

**Land Development and Subdivision Code of Practice 2020**  
**Stage 2 Amendments Register**

Submission ID	Code Section	Related Code Clause or Appendix	Issue	Amendment	Additional Information
1	3 Waters - General	5.3.6.2,6.3.12.2,4 .3.16	We outline that liquefiable ground needs to be taken into account in design and construction of any development but there is nothing in the Code that is specific to the protection of services. Current practice seems to be focus on protecting structures but if lifelines services aren't protected that can cause considerable risk to life issues as well.	Add to all sections: In developments where liquefaction has been identified provisions to create resilient services must be considered and implemented where practicable. Relevant information can be found in the document "Underground Utilities – Seismic Assessment and Design Guidelines" Edition 1 March 2017.  Also add "Underground Utilities – Seismic Assessment and Design Guidelines" Edition 1 March 2017 to Referenced Documents	
2	3 Waters - General	5.3.7.9/Table 5.6 and 4.3.9.1 for SW	No clear guidance on wastewater services crossing other services, except for water.	Add to 5.3.7.9: In greenfield developments, the wastewater pipes shall always be located below both water and stormwater pipes. For infill developments, a wastewater line may only be permitted to cross over a stormwater pipe if no other suitable option is available. In this instance, no sewer PVC joins are permitted within 1m of the stormwater pipe, and the sewer PVC shall be encased in PE at least 200mm beyond each join.  Add 4.3.9.1: In greenfield developments, the stormwater pipes shall always be located below the water pipes and above the wastewater pipes. For infill developments, a stormwater line may only be permitted to cross under a wastewater pipe if no other suitable option is available. In this instance, no sewer PVC joins are permitted within 1m of the stormwater pipe, and the sewer PVC shall be encased in PE at least 200mm beyond each join.	
3	3 Waters - General	SW (4.3.9.4), WW (5.3.7.5), W (6.3.12.10.1)	The issue relates to vehicle crossings over existing pipes and how to deal with less than 1m cover (capping, etc). Sump lead are also becoming an issue with cover as noted below. With having the minimum vertical clearances and 1m of cover some pipes are becoming increasingly deep and therefore are an issue to access.	Add to section 4.3.9.4 – Within carriageways, trafficable footpaths, and crossings, stormwater mains are to have a minimum of 1.0 m cover unless structural calculations to the appropriate standards have been provided and approved by Council. Laterals and sump leads can have the cover reduced to 0.6 m within these areas. Cover outside of the carriageway, footpaths, crossings or other trafficable areas shall be no less than 0.6m. Stormwater pipes in trafficable areas with less than 1.0 m cover shall be concrete capped as per Appendix B Drawing B4-2. Stormwater pipes with less than 0.6 mm cover shall be concrete encased. The concrete encasement shall be reinforced concrete and structurally designed for required design load by a Structural Engineer.  Add to section 5.3.7.5 - Within carriageways, trafficable footpaths, and crossings, wastewater mains are to have a minimum of 1.0 m cover unless structural calculations to the appropriate standards have been provided and approved by Council. Laterals can have the cover reduced to 0.6 m within these areas. Cover outside of the carriageway, footpaths, crossings or other trafficable areas shall be no less than 0.6m. Wastewater pipes in trafficable areas with less than 1.0 m cover shall be concrete capped as per Appendix B Drawing B4-2. Wastewater pipes with less than 0.6 m cover shall be concrete encased. The concrete encasement shall be reinforced concrete and structurally designed for required design load by a Structural Engineer.  Add to section 6.3.12.10.1 - Within carriageways, trafficable footpaths, and crossings, water mains are to have a minimum of 1.0 m cover unless structural calculations to the appropriate standards have been provided and approved by Council. Laterals can have the cover reduced to 0.6 m within these areas. Cover outside of the carriageway, footpaths, crossings or other trafficable areas shall be no less than 0.6m. Water pipes in trafficable areas with less than 1.0 m cover shall be concrete capped as per Appendix B Drawing B4-2. Water pipes with less 0.6 mm cover shall be concrete encased. The concrete encasement shall be reinforced concrete and structurally designed for required design load by a Structural Engineer.	changed after consultation
4	3 Waters - General	4.3.10.6 and 5.3.8.4.1	The Code should specify that all stormwater/wastewater Starters/Finishers should be gritted. This is standard practice, but is missing from the Code.	Add to both clauses: The connection of PVC pipes to concrete structures, such as manholes will be with a purpose made PVC starter and finisher with a 'gritted' external surface.	changed after consultation
5	7 LS	7.4.11.2	The maintenance period for reserves requires clarity in the Code for approval by the Parks and Open Spaces Planning Manager.	Amend clause: Generally, the maintenance period for new reserves shall be minimum three years from receiving section 224c certification, but to be approved by Parks and Open Spaces Planning Manager.	
