07(9) | Utilities Road Lighting | Amend | amend lighting columns offset to face of the pole and include size for intersections in line with amended drawing S1010 | | Recommended | | |
| 118 | D8.07(17) | Utilities Road Lighting | Amend | Amend D8.07.17 - Delete repetition of wording and change wording electrical junction box to Ergon Energy service pillar. | D8.07.17 - The edge of a new driveway (inclusive of access aprons), shall be no closer than 1.0m to any power pole-, street light pole or an Ergon Energy service pillar. | Recommended | | |
| 119 | D8.08(3) | Utilities Park Lighting | Amend | Amend D8.08.3 - Amend minimum lighting category and add requirement to provide lighting and CCTV camera at footbridges. | D8.08.3 - Pathways or cycleways within parks that require lighting shall be lit to the minimum lighting category P3 PP3 or above as deemed appropriate from the selection criteria tabled in AS/NZS 1158, "Lighting for Roads and Public Spaces". Surveillance CCTV camera and lighting to the relevant PE lighting category must be provided at footbridges. | Recommended, Surveillance CCTV recommended for CRC only | | |
| Landscaping (D9) | | | | | | | | |
| 120 | Street Trees | | Amend. | Requirements for Street Trees and their location is becoming precedent over the construction of physical infrastructure for subdivisional works. FNQROC Section D9.07 provides for where street trees may not be able to be installed. Trying to 'lock in' street trees prior to development and house construction is pointless. See attached commentary and additional information. | Recommend that officers defer to FNQROC D9.07 | Noted | | |
| 121 | D9.03 | Design Guideline D9 | New | Additional reference documents to aid design | Section 8.2.15 of the CairnsPlan - PO3. Include criteria & requirements for noise amelioration. Refer AS3671; TMR Development Affected by Environmental Emissions from Transport Policy; TMR Transport Noise Management Code of Practice Volume 1 | Not recommended | | |
| 122 | D9.03 | Design Guidelines Landscaping Design Reference Documents | Add | Add Schedule 12A Planning Regulations to list of ref. documents | | not recommended | | |
| 123 | D9.07(6) | Design Guidelines Landscaping Design Street Tree Planning | Amend | Reduce the driveway setback from 3 metres to 1 metre. | This is consistent with the setbacks required between a driveway and street tree under CRC Planning Scheme Parking and Access Code. | Recommended | | |
| 124 | D9.07(6) | Design Guidelines Landscaping Design Street Tree Planning | Amend | Remove the setback requirement for stormwater drainage pits. | Storm water drainage is required fronting each lot associated with the dwelling house and is often installed by the property owner of the dwelling house after the street trees are planted. This setback requirement significantly reduces the available location in the verge for street tree planting and is not required. | Recommended | | |

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| 125 | D9.07(6) | Design Guidelines Landscaping Design Street Tree Planning | New | Add new set back requirements to require: Installation of root directions (CBD)/root barriers(streetscape) for all trees located within 2 metres from services such as sewer and water. Root barriers must be 1.2m horizontally clear of the watermains (measured face to face). Vacuum excavation should be used for any excavation within 2m of water mains | | Recommended | | |
| 126 | D9.09(1) | Design Guidelines Landscaping Design Public Open Spaces General | Amend | item 1 Should read - At the time of development, the developer shall landscape all public open spaces to the satisfaction of Council and in accordance with this manual and relevant Development Approval conditions. | | Recommended | | |
| Earthworks (S1) | | | | | | | | |
| 127 | S1.02 | Specifications Earthworks | Amend | include the document "Best Practice Erosion and Sediment Control (BPESC)" by the International Erosion Control Association | | Recommended | | |
| Stormwater Drainage (S4) | | | | | | | | |
| 128 | S4.04 | Fibre Reinforced Concrete Pipes | Amend to read: S4.04 FIBRE REINFORCED CONCRETE PIPES (FRC) 1. Pipes shall conform to the AS 4139. Pipes of the same diameter and class can be used in lieu of Steel Reinforced Concrete Pipes. 2. In locations where the pipes are to be laid in a subgrade of sand or influenced by saltwater, rubber ringed joints shall be used. 3. Where rubber ring joints are specified the "V" section rubber ring shall be used and are to be jointed using the manufacturer's lubricant. | Was originally approved in issue 8 but not enacted in the document | | Recommended | | |
| Water Reticulation (S5) | | | | | | | | |
| 129 | S5.02 | Reference Documents | add new | AS 1141 Methods for Sampling and Testing Aggregates | Linked to FGF Submission S5.09 | Recommended | | |
| 130 | S5.02 | Reference Documents | add new | AS 2758 Aggregates and Rock for Engineering Purposes | Linked to FGF Submission S5.09 and CRC submission for S5.27 | Recommended | | |
| 131 | S5.05 | Polyethylene Pipe (PE) | Amend | AMEND Amend S5.05 clause 2 so that pipe class is increased from PN16 to PN20 as follows: 2. PE pipes to be minimum PE100 PN16-PN20 As noted in D6 – Appendix A(3.8). Designing engineer is to consider the oxidative reductive potential of the water and an appropriate determination pipe class is to be specified. Fittings shall comply with AS/NZS 4129. | These amendments from Utility Services Water Reticulation. This amendment is a clarification. | Recommended | | |
| 132 | S5.05 | Polyethylene Pipe (PE) | Amend / New | | Any fittings on PE pipe be either male only, or butt-fused and flanged. | Recommended for TRC only | | |

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| 133 | S5.08 | Stainless Steel | Amend | <p>AMEND Amend S5.08 clause 4 as follows: S5.08 STAINLESS STEEL ...</p> <p>4. Weld arrangements for jointing of stainless steel pipe is to be full penetration butt welds in accordance with AS 4041 – Pressure Piping – Class 2A. Where this cannot be achieved a stainless steel band weld can be used subject to Council approval.</p> <p>....</p> | <p>These amendments from Utility Services Water Reticulation. This amendment reflect current practice.</p> | Recommended | | |
| 134 | S5.09 | Bedding Materials | Amend | <p>AMEND Amend S5.09 and add new clause: S5.09 BEDDING MATERIAL</p> <p>1. Bedding Material shall consist of a clean coarse sand or recycled glass material free from organic matter, clay, shells and deleterious material with 100% passing the 6.7mm AS sieve and not more than 5% passing a 0.150mm AS sieve.</p> <p>2. When recycled glass is used, it shall be mixed 50/50 with normal sand bedding material.</p> | <p>These amendments from Utility Services Water Reticulation. This amendment is to mitigate any adverse consequences or perceptions of the use of recycled glass.</p> | Recommended | | |
| 135 | S5.09 | Bedding Material | Amend to include alternative bedding materials, specifically manufactured sand | <p>With the reducing availability of natural sands, and the increasing demand to deliver sustainable infrastructure has combined to encourage the use of alternative bedding materials. Has been in use in SEQ for many years</p> | <p>LIVE-#7004676-FNQROC Submission S5.09 and S6.06 from FGF</p> | Not recommended for Water, Recommended for Sewer | | |
| 136 | S5.10 | Valves | Amend | <p>NEW Add the following after item 3.</p> <p>4. All sluice valves shall be a minimum PN16 resilient seated.</p> <p>5. All flanges shall be PN16 minimum.</p> <p>6. Valves shall close counter clockwise and shall be fitted with a cap for opening and closing by key operation.</p> <p>7. Where noted on the drawings, a 1:1 manual bevel drive gearbox will be installed to provide a 90-degree shaft direction change. The gearbox will be:</p> <ul style="list-style-type: none"> - mounted directly to the valve - sealed to IP68 and suited to underground applications - include 316 SS minimum input shaft and fastenings and cast iron housing <p>8. Valves shall be installed such that they are easily and safely accessible for operating and maintenance purposes.</p> <p>9. Valves shall be located and/or orientated in such a way that:</p> <ul style="list-style-type: none"> - Manual operation of the valves may be carried out with ease and without the need for any other extra equipment - All valves shall be accessible for maintenance and shall be able to be removed from the line without obstruction from adjacent equipment, valves or pipework | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Alternative recommended | | |
| 137 | S5.12 | Bend and Tees | Amend | <p>AMEND Amend S5.12 and replace clause i as follows: i. All bolts above or below to be Grade 316 Stainless steel. In above-ground-uses, bolts shall be Hot-Dipped Galvanised</p> | <p>These amendments from Utility Services Water Reticulation. This amendment reflect current practice.</p> | recommended with the clause reworded | | |