6	Appendix B	Drawing B1-5	The drawing shows a 900 diameter pipe can have a 90 degree bend with an 1800 manhole. This alone could cause movement issues and strength issues in a manhole and doesn't align with the guidance note for load on circular precast manholes. The result of this will likely be cracking in the road surface resulting in more maintenance repairs.	Replace Table 1 of the Auckland Council drawing with the current table in QLDC drawing B1-5.  Also replace "deviation angle" with "deflection"	see Drawings Amendments Register for complete list of drawing changes
7	Appendix B	Drawing B1-5, B1-6, B1-9	Appendix B drawings showing offsets of flexible joints from a manhole are not consistent. Some say 750, and some say 1050mm.	Combined B1-9 and B1-6 and kept as B1-6. Removed 750mm dimension to flexible joint.	see Drawings Amendments Register for complete list of drawing changes
8	Appendix B	Drawing B2-10: PRV Valve Chamber	Drawing and detail or note needed for drains to be included in PRV manholes.	Added note 2 to drawing: Consideration needs to be given for drainage within the valve chamber.	see Drawings Amendments Register for complete list of drawing changes

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9	Appendix B	Drawing B2-11: Water Sampling Point	Ball valve in Section 2 of Drawing B2-11 should be updated to current practice - this should be an Acuflo valve.	Changed annotation from "25mm Ball Valve" in Section 2 with "Acuflo GM900"	see Drawings Amendments Register for complete list of drawing changes
10	Appendix B	Drawing B2-3 Typical Cast Iron Valve Box	Old style valve box no longer used - drawing needs updated to align with current practice.	Updated drawing to current practice valve box.	see Drawings Amendments Register for complete list of drawing changes
11	Appendix B	Drawing B2-4	Elevation difference between the main and toby is made up through elbows rather than bending pipe. Noting that lateral should be kept shallow for as great a length as possible.	Updated drawing B3-4 to align with WS14 Watercare drawing, but altered to reflect the Acuflo Manifolds that Council specifies. This removes the gate valve, meter, brass tail piece with the double check.	see Drawings Amendments Register for complete list of drawing changes
12	Appendix B	Drawing B2-4	25mm ID connections require 2 x Acuflo boxes or 500mm box with bases	Added as note to B2-4: 25mm ID connections require 2 x Acuflo boxes or 500mm box with bases	will consider creating a new drawing in Stage 3. see Drawings Amendments Register for complete list of drawing changes
13	Appendix B	Drawing B2-4	Toby restrictors are inserted below the water meter within the Acuflo so the secondary valve and oversized meter box is unnecessary. Also remove the valve marker post as it is unnecessary.	Updated drawing: remove secondary valve, meter box, and marker post. Add lateral tail and extend 1 m above ground	changed after consultation see Drawings Amendments Register for complete list of drawing changes
14	Appendix B	Drawing B2-4	If elbows had to be used from the water main/rider to the boundary box	Added note 2 to B2-4: Option of a continuous pipe laid in accordance with manufacture minimum bend radius, and if this cannot be achieved then Electro Fusion (EF) elbows are to be used.	changed after consultation see Drawings Amendments Register for complete list of drawing changes
15	Appendix B	Drawing B2-4	There is nothing around what should be done when the only option is to install the toby box in the driveway, a 150 x 150 mm concrete nib should be required.	Added note 3 to B2-4: When there is no option but to install a toby box in a trafficable area then a trafficable cast box with cast iron lid is required.	changed after consultation see Drawings Amendments Register for complete list of drawing changes
16	Appendix B	Drawing B2-4: Typical Service Connection	Provide the option of using 50mm brass Talbot instead of the elbow off the main.	Added note to B2-4: Option of using 50mm brass Talbot instead of elbow off main	see Drawings Amendments Register for complete list of drawing changes
17	Appendix B	Drawing B2-8 and B2-9	Drawing needed for typical above ground set up of portable water/domestic backflow prevention for connections above 25mm.	Moved side elevation from B2-9 to B2-8. Added new side elevation detail to drawing B2-9. Changed 'meter box' to 'valve box.' Corrected "road" to "road reserve" Added strainer to elevation, but removed strainer requirement in meter box from notes	changed after consultation see Drawings Amendments Register for complete list of drawing changes
18	Appendix B	Drawing B3-2: Pump Station: Split Access Hatch Drawing	Hatch needs to include 4 x fold out safety rails with in the lid construction as this is standard practice.	Add note to drawing B3-2: Four fold out safety rails are to be included in the lid construction - these are available as units from pump station fitting suppliers	see Drawings Amendments Register for complete list of drawing changes
19	Appendix B	Drawing B4-3	Drawing B4-3 indicates a minimum vertical clearance of 200 mm from swale invert to base of sub-base. Ingress could weaken pavement before the intended design life. The dimension should clarify that the 200 mm is from the invert of the swale to the lowest subgrade level.	Removed Drawing B4-3 from Code of Practice, as a rip rap lined swale is not recommended by QLDC. Added missing info (200 mm from subgrade to invert, pavement layers) to B5-5.	changed after consultation see Drawings Amendments Register for complete list of drawing changes
20	Appendix B	Drawing B5-10: Flat channel or Yard Sump – Private Only & Drawing B5-11 & B5-20 Road Sump Detail	Concrete corbals need to be included in all drawings with manholes.	Added note to drawings: B1-5 and B1-6 to require concrete corbals at pipe penetrations.	changed after consultation see Drawings Amendments Register for complete list of drawing changes
21	Appendix B	Drawing B5-10, B5-11, and B5-20	Requires drawing B5-10, B5-11 and B5-20 to be updated to reflect minimum required sump depth, sediment storage depth, reduced cover only to 600 mm, and the length of pipe with reduced cover should be minimised.  Also, back entry block detail should be included on this drawing.	Drawing changes: All sumps should be 1800mm depth -A minimum sediment storage depth of 450mm is to be provided (to invert of pipe). This is the critical factor. -Reduced cover where the leads leave the mud sump is acceptable. This should not reduce below a minimum of 600mm cover to pipe. -The length of pipe with reduced cover should be minimised, and avoid extending into the wheel tracks as far as possible. -back entry block detail added to show cut out on B5-11 and 13	changed after consultation see Drawings Amendments Register for complete list of drawing changes
22	Appendix B	Drawing B5-26	Asphalt footpath drawing specifies 150mm of AP40 over compacted subgrade with CBR >7; combine to 1 layer	Updated to 45x45x450 timber pegs, combine AP40 layers into 1 layer 100mm thick, and change back to subgrade with CBR>7	changed after consultation see Drawings Amendments Register for complete list of drawing changes

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23	Appendix B	Drawing B5-27	We are getting road failures on either side of the concrete thresholds at pedestrian crossings. An approach slab is required and needs to be shown in the drawing.	Added detail to the pedestrian crossing cross section to include an approach slab to minimise rutting.	see Drawings Amendments Register for complete list of drawing changes
24	General	1.2.2	"Place" definition is weak and not inclusive. This proposed content provides a bit more context about what influence "place" has on street design.	In 1.2.2 Definitions, add a new definition as follows: Place - The function of space as a destination for people, influenced by the design of the space itself, as well as the adjacent land use. The strength of place function can vary depending on the intensity of use and character of the activity, whether formal as in a pedestrian shopping street or public park, or more informal as in play or casual interactions between neighbours on a public street. In 3.2.3 Road purpose, add the following as a preamble preceding "Roads serve the following functions": Every street functions as both a movement corridor and a place for activity by people, with the relative balance between the two informed by the predominant nature of activity on the street. The strength of a street as a place is primarily dependent on the number of people using the street for everyday activities, and its importance as a destination. The strength of a street as a link is primarily dependent on the number of people using the street to pass through to destinations elsewhere. In addition, streets are also corridors for utilities and community amenities.	Further review and discussion in Stage 3.
25	General	Easements in multiple sections 4.3.5, 5.3.7.4, 6.3.8	The Code requires a minimum of 3 meter wide easements through private land. As pipes are getting deeper the zone of influence extends greater than 3 meters. The Code should be amended for a wider easement to the full extent of the Zone of Influence. The Code needs to reflect this so developers are aware when wanting to put pipes in private land.	Change the wording to: An easement shall be 3 m wide or to the full extent of the zone of influence, whichever is greater, or unless otherwise agreed by Council.  and add definition to Zone of Influence: A triangular area defined by lines extending 45° upwards from 150 mm below a pipe invert, to the ground surface.	
26	General	1.0	Needs a general statement outlining the general requirements for developers overarching in the Code.	Add after 1st paragraph: This Code of Practice represents a set of minimum standards for developers, ensuring high quality and consistency of infrastructure provision across all of QLDC's various communities. These standards may be exceeded but not compromised, unless specifically agreed to by Council for a deviation."	
27	General	Schedule 1D	Add detail to data specification for roading as-built information. Suggest table format to make it easier to read. No material changes involved as it is just an improvement on the clarity	Under Roading change to : a) A plan indicating road names as approved by the TA, to include consent and stage boundaries, and numbering of Street Light Poles b) Details of above ground roading assets such as road markings, signs, signals, roading drainage (Kerb & Channel, culverts, surface water channels), footpaths and traffic calming, roading retaining walls, and traffic signals.  Update format of Schedule 1D to table format	
28	General	1.1	Code needs a statement in the preamble for the references to external policies and standards.	Add after first paragraph: For some types of infrastructure, but not all, specific guidance and standards have been developed by QLDC, some of which have parameters which are reflected in this Code of Practice. Where QLDC has not developed its own standards, reference is often made to best practice guidance or standards developed by external agencies. Developers shall consider these referenced documents as starting points for design that may need to be adapted to the specific conditions and context of QLDC communities, in consultation with QLDC staff.	
29	General	1.2.1.4	<del>The Code of Practice and all subsequent documents shall be followed by developers. Clause 1.2.1.4 is unnecessary.</del>	<del>Remove: The terms 'informative' and 'normative' have been used in this Code of Practice to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance. Informative provisions do not form part of the mandatory requirements of this Code of Practice.</del>  Have ensured that all Appendices for the Code of Practice are labelled correctly as either 'normative' or 'informative' on the title page. Updated Appendix B, F, G, H, I, J, K.	changed after consultation
30	General	1.2.2 Definitions	<del>Definition of 'freeboard' is ambiguous whether it's ponding water only or if it includes overland flow path as well.</del>	<del>Amend definition to: A provision for flood level design (this includes ponded water and overland flow) estimate imprecision, construction tolerances, and natural phenomena (such as waves, debris, aggradations, channel transition, and bend effects) not explicitly included in the calculations</del>	changed after consultation - will review in Stage 3
31	General	C1.8.6	Institution of Professional Engineers of New Zealand is outdated. Update reference to Engineering New Zealand and ACE NZ.	Amend clause: An appropriate level of supervision can be selected by reference to the Construction Monitoring Services information published by the Engineering New Zealand (EngNZ) and the Association of Consulting Engineers New Zealand (ACE New Zealand).	changed after consultation
32	General	Various	'Asset Performance Team' is outdated. Replace with 'Strategy and Asset Planning Team'	Replace all (7) instances of 'Asset Performance' with 'Strategy and Asset Planning'	
33	General	1.3.3	Add a note to clarify that the Code of Practice should govern when there are contradicting requirements.	Add: The Code of Practice may be a higher standard than the Building Act and if bound by a Resource Consent Condition, the Code of Practice requirements will supersede the building act requirement where the Code of Practice is more stringent.	

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34	General	1.8.7.3	Council is developing a new 3 waters connection process, whereby Property and Infrastructure will need 10 days to review the connection details, and the maintenance contractor will need up to 5 days to schedule the connection inspection. Therefore, the developer should allow for 15 days notice to QLDC.	Revise to: The developer shall give the network utility operator 15 working days' notice of intention to connect to existing services. Where required, new services shall be tested and approved by the network utility operator prior to connection.	
35	General	1.8.7.1	This section regarding easement reinstatements in roadways, should be more inclusive, as Council will allow asphalt or brushed concrete, or other if agreed by Council.	Revise sentence in last paragraph: This easement shall make mention that Council reinstatements will be asphalt or brushed concrete in roadways and no special reinstatements will be undertaken unless agreed by Council.	changed after consultation
36	LS	7.4.5.4	Change wording to ensure weeds are not to be present in organic mulch at handover.	Add: Mulch to be free of all contamination including non organic debris, pest plants, noxious (as specified under the Otago Regional Council Regional Pest Management plan 2019), contaminants, stumps, branches, and construction debris.	
37	LS	7.4.6.5	Update Section 7.4.6 to require tree stakes to max of 1 meter above ground for subdivisions. High Profile areas that receive tree planting are to be below ground strapped and have removable stone set frame to allow for growth. Trees to be handed over with weed free circles (no grass clippings around the bases).	Add: Newly planted trees, where appropriate, shall incorporate a suitable and sustainable form of physical support. This support can consist of below ground anchor systems (preferred when planting large grade trees in very high profile situations) or wooden stakes. If wooden stakes are employed, the local climatic conditions shall be assessed and this will determine the dimensions of the supports, though as a guide tree stakes should not exceed 1/3rd of the height of the tree being planted. Options for tree staking include a single stake positioned on the windward side of the tree (only to be used in relatively sheltered areas) two opposing stakes or three stakes in a triangle formation (to be used on large grade trees).  The newly planted tree shall be attached to the wooden stakes using a suitable tie which shall be at least 50mm in width and of a semi-permanent webbing construction made from a biodegradable product such as hessian or an acceptable equivalent. Each tie should be taut, but should not pull the tree towards the stake. The intention is to keep the tree in place while permitting the top to move freely, such crown movement will encourage increases in stem diameter and root development.	
38	LS	7.4.6.6	Plant Cells in high movement areas require specification to achieve sufficient soil volume to provide a suitable rooting environment for tree establishment.	Providing a suitable rooting environment is crucial to successful tree establishment. Ensuring a newly-planted tree has sufficient good quality, uncompacted soil increases the trees likelihood of becoming successfully established without disrupting the surrounding infrastructure. Certain specialist design features may reduce the soil volumes required within the pit itself, such as interconnected pits, or incorporation of root paths to nearby uncompacted soil.  Achieving sufficient soil volume on sites where the planting area is subjected to loading such as car parking, footpaths, roads above tree roots requires a system of below ground support. Two of the most commonly used methods are structural soils and below-ground, pre-engineered cells. Structural soils are appropriate where other, non-structural soil is also readily available to the tree. For example, trees planted within a parking area adjacent to a soft landscape area, where tree roots can grow freely beneath the hard surfacing, but have access to adjacent uncompacted soil. Pre-engineered cells filled with suitable soil may be necessary in more urban areas where tree roots have fewer opportunities to access soil beyond the tree pit. The use of either approach requires specialist knowledge and advice should be sought from the manufacturer/supplier before being included in the tree pit design.	
39	LS	7.4.4.2 (new section)	For stormwater reserves that are to be mown, we need a clause for Council to approve turf composition for landscape architects.	Add: Stormwater reserve grassed areas that are to be mown shall have a high endophyte certified seed. A Fescue/Browntop blend is suggested with a composition of 50% Winter Active Rygrass, 15% Chewing Fescue, 15% Creeping Red Fescue, 18% Tall Fescue, and 2% Browntop.	