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| 138 | S5.25 | Thrust Blocks | New | <p>NEW Add new points</p> <p>6. Pipeline testing cannot be undertaken until all thrust blocks have been fully cured.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Not recommended, already in S5.29 | | |
| 139 | S5.27 | Backfilling and Compaction | New | <p>NEW Add new points</p> <p>8. Where cement-stabilised sand is called up on the Contract drawings, sand and cement shall be well mixed in the proportions of 1:20 by weight, with sufficient water added to give a slump of 100mm. Sand shall comply with AS2758.1 uncrushed fine aggregate.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Recommended with alternative wording | | |
| 140 | S5.29 | Testing of Lines | New | <p>NEW</p> <p>Between Clauses 1 and 2 include a new clause and renumber rest.</p> <p>2. Pipeline testing cannot be undertaken until all thrust blocks have been fully cured.</p> | <p>This amendment is to avoid blowing out of fittings at testing.</p> <p>Proposed by Capital Works team.</p> | Recommended | | |
| 141 | S5.30 | Flushing & Disinfection | Amend | <p>AMEND</p> <p>Amend S5.30 clause 2 making disinfection as mandatory as follows:</p> <p>2. Disinfection (if directed) If directed by Council; Disinfection of the entire new main is to be carried out using a sodium hypochlorite solution or other chlorine bearing agent. The dosing rate is to be 20mg/L with a contact time of 24 hours. During such time all fittings, valve and hydrants should be operated to ensure all parts are being disinfected.</p> | <p>These amendments from Utility Services Water Reticulation.</p> <p>This amendment is a clarification.</p> <p>CRC has made it mandatory to disinfect mains.</p> | Recommended | | |
| 142 | S5.30 | Sterilisation of water mains | Amend. | <p>Chlorination of water mains is now being enforced. We recommend an annexure with a Work Method Statement/procedure and chlorine calculation table be provided as an annexure. Additionally, Cairns Water Lab need to be made aware.</p> | <p>CP 1 .16 (2) Annexure states (if directed)</p> | Comment noted | | |

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| 143 | New Clause S5.32 | Flexible couplings, dismantling joints and gibault joints | New | <p>NEW S5.32 Flexible couplings, dismantling joints and gibault joints</p> <ol style="list-style-type: none"> 1. Flexible rubber couplings for suction and discharge connections to mechanical equipment shall have integral duck and rubber flanges. Couplings shall match pipeline connection size and pressure rating. 2. Flexible rubber couplings installed adjacent to a wafer type or other through bolted type valve or fitting shall be equipped with a steel spacer flange to prevent distortion of the rubber coupling flange. Restrained couplings shall be provided where necessary. 3. Dismantling joints shall be thrust-type joints, unless otherwise specified. 4. Mechanical pipe couplings are not intended to take tension. Couplings for connecting steel pipe to cast iron or ductile iron pipe shall be gibault or epoxy-coated steel rubber ring compression type. | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Recommended | | |
| 144 | New Clause S5.33 | S5.33 Pipe handling and storage | New | <p>NEW Add new Clause S5.33 Pipe handling and storage</p> <ol style="list-style-type: none"> 1. Pipes and materials must be stored in the areas shown on the Contract drawings, or as agreed with the Superintendent. 2. All pipes and fittings shall be handled, unloaded and stored in a safe way so as to minimise risk to either the public or the workforce. 3. Pipes shall be retained in pipe crating until required for installation. Un-crated pipes should be stored in a manner that prevents twisting, bowing, contact with sharp surfaces and excessive point loads. Sockets and couplings should be alternated for each pipe layer. 4. Pipe stacks should be placed on level firm ground. 5. Single pipes, or pipe in stacks, should be securely chocked to prevent rolling or displacement. 6. Plastic pipes should be stored in a manner that allows ventilation and prevents heat entrapment. 7. Elastomeric seals should be stored in a relaxed, undistorted state in opaque, water-tight packaging in a cool, dark location until use. 8. Methods for handling pipes and fittings shall be in accordance with the manufacturer's recommendations to prevent damage. 9. Slings, skids or other accepted devices to | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Alternative shorter version recommended | | |
| 145 | New Clause S5.34 | S5.34 Damaged Products | New Clause S5.34 Damaged products | <p>NEW S5.34 Damaged products</p> <ol style="list-style-type: none"> 1. Inspect pipes, fittings and other components for damage on delivery, before and after laying. 2. Repairs to damaged products shall be in accordance with the treatment originally specified and in accordance with manufacturer's advice. 3. Remove damaged products unable to be repaired from site without delay and replace at the Contractor's expense. | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Recommended | | |

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| <p>146</p> | <p>New Clause S5.35</p> | <p>S5.35 Pipe Spacers</p> | <p>S5.35 Pipe spacers</p> | <p>NEW S5.35 Pipe spacers 1. A proprietary spacer system shall be used to position the carrier pipe centrally within enveloper pipes. The spacers shall be installed in accordance with the manufacturer's requirements. 2. All spacers shall be of a form to allow the full grouting of the annulus between the carrier and the enveloper pipe, unless otherwise agreed by the Superintendent 3. The system shall be designed to ensure the load is distributed over a number of runners to prevent point loading and deformation of the pipe when installed. 4. Runner heights shall be selected to be approximately 10mm less than the annular clearance. 5. Spacers shall be used at maximum 1m centres with a spacer within 0.5m of each end of the enveloper pipe. The number of spacers provided shall be adequate to ensure there is no noticeable sag in the pipe between spacers.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council contracts. These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Recommended</p> | | |
| <p>147</p> | <p>New Clause S5.36</p> | <p>S5.36 Geotextile Fabric</p> | <p>S5.36 Geotextile fabric</p> | <p>NEW S5.36 Geotextile fabric 1. Geotextile fabric shall be a non woven fabric with sufficiently fine mesh to prevent piping of natural material. The fabric shall have the characteristics similar to those listed below: Table (see in #4653569) Characteristic Requirement (see Table on page 24 in #4653569) Fabric weight Not less than 140g/m2 Two Directional strength tensile strength under uniform applied stress Not less than 8kN/m Permeability to water Not less than 3 x 10⁻³ m/sec under 0.2m head or 0.020 bar Effects of alkali Nil Effects of acid Resistant to all naturally occurring soil acidities (i.e. to acids of pH = 3) Effects of bacteria Nil Effects of temperature Strength unaffected over a temperature range of -20 to +145°C. Effects of ultraviolet light Unaffected by exposure to direct sunlight for periods of up to two months 2. The material to be used shall exhibit uniform tensile stress in all directions. 3. The Contractor shall submit full details of the fabric he intends to use to the Superintendent and receive his written approval to the use of same prior to any fabric being placed.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts. These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Not recommended</p> | | |

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| 148 | New Clause S5.37 | S5.37 Electromagnetic flowmeters | New | <p>NEW Add new clause.</p> <p>S5.37 Electromagnetic flowmeters</p> <ol style="list-style-type: none"> Flowmeters shall be supplied and installed at pumping station outlets and other parts of the trunk water network as required. Flowmeters shall be Siemens or approved equivalent. Flowmeters shall include complete accessories such as wall mounting kit, rail adapters with clamps, cable kit and at least 40 metres of cable cut to suit. The analogue flow-sensing element shall be installed inside the pumping station valve pit and its associated flow transmitter shall be installed within the pump house where it can be interfaced in with the SCADA for remote monitoring. Flowmeters shall be installed strictly to manufacturer's instructions. The cables between the flow element and the flow transmitter shall be buried and enclosed in underground conduit to reduce the risk of damage. | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Rewording recommended and the analogue component moved to D6.17(9)</p> | | |
| 149 | New Clause S5.38 | S5.38 Air and scour valve assemblies | New | <p>NEW Add new clause</p> <p>S5.38 Air and scour valve assemblies</p> <ol style="list-style-type: none"> Scour and air valve structures shall not be constructed within private property. | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Recommended in D6.17(10)</p> | | |
| 150 | New Clause S5.39 | S5.39 Marking tape | New | <p>NEW Add new clause</p> <p>S5.39 Marking tape</p> <ol style="list-style-type: none"> All non-metallic pipes shall be installed complete with proprietary marker tapes to the approval of the Superintendent, to enable ready location of all mains installed under the Contract and to provide warning of the existence of the mains in case of excavation in the area. Marker tape shall be laid 350mm ± 50mm above all buried pipework. Marking tape shall be covered by approximately 100mm of sand. | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Not recommended - already in the development manual</p> | | |
| 151 | S5.40 | Marker plates and electronic markers | New | <p>NEW Add new clause</p> <p>S5.40 Marker plates and electronic markers</p> <ol style="list-style-type: none"> All marker plates and kerb markings shall be in accordance with standard drawing S2011. In the absence of suitable fixing locations for kerb markers or marker plates, the Contractor shall procure and install electronic markers capable of being excited by a standard marker locator. Electronic markers shall be of industry standard frequency and shall be buried underground at a range of 1 – 1.5 metres. | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Not recommended - already in the development manual</p> | | |

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| 152 | S5.42 | Commissioning | New | <p>Add new clause S5.42 Commissioning</p> <p>1. The Contractor shall submit a commissioning plan for works under the Contract to the Superintendent for acceptance four weeks prior to the commencement of any commissioning activities in relation to work under the Contract.</p> <p>2. The Contractor shall engage a person experienced in the development commissioning plans to formulate and manage the implementation of the commissioning plan.</p> <p>3. The commission plan shall contain but not be limited to:</p> <ul style="list-style-type: none"> - Clear accountability and responsibility for aspects of the commissioning - Details of the required function of the facility, systems, sub-systems and significant components - A method of checking that the specifications of the supplied equipment are in line with the Contract requirements - A method of checking that the equipment is set up correctly, mechanically, electrically, and hydraulically in accordance with the manufactures specification - A process for recording and documenting the results of commissioning (actual flow vs. predicted flow, actual current/voltage vs. design current/voltage, etc.). <p>4. The commissioning plan should consider the medium on/in which the equipment shall be commissioned.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Rewording recommended and put in CP1.23(3)</p> | | |
| 153 | S5.41 | Decommissioning | New | <p>NEW New Clause S5.41 Decommissioning</p> <p>1. Where shown on the Contract drawings, abandoning of existing pipelines shall be undertaken by filling with non-shrink cementitious grout for a minimum of two metres or six pipe diameters, whichever is the lesser.</p> <p>2. Seal and manage air during plugging.</p> <p>3. Provide datasheets of the proposed grout for Superintendent's acceptance.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Recommend new title 'Abandoning Pipelines' and reworded.</p> <p>Point 3 not recommended</p> | | |
| Sewerage Reticulation (S6) | | | | | | | | |
| 154 | S6.03 | Sewerage Pipe General Clause 1 | New | <p>NEW Add new pipe material after (iv): (v) Stainless Steel Pipe</p> | <p>These amendments from CRC Design and Delivery team.</p> <p>These amendments make FNQROC consistent with practices used for capital works and the expectations of Utility Services.</p> | <p>Recommended</p> | | |
| 155 | S6.06 | Bedding Materials | | <p>Amend to include alternative bedding materials, specifically manufactured sand</p> <p>With the reducing availability of natural sands, and the increasing demand to deliver sustainable infrastructure has combined to encourage the use of alternative bedding materials. Has been in use in SEQ for many years</p> | <p>LIVE-#7004676-FNQROC Submission S5.09 and S6.06 from FGF</p> | <p>Recommended</p> | | |
| 156 | S6.06 | Sewerage Bedding Material Type 1 Bedding | New | <p>NEW Under Type 1 Bedding include the following: Add 3. after 2. as follows: 3. For recycled glass material, in addition to the grading in 2. it is to be mixed 50/50 with normal sand bedding material.</p> | <p>Replicate recycled sand specification for sewerage.</p> | <p>Recommended</p> | | |

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| 157 | S6.06 | Sewerage Stainless Steel | New | <p>NEW Add new section S6.06 after S6.05 and renumber sections after: S6.06 Stainless Steel Pipe 1. Stainless Steel pipe shall be compliant with WS-Spec, Section TR30 and AS5200 or ASTM A269, Schedule 40S</p> | <p>These amendments from CRC Design and Delivery team.</p> <p>These amendments make FNQROC consistent with practices used for capital works and the expectations of Utility Services.</p> | alternative wording recommended | | |
| 158 | S6.21 | Manholes | New | <p>NEW Add the following after point 7: S6.21 Manholes 8. Cast iron covers and frames to AS3996 shall be supplied for all sewer manholes. 9. Covers and frames shall be the following grades unless specified on the Contract drawings: Table - see Page 29 in #4653569 Cover and frame Location Class B Private Property Public Reserves Footpath and Verges Class D Road Carriageways Car Parks Industrial and commercial driveways</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Class B and D recommended in Manhole covers. The remaining is not recommended, elements are already in the development manual | | |
| 159 | S6.24 | Backfilling and compaction | New | <p>NEW Add the follow after point 7 S6.24 Backfilling and compaction 8. Where cement-stabilised sand is called up on the Contract drawings, sand and cement shall be well mixed in the proportions of 1:20 by weight, with sufficient water added to give a slump of 100mm. Sand shall comply with AS2758.1 uncrushed fine aggregate. 9. Backfilling shall not be started until all tests and inspections have been carried out and until the Superintendent has given written approval.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Point 8 recommended with amended wording. Point 9 already in CP1 | | |
| 160 | S6.33 | Caissons | New | <p>NEW S6.33 Caissons 1. Where caissons are used for sewage pumping stations they shall be sunk by a method approved by the Superintendent. A constant check shall be maintained during sinking on the plumb of the structure and appropriate corrective measures undertaken to prevent any significant deviation. 2. Before casting the plug, the toe of the cylinder at the joint shall be scabbled, moistened and painted with a cement slurry just prior to commencing concreting operations. This shall be carried out as necessary to ensure that no more than fifteen minutes have elapsed between painting and covering the area with concrete. 3. On completion of curing and dewatering of the caisson, any seepage detected shall be stopped by plugging or cutting and grouting to the approval of the Superintendent. 4. The cost associated with dewatering, scabbling and repair work shall be included in the price schedule rate. 5. The Contractor is responsible for flotation prevention during the construction works.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Not recommended | | |