40	LS	7.4.6.3	The maximum verge width possible is Council's preference when establishing new street trees and ensuring that they are sustainable and will not damage kerbing or pathways. In addition, a reasonable verge width is crucial to the establishment and success of grass within these spaces. Code currently requires 0.9 m. Add clause for minimum width of verge for planting street trees to be min 1.8m.	Add: Unless specifically agreed otherwise by Council, new verges that incorporate street tree planting shall be no less than 1.8m in width in order to provide the new trees with a suitable rooting environment and increase their likelihood of becoming successfully established without disrupting the surrounding infrastructure. Appropriate alternative methods should be used in cases where less room is available and street trees would provide amenity.	changed after consultation
41	LS	7.4.5.1	Update Section 7.4.4 for gardens to have wood edging requirements for community and local gardens to retain the mulch and top soil.	Add after 1st paragraph: Where deemed required, robust timber edging to be included on gardens and mulched areas in order to prevent mulch/soil los/creep onto walkways etc. Mulched areas timber edging to be maintained at 100 mm minimum. Assessment to be made by Parks Planner or Parks Officer.	
42	LS	7.3.13 (new section)	Design Guidelines are required for building sports fields. Suggest using existing guidance until QLDC can develop region-specific guidelines.	Add: New playground designs are to be signed off by the Parks and Open Spaces Planning Manager. It is strongly advised this is done before resource consent is issued. Design shall be in accordance with the Guidance Document for Sports Field Development, 2019.  Also add to Referenced Documents	Region-specific guidelines are being investigated as part of the Stage 3 amendments. changed after consultation

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43	LS	7.3 (new sections)	Standards to be included for playgrounds, public toilets, tracks, mobility buildings, etc. Need to consider all references in Landscape design aspects.	Add the following references in the appropriate sections: NZS 5828:2015 Playground Equipment and Surfacing (7.3.12) NZS 4121: 2001 Design for Access and Mobility Buildings and Associated Facility (7.3.8.3) AS4373-2007 Pruning of amenity trees (7.4.10.1) QLDC Trail Design Standards and specifications 2018 (7.3.11) NZS 4241: 1999 Public Toilets (7.3.14)	
44	LS	7.3.1	Areas that will have a speed limit under 65km/hr can be amenity verges, anything over will need to go through QLDC for approval. Also need to consider future speed limit changes, so suggest making the threshold 50 km/hr.	Add to paragraph 4: When garden assets lie within the road corridor and are in areas of 50 km/hr and above, approval by QLDC's Parks and Opens Spaces Manager is required. This will be assessed based on appropriate levels of service and traffic management requirements in addition to the above criteria.	changed after consultation
45	Roads	3.3.4	Currently states that 45 degrees will necessitate a safety barrier. We want to lower this to align with Austroads Guide in what a critical slope is considered to be (slope at which trucks cannot safely traverse). Also want to refer to Austroads to define the clear zone.	Revise clause: Where roads, private ways or other vehicular accesses, where the target operating speed is 60 km/hr or less, whether public or private, runs parallel with land which drops away to a height of greater than 1.0m within 2.0m of the road or footpath, the side shall be provided with safety barriers to protect vehicular traffic. For roads with speeds greater than 60 km/hr, the clear zone requirements defined in Austroads Guide to Road Design - Part 06 apply, and if these cannot be achieved, then a barrier may be necessary and the final decision is at the discretion of Council.  And add to Referenced Documents	changed after consultation
46	Roads	3.3.11.1 and 3.4.14.1	want to include reference to Approved Materials List for Transport and clarify the use of tactile tiles.	Add to end of third paragraph of 3.3.11.1 and end of 3.4.14.1 : or tactile tiles as specified in Council's Approved Materials List. Where tactile tiles are used, an appropriate adhesive shall be used and agreed to by Council.  See new Approved Materials List - Transport	Approved Materials List - Transport on 'Lets Talk' webpage changed after consultation
47	Roads	3.3.20	<del>There is no information on requirements for traffic signal design in the Code; we currently refer to the Auckland Traffic Management Unit Traffic Signals Design Guidelines in the reference documents but we don't reference it anywhere. QLDC needs to add traffic signal standard documents, similar to TTOC's.</del>	<del>Add to 3.3.20: QLDC requirements when undertaking the design of traffic signal installations in the QLDC regions, whether they are completely new installations or existing sites that are being upgraded are detailed in Appendix L: TTOC Standard Traffic Signal Design Documents. This document shall be used for designs within the QLDC. Any ambiguity shall be discussed with Council.</del>  Add reference to TTOC Documents in Referenced Documents section.	changed after consultation. Removed Appendix until it's updated for QLDC in Stage 3.
48	Roads	3.3 Table 3.3	Thickness should refer to NZTA M10 minimum thickness for mixes to avoid incompatible depth/mixes and clarify heading in Table 3.3	Add: Minimum surfacing standards shall be in accordance with NZTA M/10 Specification, except where given in Table 3.3 to the named facilities to resist scuffing and local load effects.	See also Road Construction Practice Note
49	Roads	3.4.10	Where AC repairs are required, they require several months for the diluents to leave the AC, if a chip seal is placed directly over fresh AC chip will punch in and surface bleeding is likely - suggest a minimum of 3 months before sealing	Add: Where repairs are required to the carriageway and dense graded hot mix asphalt is used a texturing coat maybe required. Where it is required a minimum stand down period of 6 months should be undertaken to limit the potential for flushing of the texturing coat.	changed after consultation.
50	Roads	3.2.4.2	Link context needs a speed environment context for each subsection. Although operating speeds identified are "typical", allowing for variation in specific circumstances, it should be noted that Table 3.2 identifies a range of target operating speeds depending on place context. Rural contexts in particular have target operating speeds that greatly exceed these typical values, but there is also variation in suburban and urban contexts.	Replace (a) Lane with the following: (a) Lane and Shared Space: A road, or in the case of shared space a public space with vehicular access, that provides very high local access and very limited through movement connectivity. Very low vehicle speeds with shared pedestrian and vehicle access predominate. Typical operating speed is 10 km/h. At the end of (b) Local road, add the following sentence: Typical operating speed is 30 km/h. At the end of (c) Connector/collector road, add the following sentence: Typical operating speed is 40-50 km/h.	changed after consultation  This will be reviewed for consistency and appropriateness as a Stage 3 exercise.
51	Roads	3.3.1.3, Table 3.2, & 3.3.6	Ensure consistency in how far apart passing bays need to be. Need to align with NZTA Specification. Also, in Table 3.3, clarify what 'total shoulder' is referring to.	change 3.3.1.3 to align with 3.3.16 (Replace last sentence in 3.3.1.3) "To allow vehicles to pass, accesses shall have widening to not less than 5.5 m over a 15 m length  add in E1 and E4 in table 3.3: Passing bay required every 100 m if visibility is available from bay to bay. If visibility is not available, passing bays required every 50 m.  Add after "Passing, parking, loading and shoulder" column header in Table 3.3: (each side)	changed after consultation.