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| 161 | S6.34 | Pipe handling and storage | New | <p>NEW Add New Clause S6.34 Pipe handling and storage</p> <ol style="list-style-type: none"> 1. Pipes and materials must be stored in the areas shown on the Contract drawings, or as agreed with the Superintendent. 2. All pipes and fittings shall be handled, unloaded and stored in a safe way in order to minimise risk to either the public or the workforce. 3. Pipes shall be retained in pipe crating until required for installation. Un-crated pipes should be stored in a manner that prevents twisting, bowing, contact with sharp surfaces and excessive point loads. Sockets and couplings should be alternated for each pipe layer 4. Pipe stacks should be placed on level firm ground. 5. Single pipes, or pipe in stacks, should be securely chocked to prevent rolling or displacement. 6. Plastic pipes should be stored in a manner that allows ventilation and prevents heat entrapment. 7. Elastomeric seals should be stored in a relaxed, undistorted state in opaque, water-tight packaging in a cool, dark location until use 8. Methods for handling pipes and fittings shall be in accordance with the manufacturer's recommendations to prevent damage. 9. Slings, skids or other accepted devices to be provided to ensure that pipes and fittings | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Recommended with rewording to shorten to one sentence</p> | | |
| 162 | S6.35 | Damaged products | New | <p>Add new clause: S6.35 Damaged products</p> <ol style="list-style-type: none"> 1. Inspect pipes, fittings and other components for damage on delivery, before and after laying. 2. Repairs to damaged products shall be in accordance with the treatment originally specified and in accordance with manufacturer's advice. 3. Remove damaged products unable to be repaired from site without delay and replace at the Contractor's expense. | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Recommended with amendments to wording</p> | | |
| 163 | S6.36 | Pipe Spacers | New | <p>NEW Add new clause: S6.36 Pipe spacers</p> <ol style="list-style-type: none"> 1. A proprietary spacer system shall be used to position the carrier pipe centrally within enveloper pipes. The spacers shall be installed in accordance with the manufacturer's requirements. 2. All spacers shall be of a form to allow the full grouting of the annulus between the carrier and the enveloper pipe, unless otherwise agreed by Council 3. The system shall be designed to ensure the load is distributed over a number of runners to prevent point loading and deformation of the pipe when installed. 4. Runner heights shall be selected to be approximately 10mm less than the annular clearance. 5. Spacers shall be used at maximum 1m centres with a spacer within 0.5m of each end of the enveloper pipe. The number of spacers provided shall be adequate to ensure there is no noticeable sag in the pipe between spacers. | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Recommended with amendments to wording</p> | | |

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| 164 | S6.37 | Geotextile fabric | New | <p>NEW Add new clause. S6.37 Geotextile fabric 1. Geotextile fabric shall be a non woven fabric with sufficiently fine mesh to prevent piping of natural material. The fabric shall have the characteristics similar to those listed below: Table (see in #4653569) Characteristic Requirement (see Table on Page 31 in #4653569) Fabric weight Not less than 140g/m2 Two Directional strength tensile strength under uniform applied stress Not less than 8kN/m Permeability to water Not less than 3 x 10⁻³ m/sec under 0.2m head or 0.020 bar Effects of alkali Nil Effects of acid Resistant to all naturally occurring soil acidities (i.e. to acids of pH = 3) Effects of bacteria Nil Effects of temperature Strength unaffected over a temperature range of -20 to +145°C. Effects of ultraviolet light Unaffected by exposure to direct sunlight for periods of up to two months 2. The material to be used shall exhibit uniform tensile stress in all directions. 3. The Contractor shall submit full details of the fabric he intends to use to the Superintendent and receive his written approval to the use of same prior to any fabric being placed.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts. These amendments make FNQROC consistent with practices used for capital works.</p> | Not Recommended | | |
| 165 | S6.38 | Air and scour valve assemblies | New | <p>NEW Add new clause: S6.38 Air and scour valve assemblies 1. Scour and air valve structures shall not be constructed within private property.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts. These amendments make FNQROC consistent with practices used for capital works.</p> | recommended in D7 | | |
| 166 | S6.37 | Commissioning | New | <p>NEW Add new clause: S6.37 Commissioning 1. The Contractor shall submit a commissioning plan for works under the Contract to the Superintendent for acceptance four weeks prior to the commencement of any commissioning activities in relation to work under the Contract. 2. The Contractor shall engage a person experienced in the development commissioning plans to formulate and manage the implementation of the commissioning plan. 3. The commission plan shall contain but not be limited to: – Clear accountability and responsibility for aspects of the commissioning – Details of the required function of the facility, systems, sub-systems and significant components – A method of checking that the specifications of the supplied equipment are in line with the Contract requirements – A method of checking that the equipment is set up correctly, mechanically, electrically, and hydraulically in accordance with the manufactures specification – A process for recording and documenting the results of commissioning (actual flow vs. predicted flow, actual current/voltage vs. design current/voltage, etc.). 4. The commissioning plan should consider the medium on/in which the equipment shall be commissioned.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts. These amendments make FNQROC consistent with practices used for capital works.</p> | Amended wording recommended and included in CP1 | | |

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| 167 | S6.39 | Decommissioning | New | <p>NEW New Clause S6.39 Decommissioning</p> <p>1. Where shown on the Contract drawings, abandoning of existing pipelines shall be undertaken by filling with non-shrink cementitious grout for a minimum of two metres or six pipe diameters, whichever is the lesser.</p> <p>2. Seal and manage air during plugging.</p> <p>3. Provide datasheets of the proposed grout for Superintendent's acceptance.</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | <p>Recommend new title 'Abandoning Pipelines' and reworded.</p> <p>Point 3 not recommended</p> | | | |
| Concrete Works (S7) | | | | | | | | | |
| 168 | S7.06 | Concrete Works Materials | New | <p>New Recycled Crushed Glass Sand Specification.</p> <p>Recommend adding provision for non-structural concrete mixes with a compressive strength of 32MPa or less (i.e. pathways, bikeways and kerb ramps) to have up to 40% (or 20% if using MRTS70 S17.2.3 as a reference) of fine aggregate (sand) replaced with Recycled Crushed Glass Sand (in accordance with Austroads Technical Specification (ATS) 3050).</p> | <p>Case study undertaken by Josh Flanders for Cairns Regional Council in 2019 shows 40% replacement achieves comparable results to N32 concrete.</p> | Recommended | | | |
| Proposed S9 - Trenchless Technology | | | | | | | | | |
| 169 | NEW S9 | Trenchless Technology | New | <p>NEW Add new S9 Trenchless Technology</p> | <p>Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts.</p> <p>These amendments make FNQROC consistent with practices used for capital works.</p> | Not recommended | | | |
| Standard Drawings | | | | | | | | | |
| 170 | New | Road Crossing and Footpath Reinstatement for Trench Laid services | New | <p>Standard drawing for trench reinstatement through constructed pavements should be developed, referencing most recent TMR specifications and aligning with S5.18, S5.27, S5.28, S6.13, S6.24, S6.30. Aforementioned sections to reference the standard drawing. Refer example of standard drawing - 7060368</p> | <p>Detail / specification for trenching and reinstatement of crossing trenches through Council roads / footpaths</p> <p>New. S5.18 & S6.13 states works to be 'carried out in accordance with the requirements of Council'. Requirements should be clarified / specified for consistency.</p> | Recommended S1011 | | | |
| 171 | New | Access Tactiles | New | <p>New: add drawing to detail minimum requirements for tactile installation</p> | <p>Requirements for disability access tactiles including material types and colour selection. These details currently in CRC drawing 23464-10 represent the result of recent decisions on tactile installation in the CBD. It is recommended this drawing is converted to a new standard FNQROC drawing.</p> | Not recommended | | | |
| 172 | NEW | RRPMs | Amend | <p>Recommendation to have a drawing showing preferred locations of RRPM's, traffic furniture heights/locations etc</p> | <p>reflecting/referring to MUTCD / version control/ exceptions.</p> | New drawing to be considered as part of issue 10 | | | |
| 173 | New | Shared path terminal treatment | New | <p>New: add drawing to detail minimum typical requirements for shared path terminal bollard treatment</p> | <p>See BCC Drawing BSD - 5002d as an example</p> | Held over to next review | | | |
| 174 | New | Rural residential road | New | <p>Recommendation for a new acceptable rural residential road and table drain configuration. This drawing further details treatment of road side table drains, essential infrastructure and street trees</p> | <p>Refer to drawing saved under 7024736</p> | Not recommended | | | |

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| 175 | New | Concrete lined open drain | New | Recommendation for a new acceptable concrete lined drain configuration. | Refer to drawing saved under 7025484 | not recommended | | |
| 176 | S1000 | Concrete Kerb and Channel | Amend | Amend Note 1 to suit AS3600 Compliance | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 1 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | Recommended | | |
| 177 | S1000 | Concrete Kerb & Channel | Amend | The section needs a note regarding cutting out of kerb for property access. layback k & C 130mm high may exceed AS Design standards for mounting by average passenger car (ISO 612:1978, term No. 6.10). | Example: Townsville will not permit kerbs to be cut, but have a lower profile kerb | Recommended to add not referring to S1015 | | |
| 178 | S1005 | Typical Road Cross Section | Amend | Road Shoulder Treatment-Rural Propose to include gravel shoulder treatment cross-section for rural road. | | Not recommended | | |
| | S1005 | Typical Road Cross Section Type 1, Type 2 & Type 3 | Amend | Amend. Access Place to include 2.0 m wide concrete pathway on verge, on one side as per Street Design Manual: Walkable Neighbourhoods Section 2.3.3 | | Not recommended | | |
| 179 | S1010 | Public Utilities on Road Verges | Amend | In accordance with AS1158 Section B6.1(a), minimum offset from the kerb to the face of a light poles shall be 0.7m generally and 1.0m at intersections. Recommend adding an additional dimension from invert of kerb to face of pole with "0.7m minimum, 1.0m minimum at intersections". | | Recommended | | |
| 180 | S1010 | Public Utilities on Road Reserve | Amend | Include note on drawing to reflect D8.07.09. 820mm offset +/- tolerance | | note not recommended, drawing amended | | |
| 181 | S1015 | Access Crossovers | Amend | Amend notes: Driveway edge to be 600mm clear of any stormwater kerb inlet pits | | Recommended | | |
| 182 | S1015 | Access Crossovers | Amend | New. Add additional options for non standard driveways and crossovers for CRC. Note to be added that justification is required for use of non standard driveways and crossovers. Design will require Council approval. | #6941287 - Non standard access driveway/crossover Updated design to be submitted by Design Team. Current drawing is a draft only #7034701 (AccessCrossovers-Sk01). | Recommended | | |
| 183 | S1015 | Access Crossovers | Amend | Amend Note 2 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 2 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Recommended | | |

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| 184 | S1015 | Access Crossovers | Amend | Amend Note 7 Note 7 should not duplicate information from note 5. Instead say, "Where an existing footpath is sawcut and a new footpath is installed abutting the existing concrete, an expansion joint shall be formed in accordance with Note 5. Dowels may be fixed into existing concrete by drilling and fixing using a chemical anchoring solution." | | Recommended | | |
| 185 | S1015 | Access Crossovers | Amend | Amend standard drawing to include separation distances from infrastructure. Plan view to show street tree, kerb inlet pit, kerb ramp, electrical distribution pillar | | dealt with through other recommendations | | |
| 186 | S1015 | Access Crossovers | Amend | The drawing shows 1200mm 'wings' however on a dwelling built to boundary, a wing cannot be installed as it would encroach the neighbours property. Include a detail for cutting out of the kerb for residential property. The section also needs to acknowledge that most residential crossovers are 5m wide or more at the kerb. (see note on vehicles clearance, the drawing needs to reflect industry practice and planning constraints - note to see dwg S1015) | | Not recommended | | |
| 187 | S1015 | ACCESS CROSSOVERS | Include note 11 as per S1105. | For Discussion. Sight distance requirements included in S1105 should be included in S1015 (residential area). | Discuss with the group as a suggestion. | Not recommended | | |
| 188 | S1015 | Access Crossovers | Amend | Driveway offset from property boundary. 600mm minimum from driveway creates a total strip of 4.2m (3 m width and 06.m on both sides). Cairns Plan 2016 Section 9.4.8 AO8.2 (a) states the minimum access strip requirement is 4m. | | noted | | |
| 189 | S1016 | Kerb Ramp | Amend | RF72 Mesh Note RF72 is terminology that is no longer in use. All references to RF72 mesh should be changed to SL72. Additionally, these notes should include the location of the mesh within the concrete (i.e. "SL72 mesh located centrally"). | | Recommended | | |
| 190 | S1016 | Kerb Ramp | Amend | Amend Note 2 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 2 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Recommended | | |
| 191 | S1016 | Kerb Ramp | Amend | Amend Note 5 due to Clerical Error Change AS1328.4 to AS1428.4. | | Recommended | | |
| 192 | S1016 | Kerb Ramp | Amend | Rationalise number of redundant pram ramps installed. Create an alternative for a cut out and poured with path pram ramp. | | Noted | | |
| 193 | S1025 | Handrail / Tubular Steel Fence | Amend | Amend Note 5 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 5 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | not recommended | | |

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| 194 | S1026 | Tramway Reserve Fence and Weldmesh Fence | Amend | Amend Note G3 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note G3 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Not recommended | | |
| 195 | S1027 | Security Fencing | Amend | Amend Note 8 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 8 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Not recommended | | |
| 196 | New S1033 | Preferred shared path terminal treatment | NEW | New drawing | | Recommended | | |
| 197 | New S1034 | Typical Bicycle treatment foer single land roundabouts | New | New. Add CRC Preferred Typical Bicycle Treatment for Single Lane Roundabouts drawing as a guide for required signage and line marking only at new roundabouts. Roundabout itself will need to be designed and constructed as per relevant AS. | | Recommended | | |
| 198 | S1035 | Pathways / Bikeways | Amend | New to suit AS1428 Compliance Consider adding a note which specifies that all longitudinal grades shall be in accordance with AS1428 unless otherwise approved by Council. | | Recommended | | |
| 199 | S1035 | Pathways / Bikeways | Amend | Amend to suit AS1428 Compliance Consider changing the "2.5% to 3.0% grade" to "2.5% maximum grade" in accordance with AS1428. Add note which states "Alternative maximum cross-sectional grades may be considered with Council approval." similar to notes 11 & 12. Also consider merging this new note, note 11 and note 12. | | Recommended | | |
| 200 | S1035 | Pathways / Bikeways | Amend | Amend Note 6 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 6 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Recommended | | |