52	Roads	3.3.11.2	Section needs clarity as to where cycleways should be located	Replace first sentence with the following: Separated cycleways shall be provided where they form part of an identified cycling network or where good design requires separation from the carriageway. Useful guidance on cycleway design can be found in Auckland Transport publication: Urban Street and Road Design Guide, 2019, Austroads Guide to Road Design Part 6A: Paths for Walking and Cycling, 2017, and NZTA webpage: Cycling Network Guidance – planning and design.  Also add to Referenced Documents	A review of both NZTA and AT guidance, as well as other international best practice documents will be undertaken in Stage 3 to develop QLDC-specific standards appropriate to different street types. changed after consultation.

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53	Roads	3.3.16.3 , 3.4.14.2 and 3.4.3.1	Section allows 25mm of asphalt to be used on the roads while elsewhere in the Code it states 30mm is needed. Minimum 30mm of AC compliant with NZTA M10 requirement and M10 notes	Update 3 instances of 25mm min. asphalt thickness to 30mm	
54	Roads	3.4.4.1 and 1.10	Require a defects liability bond for 12 months for after the second coat seal is done.	Add after second paragraph: When there is a second coat required to be undertaken by the developer, the defects liability period for the second coat will be extended to 12 months beyond the second coat seal date.	changed after consultation.
55	Roads	3.4.1	QLDC is proposing to provide developers and contractors with wider flexibility to permit sealing projects (that meet special criteria) between 15 May 2020 and 15 September 2020. Keep dates the same, but allow for extension if conditions and treatments allow.	Add: QLDC may agree to extensions if conditions and treatments allow	For more info, see "Technical bulletin from the Chief Engineer: Process for Acceptance of Sealing"  changed after consultation.
56	Roads	3.0	Ensure the Code of Practice aligns with the Practice Note for Roading Construction, 2020.	<ol style="list-style-type: none"> <li>1. Add clause around defects liability period (3.2.5)</li> <li>2. Add requirement for 2 coats for line marking (3.3.12)</li> <li>3. When to undertake NAASRA testing (3.4.3.2)</li> <li>4. Finished surface irregularities limits (3.4.3.2)</li> <li>5. change road construction sentence (3.4.1)</li> <li>6. Add NZTA M/4 reference (3.4.2.3)</li> <li>7. Add NAASRA testing can be carried out at any time to 3.4.3.2</li> <li>8. Add polymer modified seal requirements (3.4.4)</li> <li>9. Clarify that the 2nd coat by QLDC is only available for QLDC vested roads, not private roads or right of ways.</li> <li>10. Defects liability extended 12 mo. after 2nd coat seal date (3.4.4.1)</li> <li>11. Add basis of calculation for 2nd coat (3.4.4.1)</li> <li>12. Must wait 48 hrs after big rainfall event before applying a membrane surface (3.4.4)</li> <li>13. Stand-down period of 48 hours to allow for adhesion of the emulsion coat (3.4.4)</li> <li>14. add NZTA F/1: 1997 reference (3.4.5)</li> <li>15. Add subgrade tolerance and traversing allowances, and subgrade testing (3.4.5)</li> <li>16. Add reference to NZTA M/3 for subbase (3.4.7)</li> <li>17. Add subbase inspections (3.4.7)</li> <li>18. Add that subbase is to have adequate drainage (3.4.7)</li> <li>19. Add reference to NZTA B/5 spec in Referenced Documents</li> <li>20. Amend last sentence to include requirement in texture, dust, and moisture (3.4.8)</li> <li>21. Add acceptable methods for basecourse testing (3.4.8.1)</li> <li>22. Add sentence around sweeping 24 hours before sealing (3.4.10)</li> <li>23. Add paragraph for bitumen emulsion compliance to NZTA M/10 and application rate (3.4.12)</li> <li>24. Add detail to surfacing specification (3.4.12)</li> <li>25. Add note that all trafficable AC areas must have a membrane seal except footpaths. (3.4.13)</li> </ol>	See QLDC Practice Note for Roading Construction, 2020.  changed after consultation.
57	Roads	3.4.2.3 (a)	Acceptable basecourse specification is firstly, NZTA M/4.	Replace a): NZTA M/4	
58	Roads	3.4.4 Road surfacing materials	Polymer seals should be designed for varying conditions within QLDC.	Replace paragraph 4 with: A polymer modified seal should be designed to meet the district's challenging conditions (>2% shall be added where the site stress factor from table 6-2 of CSNZ is greater than 4 and/or where the site is in winter shade for greater than 4 hours.)	
59	Roads	3.3.12	Should include a requirement for "no parking off a roadway" signage in new developments.	Add: Where mountable or nib kerbs are used adjacent to a grassed berm, 'no parking off a roadway' signage must be used. The use of the signage elsewhere will be approved by Council on a case-by-case basis.	To be investigated further in Stage 3.
60	Roads	3.4.11	Concerns with specified deflections and their suitability for use for asphalt design. We currently allow up to 1.8 mm of deflection prior to surfacing for local and 1.5 mm for collector "live and play" roads. This is fine for chip seal but is too high for asphalt.	Add: Where an asphaltic surfacing is proposed, it is the designer's responsibility to ensure that the pavement deflections are appropriate to support the surfacing.  The New Zealand guide to pavement evaluation and treatment design, table 13, provides guidance on curvature and deflection constraints for thin asphalt overlays based on fatigue behaviour. Designers may find this information helpful.	changed after consultation.

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61	Roads	1.8.4.3	Define a "Suitably Qualified Person" and when they are required (i.e. for sign off on large-scale road designs)	<p>Add definition: Where investigations and reports are required by a Suitably Qualified and Experienced Person (SQEP), this person or persons will have nationally recognised qualifications and experience in the field they are working in. The person or persons will normally be expected to be professionally recognised in the area of competence claimed and to carry professional indemnity insurance to a level suitable for the purpose but in any case not less than \$1,000,000 per project. Council reserves the right to have any work peer reviewed regardless of any prior approval as to the acceptability of the suitably qualified person. The cost of all peer review work will be borne by the developer. Specific requirements are outlined below that are required for any person to be deemed suitably qualified in these work areas:</p> <p>a)Traffic and transportation assessment, road safety audits, and road safety audit exemptions – Suitably Qualified and Experienced Person shall be Qualified in Traffic Engineering and work or have worked in a role whose primary activity is Traffic Safety Engineering; b)Road Pavement Design for pavements designed for a medium load or above (5 x 105 to 5 x 106 ESA / ONRC Primary Collector or above) - Suitably Qualified and Experienced Person is required to sign off design and that person shall be a CPEng with a practice area in Pavement Design; c)Stormwater engineering incorporating flood mitigation, catchment analysis or stormwater system design - Suitably Qualified and Experienced Person shall be a CPEng with recognised Stormwater discipline competence. Requirements may be relaxed at Council's sole discretion subject to the development site complying with the each of the following:</p> <p>a.The development does not require the physical alteration, damming or re-routing of natural water courses; and average ground slope does not exceed 20%; and c. The increase in stormwater runoff generated due to proposed works and prior to stormwater management is less than 10L/s for the 5% AEP event.</p>	changed after consultation.