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| 201 | S1035 | Pathways/bikeways | Amend | Commentary around corner truncations when they are less than standard. 1 Cord Truncations of 4.0 x 4.0 needs to be formalised. When 3-5% grade on verge but path at 2.5% results in the verge having steps which have been refused in the past. Recommend additional note regarding nail in path for conduits underneath. | see also D1.19 d9.12 | Not recommended | | |
| 202 | S1036 | Bikeway Slowdown Control Details | Amend | Amend Note 1 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 1 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Not recommended | | |
| 203 | S1038 | Bikeway Slowdown Control Offset Chicane | Amend | Amend due to clerical error. 600mm dimension should be changed to 700mm to be consistent with all other FNQROC references. | | Recommended | | |
| 204 | S1039 | Bikeway Slowdown Control 'Z' Chicane | Amend | Amend to suit AS1428 Compliance Design has insufficient manoeuvrability space (1500x1500mm) for a wheelchair to navigate the chicane. Recommend increasing the clear distance between long barrier rails to 1500mm. | | Recommended | | |
| 205 | S1040 | Street Name Signs | Amend MRC to MSC | | LIVE-#7004661-MSC submission - Street Signs - Note 1 - Standard Drawing | Recommended | | |
| 206 | S1040 | Street Name Sign | Amend | Amend Note 5 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 5 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Not recommended | | |
| 207 | S1040 | Street Name Signs | Amend | Remove note 3, requirement for valve box surround. Renumber notes accordingly | Remove valve box requirement as proven to be a burden for maintenance activities | No Action - comment refers to an old drawing | | |
| 208 | S1040 | Street Name Sign | Amend | position of poles on esplanade roads, additional street name suffixes | Current drawings show only to position name signs on truncations. However on Esplanade Roads, if it is positioned opposite intersection emergency services vehicles have better access. | No Action - note 4 covers this | | |
| 209 | S1041 | Traffic Control Devices | Amend | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 8 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Not recommended | | |
| 210 | S1041 | Traffic Controlling Devices | Amend - signage to be located 600mm from sign edge from edge of road | signage to be located 600mm from sign edge from edge of road | LIVE-#7004643-submission to development manual - FW New Task - 704698 2021 - Traffic Calming Speed Safety (R5) | Recommended with additional amendments | | |

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| 211 | S1041 | Traffic Control Devices | New | Amend Note 8 to suit AS3600 Compliance Recommend adding a minimum dimension of 500mm from edge of footpaths to face of post (in accordance with AUSTROADS AP-G88-17 Figure 3.2). | | not recommended | | |
| 212 | S1041 | Traffic Control devices | Amend | Council have included new roundabout drawing. Recently at Smithfield Village, the internal road roundabout has 2 x the number and larger signs than McGregor Rd which is dual lane collector road. Need to rationalise and clarify what signage is required where. | | Noted | | |
| 213 | S1045 | Excavation, Bedding and Backfilling of Precast Box Culverts | Amend | Amend Note 6 to suit HAT Changes Note 6 notes AHD 1.8m as being the cut-off for looking into alternative exposure classification. Consider changing to "...below HAT level within the local government area concrete shall be N40 minimum. Minimum cover to be 45mm". | | Alternative wording recommended | | |
| 214 | S1046 | Excavation, Bedding and Backfilling of Concrete Pipes | Amend | Amend Note 6 to suit HAT Changes Note 6 notes AHD 1.8m as being the cut-off for looking into alternative exposure classification. Consider changing to "...below HAT level within the local government area concrete shall be N40 minimum. Minimum cover to be 45mm". | | Alternative wording recommended | | |
| 215 | S1050 | Grated Kerb Inlet Pit Pipe Dia <= 600mm | Amend | Amend Note 2 to suit HAT Changes Note 2 notes AHD 1.8m as being the cut-off for looking into alternative exposure classification. Consider changing to "...below HAT level within the local government area concrete shall be N40 minimum. Minimum cover to be 45mm". | | Alternative wording recommended | | |
| 216 | S1050 | Grated Kerb Inlet Pit Pipe Dia <= 600mm | Amend | Amend Note 1 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher) as KIPs are always expose to water. As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 1 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600. Minimum cover to be 40mm." | | Recommended | | |
| 217 | S1050C and S1055E | Grated Kerb Inlet Pit | Amend | The requirement for 100mm clearance on section drawing is not clear, this needs to be clarified if it should this be from inside or outside of pipe. Additionally consider if there should there be a trafficable version. | | recommended | | |
| 218 | S1055 | Grated Kerb Inlet Pit Pipe Dia > 600mm | Amend | Amend Note 3 to suit HAT Changes Note 3 notes AHD 1.8m as being the cut-off for looking into alternative exposure classification. Consider changing to "...below HAT level within the local government area concrete shall be N40 minimum. Minimum cover to be 45mm". | | amended wording recommended | | |

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| 219 | S1055 | Grated Kerb Inlet Pit Pipe Dia > 600mm | Amend | Amend Note 2 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher) as KIPs are always exposed to water. As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 2 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600. Minimum cover to be 40mm." | Recommended | | |
| 220 | S1060B | Kerb inlet grate and frame | Amend | The drawing is silent on locking tabs, we commend adding alternative detail to add comment on locking tabs. Crevet Cast Iron alternative pits should also be included (Galvanized or black precast acceptable) | recommend note to be included | | |
| 221 | S1065 | Stormwater Manholes 1050 to 1500 | Amend | Amend Note 1 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher) as manholes are always exposed to water. As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 2 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600. Minimum cover to be 40mm." | Recommended | | |
| 222 | S1065 | Stormwater pits | New | New: add drawing to include a rectangular stormwater pit. See example TCC precast Grated drawing and TCC Stormwater Manhole details | Held over to be considered in issue 10 | | |
| 223 | S1065 | | Amend | The requirement for 150mm clearance on section drawing needs to be clarified if this is measured from inside or outside of pipe. Additionally, 150 mm measurement is inconsistent with S1050 and 1055. The sections needs to reference notes in S4.10 | Recommended to include note to outside of pipe | | |
| 224 | S1066 | Access Chamber Rectangular Roof Slab | Amend | Amend Note 2 to suit HAT Changes Note 2 notes AHD 1.8m as being the cutoff for looking into alternative exposure classification. Consider changing to "...below HAT level concrete shall be N40 minimum. Minimum cover to be 45mm". | Recommended | | |
| 225 | S1066 | Access Chamber Rectangular Roof Slab | Amend | Amend Note 1 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 1 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600. Minimum cover to be 40mm." | Recommended | | |
| 226 | S1070 | Field Inlet Pits | Amend | Amend Note 2 to suit HAT Changes Note 2 notes AHD 1.8m as being the cutoff for looking into alternative exposure classification. Consider changing to "...below HAT level within the local government area concrete shall be N40 minimum. Minimum cover to be 45mm". | Recommended | | |