62	Roads	3.4.4.1	Bond for uncompleted work. The second coat seal, or the second coat should be part of accepting the defects liability certificate, as it should be done within 12 months of the road gaining 224c. We should formalise the rate on an annual basis for that financial year, based on the average cost of current reseal rate including a small contingency for P&G, design costs, etc)	Add: Basis of calculating the estimated costs for a second coat will be based on the average cost of current QLDC reseal rate including a minimum 8% contingency for contract Preliminary and General and design costs.	See also Road Construction Practice Note
63	Roads	3.3.9 and referenced documents	Reference to superseded guidance from organisation that no longer exists & guidance no longer publicly available.	In section 3.3.9 Bus stops, replace final sentence with: Bus stops shall be designed in accordance with Auckland Transport Code of Practice Section 20: Public Transport - Buses, and Bus Stop Policy and Standards, QLDC, 2020. Also add to referenced documents: Queenstown Lakes District Council. Bus Stop Policy and Standards. Queenstown, 2020.	Further review of the design guidance to be investigated in Stage 3
64	Roads	3.3.12	The Code needs to be clearer when saying that roads shall be designed to "the relevant Austroads guides, and guides listed in Referenced Documents...". We need to specify a hierarchy in the standards and guidelines.	add to 3.3.12: All road markings and traffic signs shall comply with NZ MOTSAM and are to be approved by the TA. NZ MOTSAM and TCD take precedence over Austroads. However, when the above documents don't specify, Austroads should be used as a standard.	
65	Roads	3.3.11.2	The NZTA Cycle network and route planning guide is outdated and should align with the Auckland Transport Design Manual. (see item #7)	Delete 3rd paragraph: Cycle facilities shall be designed to the standards as set out in the Austroads guides and the NZTA Cycle network and route planning guide.	See reference to ATDM in Item #7. Development of QLDC-specific guidance will be considered as part of the Stage 3 programme.
66	Roads		Clarify use of AC in high stress areas, such as heavy vehicles on roads during the vertical construction of a subdivision.	Table 3.3 : replace "turning heads" with "turning zones (intersections, roundabouts, and turning heads)"	
67	Roads	3.3.2.5	Guidance needed around design and check vehicles. Austroads recommends 8m and 12m trucks respectively for local/local road intersections. Seems to be sometimes 8m is used as check in EA plans.	<p>Add in 3.3.2: Roads and intersections shall be designed to accommodate the check and design vehicles in table 3.2, unless otherwise approved or required by the TA. Design vehicles shall be shown to undertake all applicable manoeuvres on roads and at intersections within the lane lines for the direction of travel. Check vehicles shall be shown to undertake all applicable manoeuvres on roads and at intersections within the kerb lines. An additional 500mm clearance shall be added to each side of all vehicles. (Added Table 3.2 to final document)</p> <p>Add in 3.3.7 to the end of 2nd paragraph: These dimensions shall be superseded by dimensions suitable for the manoeuvring of the design vehicle as outlined in section 3.3.2.5.</p>	changed after consultation.
68	Roads	3.3.2.1	Suggest referencing the NZTA website for geometric design of roads instead because NZTA include all subsequent reference links, and make reference to Austroads before the State Highway Geometric Design Manual, which is the hierarchy that QLDC agree with.	Amend first paragraph: Roads shall be designed to the basic standards in Table 3.3 of this Code of Practice, which take precedence over any other referenced design guides. Detailed design must be completed following the relevant Austroads guides, and supplemental guides and technical memoranda listed in on the NZTA's Geometric Design webpage at: <a href="https://www.nzta.govt.nz/roads-and-rail/road-engineering/geometric-design/supplementary-guidance/">https://www.nzta.govt.nz/roads-and-rail/road-engineering/geometric-design/supplementary-guidance/</a> .	changed after consultation.

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69	Roads	3.3.19.6	Old kerb profiles (such as the 'Wanaka kerb' or 'kerbmaster no .8') that do not comply with the mountable kerb specified in Appendix B should not be used in new developments.	Remove sentences: When their installation is approved mountable kerbs shall be "Kerbmaster No8" profile. The historical "Wanaka Kerb" profile should not be used.	
70	Roads	3.1	First sentence is vague as to what is required of developers when using the Code and subsequent references.	Revise first sentence to: Where community specific guidelines are available these shall be followed throughout the design and construction of subdivisions and development.	
71	Roads	3.3.16.1 and Table 3.3	Centreline grades should be revised to align with the District Plan. Align Table 3.3 and 3.3.16.1	Amend (a) and add (b): (a)Not be steeper than 1 in 6 for any private way used for vehicle access (b)In residential zones where a private way serves no more than 2 residential units the maximum gradient may be increased to 1 in 5 provided: i.The average gradient over the full length of the private way does not exceed 1 in 6; and ii.The maximum gradient is no more than 1 in 6 within 6m of the road boundary; and iii.The private way is sealed with non-slip surfacing.  Amend Table 3.3: Max Grade to 1 in 6 (16%) for rural private way gradients.	changed after consultation.
72	SW	4.3.5.1	The "developed site" in a subdivision should be permitted impermeable area under the district plan as the houses won't be built by the developer	Change second paragraph to: All developments shall provide onsite primary network drainage capacity for the 5% AEP peak flowrate from all contributing upstream catchments from either the maximum impermeable areas permitted by the District Plan or the maximum impermeable area restricted by a legal instrument (e.g. resource consent, consent notice, etc.).	changed after consultation.
73	SW	4.1.4.2.4, 4.2.7, 4.3.5.1, 4.3.7.4, etc	<del>Clarify the use of "pre-development" and consider replacing with "pre-construction" to clarify attenuation requirements when developing on already developed land.</del>	<del>Add definition for: Pre-construction discharge rate: The rate at which stormwater is discharged from the site in its current state prior to the proposed works  And replace all (9) instances of "pre-development" with "pre-construction"</del>	changed after consultation. Undertaking further analysis and review of stormwater changes under Stage 3, so have reverted the changes for now.
74	SW	4.3.13 and 5.3.14 and 6.3.18	Section refers to an encumbrance. Build over drains process requires a varied easement instead of an encumbrance.	Revise last sentence of all (3) sections: Easement to be revised at the applicants expense and in accordance with the conditions of any specific approval.	