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| 227 | S1070 | Field Inlet Pits | Amend | Amend Note 1 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 1 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600. Minimum cover to be 40mm." | Recommended | | |
| 228 | S1075 | Concrete Pipe Headwall 375 to 675 | Amend | Amend Note 2 to suit HAT Changes Note 2 notes AHD 1.8m as being the cutoff for looking into alternative exposure classification. Consider changing to "...below HAT level within the local government area concrete shall be N40 minimum. Minimum cover to be 45mm". | Recommended | | |
| 229 | S1075 | Concrete Pipe Headwall 375 to 675 | Amend | Amend Note 1 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 1 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600. Minimum cover to be 40mm." | Recommended | | |
| 230 | S1080 | Box Culvert Headwall 150 to 600 | Amend | Amend Note 1 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 1 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600. Minimum cover to be 40mm." | Recommended | | |
| 231 | S1080 | Box Culvert Headwall 150 to 600 | Amend | Amend Note 2 to suit HAT Changes Note 2 notes AHD 1.8m as being the cutoff for looking into alternative exposure classification. Consider changing to "...below HAT level within the local government area concrete shall be N40 minimum. Minimum cover to be 45mm". | Recommended | | |
| 232 | S1085 | Concrete Pipe Headwall Wingwalls and Apron | Amend | Amend Note 2 to suit HAT Changes Note 2 notes AHD 1.8m as being the cutoff for looking into alternative exposure classification. Consider changing to "...below HAT level within the local government area...". | Recommended | | |
| 233 | S1090 | Box Culvert Headwall, Wingwalls and Apron | Amend | Amend Note 2 to suit HAT Changes Note 2 notes AHD 1.8m as being the cutoff for looking into alternative exposure classification. Consider changing to "...below HAT level within the local government area...". | Recommended | | |

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| 234 | S1105 | Rural Allotment Accesses | Amend | Amend Note 8 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 8 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Recommended | | |
| 235 | S1105 | Concrete driveway for allotment access | amend | The section needs to reference S1110 and vice versa | | Recommended | | |
| 236 | S1110 | Concrete Driveway for Allotment Access | Amend | Amend Note 2 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 2 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Recommended | | |
| 237 | S1110 | Concrete driveway for allotment access | amend | The section needs to reference S1015 and vice versa | | Recommended | | |
| 238 | | Water | Amend / New | Ferrules and Tappings | Ferrules and tapping bands to be brass only | Not Recommended | | |
| 239 | S2000 | Valve Box Installation | Amend | Amend Note 7 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 7 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Recommended | | |
| 240 | S2001 | Air Valve Pit / Air Release | Amend | AMEND Proposed amendments to drawing S2001 - add in DN100 | These amendments from CRC Design and Delivery team. These amendments make FNQROC consistent with practices used for capital works and the expectations of Utility Services. | Recommended | | |
| 241 | S2001 | Air Valve Pit / Air Release | Amend | Amend Note 5 to suit AS3600 Compliance In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 5 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | | Recommended | | |
| 242 | S2010 | Kerb and Road Markers | Amend | Amend Note 1 to suit AS3600 Compliance | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 1 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | Recommended | | |

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| 243 | S2011 | Steel Marker Posts | Amend | Amend Note 7 to suit AS3600 Compliance | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 7 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | Recommended | | |
| 244 | S2012 | Timber Marker Posts | Amend | Amend Note 6 to suit AS3600 Compliance | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 6 to read "...Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | Recommended | | |
| 245 | S2015a | Thrust block details | Need to amend Note 1 to read AS 1379 (not AS 3179) | | | this submission is already in place in current version C | | |
| 246 | S2015 | | Amend | Consider adding a notes which specifies: - Crossfall for the footpath area is 2.5% maximum and - amend N25 to N32. | | N25 to N32 Recommended Crossfall not recommended | | |
| 247 | S2025 | Water Service Road Crossings | Amend | Amend Drawing S2025 as per markup #7035637 and as listed below. Include hydrant and text as shown on markup. | These amendments from Utility Services Water Reticulation. This amendment is a clarification. | | | |
| 248 | S2038 | S2038 Standard Arrangement of 20mm water service and recycled water installations | Amend | AMEND Amend Drawing S2038B as per markup #7035264 and as listed below. Amend Note 3. as follows: 3. Normal location of water service to be on opposite boundary to electricity supply. Where it is located on the same side as the electricity supply then it shall 1.5m away. On both details change the enveloper diameter from 80DN to 100DN. "80 100 PVC-U Enveloper." | These amendments from Utility Services Water Reticulation. Amendments provide further detail on clearances to ergon pillar box. | Recommended | | |
| 249 | S2038 | Standard Arrangement of 20mm Water Service and Recycled Water installations | Developer should install all road crossings and property connections at subdivisional stage. Note 6 should be replicated ON the drawing and also on S1035C. | This change would reduce the time taken for properties to be connected, reduce costs to council, reduce damaged services, reduce ESC risk, reduce WHS risk with people working on an open road | | Not recommended | | |
| 250 | S2038B | Standard arrangement of a 20mm water installation | Comment - Is everyone still using copper from the main Cook Shire uses Clorblue PN20 Poly from the main to close to the property boundary. Copper is brought in though property boundary to the meter. | | | Comment discussed | | |

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| 251 | 038B vs S2060B (Mareeba) | Standard 20mm water mains | Amend | Cairns installation process requires council to dig up freshly made and ESC controlled verges to install water services. Mareeba version allows the contractor to do the water service, preserving the ESC controlled verge. See attached additional information | We recommend including the same process in Cairns to avoid additional ESC risks and damage to services. | comment noted, no change recommended | | |
| 252 | S2041A | Water Lift Station | Amend | There are inconsistencies in the section, it refers to roller door in notes but acoustic doors on plans. The section also specifies 9mm CFC sheeting on gables which are no longer made. | Drawing to be revised to reflect current standards and materials. | Recommended | | |
| 253 | S3005E | Property Connection Branches | Amend | add note: applies to PCB's within the lot] Where sewers are within the lot, the Property Connection Branch (PCB) type must be type E1A provided the control of the lot allows for the height of the fibreglass drop, alternatively change to type E2. The PCB types are to be confirmed at the pre-start meeting. | Add note to that effect. | Recommended | | |
| 254 | S3020 | Sewerage Pump Station layout | Amend | AMEND Proposed amendments to drawing S3020 - see markup attached to email #7034654 | DN1200 Receiving manhole on inlet. The reason for increasing the diameter to 1200mm is to allow additional space for pump bypass equipment to be inserted into the manhole and it increases the manhole operating volume during bypassing. It also improves personnel access into the manhole to install bypassing equipment. The receiving manholes are required so there's only one inlet into the SPS wet well which is good for the hydraulics of the pumps. Multiple inlets into the wet well from different directions are unfavourable for pump hydraulics and this can be resolved with a receiving manhole at every station. See attached email with extract from WSA code. Pressure main connection point to be moved after the Y. Bypass to have 3 isolation valves on the tee connection. This proposed arrangement facilitates isolation options for the pump station and the rising main. Moving the injection point to after the wye piece and including 3 valves at the injection point enables; <ul style="list-style-type: none"> • Pump station bypassing • Working on the valve pit valves or the spools cast into the valve pit during bypassing (can't be done with current arrangement which relies on the valves in the valve pit) • Rediverting the rising main to a nearby manhole in an adjacent catchment whilst running either pump | Recommended | | |
| 255 | S3030 | Sewerage Pump Station Details | Amend | AMEND Proposed amendments to drawing S3030 - see markup attached to email #7034654 | | Recommended | | |
| 256 | S4110 | Traffic Islands / Medians | Amend | Amend Note 2 to suit AS3600 Compliance | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 2 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." | Recommended | | |
| 257 | S4110e | | | Note 9 specifies terracotta - does it need a note to say unless tying into existing where colour to be matched? | see doc No. 7048795 | Not recommended | | |

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| 258 | S4300 | Barrier Fencing and Bollards | New | New to suit AS3600 Compliance | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend adding note to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." Adjust notes on plan to suit. | Not recommended | | |
| 259 | S4300 | Barrier Fencing and Bollards | Amend | Amend Note 8 to read "Proprietary removable Galvanised Steel/Aluminium bollards with locking mechanism (powder coated or painted safety yellow with reflective tape) for park access to be approved by Local Authority and installed as per manufacturers specifications." | Inclusion of aluminium as an acceptable proprietary bollard product. Galvanised steel is a manual handling issue | Not recommended | | |
| 260 | S4300 | Barrier Fencing and Bollards | Amend | Change title S4300F to Barrier Fencing and Bollards Include reference to Councils standard design of removable bollards as follows: Advance Stainless manufacture 6.5mm yellow powder coated aluminium bollards with a steel sleeve. | Refer Comment 9 LIVE-#7016256-FNQROC Development Engineering Landscaping Amendment Submission Form | Not recommended | | |
| 261 | NEW / S4300 | Replas Bollards | Amend | CRC require Replas post and rail fencing . We recommended a new drawing replicating S4300 but for Replas (Uniform size/colour) | | Not recommended | | |
| 262 | S4340 | Typical Bench Seat | Amend | Amend to suit AS3600 Compliance | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend adding "N32" to "100mm thick concrete mowing strip 2500 long x 900 wide SL62 mesh centrally placed." note. | Recommended | | |
| 263 | S4340E | Typical bench seat | Amend | add replas item | | already in note 2 | | |
| 264 | S4370F | Typical Playground Edging | Amend | add replas item | | already in note 4 | | |
| 265 | S4380E | Garden Bed Edging | Amend | add concrete and replas items | | already in note 3 | | |
| 266 | S4390 | Advisory Signs | New | New to suit AS3600 Compliance | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend adding note to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." Adjust notes on plan to suit. | Recommended with N20 not N32 | | |
| 267 | S4390E | Advisory Signs | Amend | Add note that recycled plastic at similar sizes and dimensions may be permitted with council approval | | Already in note 6 | | |
| 268 | S9010 | Park Access Gate | Amend | Amend Note 4 to suit AS3600 Compliance | In accordance with AS3600 Table 4.3, all areas within the FNQROC area have a concrete exposure classification of B1 (or higher). As a result, and in accordance with AS3600 Table 4.4, the minimum grade of concrete should be 32MPa. Recommend changing note 4 to read "Concrete shall be N32 minimum in accordance with AS1379 and AS3600." Adjust notes on plan to suit. | Not recommended | | |
| Local Government Standard Drawings | | | | | | | | |
| 269 | TRC Std Drawing S2005 E | Water | Amend | Cats Eyes | Add Cats eye requirements as seen on MCS drawings. | Not recommended | | |
| 270 | TRC Std Drawing S2020 E | Water | Amend | typo | See Elevation - amend 'grate' to 'gate' | Not recommended | | |

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| 271 | TRC Std Drawing S2060 B | Water | Amend | Connections | Amend 20mm connection to "20-50mm" | Not recommended | | |
| 272 | D9.07 | Street Tree Planting - CRC Specific | Amend | Root directors are required in the CBD opposed to root barrier used in the streetscape areas Water wells are required for tree planting The standard drawing S2470 requires additional general notes and changes to the details to reflect Councils current standards for street tree installation. Propose a Cairns Specific Standard Drawing S2470. Refer marked up drawing | Refer to Comment 4 LIVE-#7016256-FNQROC Development Engineering Landscaping Amendment Submission Form | Not recommended | | |
| Local Government Specific Clauses | | | | | | | | |
| 273 | D6 | Design Guidelines Water Reticulation CRC Specific | Amend | AMEND Replace existing item 1 with the following. 1. Pumping stations shall generally be in accordance with the Design Guides for Water Pumping Stations and Switchboards. | Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts. These amendments make FNQROC consistent with practices used for capital works. | Recommended | | |
| 274 | D7.18(1) | Design Guidelines Sewage Systems Pump Stations | Amend | AMEND Replace existing item 1 with the following. 1. For Council's general requirements refer to Design Guide for Sewage Pumping Stations and Design Guide for Switchboards. | Proposed amendments from CRC Design and Delivery team and are based on information included in Council's water and sewerage contracts. These amendments make FNQROC consistent with practices used for capital works. | Recommended | | |
| 275 | CRC Specific Requirements D9.06 | CRC Specific On Street Landscaping Works Verges | Amend | Replace existing clause Any landscaping such as Planting Clearing or Damaging vegetation within Council management land must be in accordance with Councils General Policy's and Local Law 11. | Refer to Comment 1 - #7016256 | Recommended | | |
| 276 | D9.07 | Street Tree Planting - CRC Specific | Amend | Root directors are required in the CBD opposed to root barrier used in the streetscape areas Water wells are required for tree planting The standard drawing S4210 requires additional general notes and changes to the details to reflect Councils current standards for street tree installation. Propose a Cairns Specific Standard Drawing S4210. Refer marked up drawing | | Recommended | | |
| 277 | D9.07 | Street Tree Planting - CRC Specific | Amend | Street trees must be planted in the front of properties at a rate of one per lot, or at the necessary rate to provide at least one street tree every 15 metres on both sides of all streets | Refer to Comment 5 LIVE-#7016256-FNQROC Development Engineering Landscaping Amendment Submission Form | Recommended | | |

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| 278 | CRC Specific Requirements D9.07 | CRC Specific Street Tree Planting | Amend | <p>Recommended D9.07 Additional Clauses</p> <p>a. If at the time of planting, the proposed locations of all on-street and park trees do not comply with Design Guideline D9.07 of the FNQROC Development Manual, particularly setbacks from infrastructure such as streetlights and driveways, these proposed locations are to be adjusted to achieve compliance. The developer must ensure street trees are installed in alternative locations, that are compliant with the FNQROC setbacks to ensure the required street tree quantities are achieved (where possible).</p> <p>b. Any changes to the landscaping relating to street tree planting must be noted (preferably in red ink) and submitted as an amendment prior to the landscaping inspection, so that Council has an accurate record of as-constructed drawings/street tree installation.</p> | <p>Refer to Comment 2 LIVE-#7016256-FNQROC Development Engineering Landscaping Amendment Submission Form</p> | Recommended | | |
| 279 | CRC Specific Requirements Appendix P | 12. Water Reticulation, 13 Sewerage Reticulation, and 15. Stormwater Drainage System | Amend | Clean up and Removal of several linework descriptions | | Recommended | | |
| 280 | NEW CRC specific | Rural Verge Landscaping Treatment | New | The FNQROC does not include a standard drawing or design specification for Rural Verge Landscaping treatment. Suzan Quigg Landscape Designer has provided a detail and section plan for Council approved design associated with Goldsborough Valley Views stage 5&6 8/10/1149 #7012670 as below. | | Recommended | | |
| 281 | CRC- Development Services | S4210 - CRC | Street Tree Planting S4210 | New | Marked Up Drawing - I'd like to see the root barrier installed flush against back of kerb and footpath to maximise the area available for the tree to establish its root system in what is already a small space between back of kerb and footpaths. | Recommended | | |
| 282 | CRC Specific Drawings | Rename S4210B-CRC to S4211 | Urban Street Planting | | Amended to keep the nameing and number conventions the same as the manual | Recommended | | |