75	SW	4.3.4	Section refers to blockages of the primary system, but no guidance of what blockage of the primary system should be accounted for is provided.	Add to 4.3.4 (b): A secondary system to ensure that the effects of stormwater run-off from events that exceed the capacity of the primary system are managed, including occasions when there are complete blockages of critical culverts and other critical structures in the primary system. Critical structures are determined by Council.	
76	SW	4.3.4.2	Section says "Ponding or secondary flow on local roads shall be limited to a 100 mm maximum height at the centre line and velocity such that the carriageway is passable in a 5% AEP design storm." This needs clarification as to whether the 100mm limit is for the 1% AEP storm (QLDC's secondary design storm) or the 5% AEP (primary design storm). Also need to clarify what velocities are allowed across flow paths.	Replace clause: Ponding or secondary flow in all events up to 1% AEP design storm event shall be limited to a 100 mm maximum height at the centre line, and roads shall be passable by pedestrians as defined by the flow depth x average velocity (dgVave) specified below: Lower likelihood dgVave <0.6 m2/s Higher likelihood dgVave <0.4 m2/s NOTE - A higher likelihood of pedestrians crossing the overland flowpath is provided where pedestrians are directed to, or most likely to cross water paths (such as marked crossings and corners of intersections. dg = flow depth in the channel adjacent to the kerb i.e. at the invert (m) Vave = average velocity of the flow (m/s)	changed after consultation.
77	SW	4.3.5.1	Should refer to peak flow rate in terms of volume and location i.e. It's only half the puzzle if you attenuate your flow rate back to predevelopment but you change your discharge from sheet flow to point flow.	Add to clause: The location and type of overland flow downstream discharges are to mimic pre-development scenarios unless otherwise approved by Council. If the pre-development scenario is not mimicked it shall be justified to Council satisfaction why this can't be achieved and why the altered scenario is acceptable.	changed after consultation for clarity.
78	SW	4.3.5.2	Clarification required for what does a carpark count as in terms of freeboard	Add to clause: Enclosed carparks do not require freeboard, however, where they are basement carparks measure shall be taken to avoid external overland flows being directed into the carpark	
79	SW	4.3.8 and 1.2.1	There is no definition of what a waterway is under the Code and why the freeboard requirement is 500mm here but different elsewhere in the Code.	suggest using the RMA definition of waterbody for waterway definition this is as follows "means fresh water or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, that is not located within the coastal marine area"	
80	SW	4.3.7.6e & 4.3.7.7a	Both 10% AEP events should be 5% AEP to align with design criteria previously mentioned in the Code.	Amend 10% to 5% in both instances	
81	SW	4.3.7.9	There is no soakage test methodology and E1/VM1 keeps getting reverted to which isn't ideal Need to specify which methodology is to be used.	Add: Full or partial subdivision soakage systems shall be designed (including soakage testing) in accordance with Auckland City Council Soakage Design Manual 2003, except that the design storm used shall be based on a 5% AEP rainfall event.  Also update Referenced Documents	Region-specific guidelines are being investigated as part of the Stage 3 amendments.  Changed after consultation



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82	SW	4.3.7.9 (b)	Capping maximum permeability rates for soakage system design allows for reduced performance over time due to infiltration of fines, rubbish, organics and lack of maintenance.  Also recommend a standardised soakage test.	Requires longer pre-soak times and more importantly the tests to be repeated if water drains quickly.	
83	SW	C.4.3.5.1	NIWA HIRDS rainfall data system has changed to version 4, RCP, and QLDC would like to specify an RCP of 8.5 when using NIWA HIRDS for rainfall design data.	Replace clause: Rainfall intensity shall allow for climate change. Rainfall intensity design charts developed from NIWA High Intensity Rainfall Design Systems (HIRDS) V4 RCP 8.5 data for 2081-2100 should be used for rainfall design.	
84	SW	4.3.9.9	There is currently nothing outlining how subsoil drains are to discharge. They should connect directly to a manhole, but could connect to a sump if the level of the drain is above sump grate to avoid silt from the sump backflowing into drain.	Add: Connection of subsoil drains to collection sumps are to be positioned such that the invert of the subsoil drain is above the soffit of the sump's outlet pipe/	Changed after consultation
85	SW	4.3.15 (new section)	Wash Bays/Car washes should have a cut-off for runoff disposal. Consider implementing either a mandatory roof or a first flush system.	Add: A vehicle, machinery or equipment wash bay should be designed to exclude rainwater, and to retain, collect, treat and reuse, or dispose of all wastewater to sewer. Installation of appropriate facilities during the design and construction phase will ensure protection of the stormwater system from contaminated wastewater.  Pre-treatment devices must comply with NZBCG14 Industrial Liquid Waste.	
86	SW	4.2.8	Stormwater treatment in large parking lots should be a standard. Make sure this aligns with the Trade Waste Bylaw (in progress).	Add: Stormwater treatment is to be included in stormwater systems that service off-road carparks that have 10 or more parking spaces. Justification for the stormwater treatment systems for the level of treatment should be provided to QLDC for approval.	Changed after consultation
87	SW	4.3.5	Code needs to be consistent with how we measure design storms (ARI vs AEP). QLDC prefers AEP, so change all ARI design storms to their AEP equivalent.	Replace all instances of '5-year ARI' with '20% AEP'	
88	SW	4.3.7.7	For raingardens, the design storm should be the primary design storm (i.e. the 5% AEP, not 10% AEP)	Replace 10% with 5%	
89	Water	6.3.6.2	Council's preference is to have all backflow preventors above ground, where possible. This needs to be stated in the Code.	Add: Council prefers that backflow preventors should be located above ground, where possible. If it is not possible (e.g. where required to be located in a basement), the location is to be agreed by Council, and drainage for servicing or failure discharge must be provided in underground locations. If using a RPZ backflow preventer, it shall be installed above ground.	Changed after consultation
90	Water	5.3.6.8 and 6.3.12.9	All small diameter pressure pipes should be sleeved under roads as we cannot guarantee the condition of backfill around the pipe.	Add to section 5.3.6.8 and 6.3.12.9 after second sentence: Any pipes installed using trenchless technology under roads shall be sleeved, unless an acceptable reason for not sleeving is accepted by Council.	
91	Water	Figure 6.3 Hydrants	Location of hydrants at junctions needs to be defined to ensure the hydrant is within the valves and able to drain each line. Maintenance operators are having difficulty emptying water of lines when hydrants are located outside the valves at the junction.	Amend Figure 6.3 so that hydrants are in the right place, next to sluice valves especially on hilly on hilly suburbs, or middle of Tee and Cross intersections.	
92	Water	C6.3.5.10	The design pressure for water mains does not align with the section preceding it.	Replaced design pressure range with: 300 kPa to 900 kPa	
93	Water	Table 6.4	The row for 'public mains' should clarify as this is meant to be 'public stormwater mains'	Replace 'public mains' with 'public stormwater mains'	
94	WW	5.3.5.1 (b)	Code should reference where building waste restrictions can be found.	Add: All trading businesses must ensure that they comply with the current bylaw(s) relative to the infrastructure network.	Pollution Prevention Management Plan (or something similar) to incorporate building waste restrictions to be investigated for Stage 3
95	WW	1.8.7.4 (new section)	QLDC Connection Standards to require discharge limits of waste water comply with the relevant bylaw(s)	Add: All trade premises connecting to QLDC's infrastructure network must ensure that their discharge limits comply to the parameters as set out in the current bylaw(s) relative to the infrastructure network.	
New Item	General	1.11	Should refer to SLS in Approved Materials List Section	Added "Approved Materials for Street Lighting can be found in Southern Light Technical Specification"	

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New Item	General	1.8.1	Clarity needed to Section 1.8.1	Replace 1.8.11(b) with: Asbuilts submitted for all Parks, Roading and Three Waters infrastructure and landscaping assets listed in Schedule 1D, and submitted according to the Asbuilt/Data Specifications on the QLDC Land Developments and Subdivisions website. Remove 1.8.11(b) because it's a double-up Replace 1.8.11(g) with: Other documentation required by the TA including, but not limited to: -operation and maintenance manuals for 3 waters facilities, irrigation systems, specialised playground equipment, playground safety surfaces, toilets, all-weather sports surfaces, sports field lighting, drinking fountains; -warranties for new facilities (involves electrical and mechanical plant or stormwater low impact design facilities); and -asset valuations for all infrastructures to be taken over by the TA.	
New Item	General	1.8.1.1	the word "may" in Section 1.8.1.1 has been wrongly replaced with the word "shall". This section is intended to allow Council to require a developer to provide information at various stages of a proposal. It makes no sense to use a word that effectively removes Council's discretion.	amend clause: ...Council may require documents to be submitted...	
New Item	Appendix B	1.8.2 Drawings	Poor drawing standards	Drawings currently being drafted in CAD	see Drawings Amendments Register for complete list of drawing changes
New Item	Roads	3.3 Table 3.3	There are two table 3.3's which one are they meaning? Needs to be clear	Updated References	
New Item	Roads	3.3 Table 3.3	check consistency, there are two different Table 3.3's in the document. Check against references.	Updated References	
New Item	Roads	3.3.2.2	RPL understands the intention of this insertion but the provision, as worded, does not provide for alternative options that could still maintain sight lines and meet the safety objective. For instance, a suitable street tree that has been limbed up so that there are no horizontally extending branches below 2.5 metres, could add street amenity without adversely affecting sight lines at a pedestrian crossing.	Add: Any deviations will require approval from Council.	
New Item	SW	4.2.1	Amendment to be made to give applicants the option to agree the approach to be taken for stormwater with P&I before, or when, applying for resource consent. It is clear from this statement that the Code of Practice kicks in once an applicant has obtained resource consent for a proposal. Of course, this should not prevent a developer from discussing a proposal with the Property and Infrastructure Team of Council either before lodging a resource consent application or during the processing of that application. RPL fully understands the requirement to agree the stormwater design before commencing any work but the Code of Practice should not purport to limit a land owner's rights under the RMA.	Amend to: The designer shall agree the approach to be taken for stormwater with the Property and Infrastructure Team of Council prior to commencing any work and may agree the approach prior to, or when, applying for resource consent.	
New Item	Water	6.3.8.1	In some more intensive developments the only option may be to have water infrastructure close to a boundary, however definitely located within one property boundary. It does not make sense to put a 0.5m wide easement (for example) on a neighbouring section to comply with this requirement, there should be flexibility depending on final property boundaries.	Amend to: Pipes shall generally be centrally located within an easement.	
New Item	Water	6.5.3.1	reference to standard drawings is wrong - should be B1-2 and B1-3 for under carriageways	Amend to: ...as per Appendix Drawing B1-2 and Drawing B1-3	
New Item	Water	6.5.3.2	reference to standard drawings is wrong - should be B1-4 for berms	Amend to: ... in accordance with the requirements of Appendix B Drawing B1-4.	
New Item	Appendix B	Appendix B	Drawing references are incorrect.	Have updated Appendix B and drawing references in text.	see Drawings Amendments Register for complete list of drawing changes
New Item	Appendix B	Drawing B1-8	The internal dropper detail should be the same as an external dropper, if the inlet section "Tee piece" of the internal dropper is Vertical, then the outside pipe cannot be accessed with water blaster for clearing, if the "Tee piece" is horizontal the clearing of the outside pipe can occur. this includes CCTV/ manhole inspection CCTV.	Rotated internal cap so that the Tee-piece is horizontal.	see Drawings Amendments Register for complete list of drawing changes

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New Item	Appendix B	Drawing B4-6	Remove, or update design-specific or contradicting dimensions.	Removed design-specific dimensions and added note stating "Soakpit dimensions to be determined based on ground conditions and specific design"	see Drawings Amendments Register for complete list of drawing changes
New Item	Appendix B	Drawing B5-4	Minimum cover of 600mm for sump leads will cause a construction issue with subsoil drains as Drawing 5-4 requires the invert of subsoil drains to be deeper than 600mm (depending on pavement depth). QLDC should revise Drawing 5-4 or change the minimum cover requirement to prevent construction complications or mis interpretation.	Changed drawing B5-4 to show 1000 mm dimension to be "to be determined by designer"	see Drawings Amendments Register for complete list of drawing changes
New item	Appendix B	Drawing B5-8	Update drawing so that all kerb profiles are facing the same way	Mirrored No. 3 Slip Form Kerb so the footpath is on the right.	see Drawings Amendments Register for complete list of drawing changes
New Item	General	General	References to, or requirements for, approval relating to resource consents in the code of practice is inappropriate. The resource consent process takes precedence over the code of practice.	Amended 7.3.13 to "New playground designs are to be signed off by the Parks and Open Spaces Planning Manager. It is strongly advised this is done before resource consent is issued. "	
New Item	General	General	Confirm if its LA or TA	replaced "LA" with "TA" in all instances	
New Item	General	General	Reference to LA's. Should this be TA's?	replaced "LA" with "TA" in all instances	
New Item	General	Referenced Documents - Roads	Old standard referenced in CoP for Road Safety Audits	update to: Road safety audit procedures for projects, NZ Transport Agency, Interim Release May 2013	
New Item	Appendix G	Electrical Drawings	quality of the embedded pump station electrical drawings is too poor to make out the detail requirements. This quality should be improved	Amended Appendix G so that the drawings are original PDF's rather than screenshots pasted into the document. No material changes	
New Item	Roads	Drawing B6-3 and 3.3.12	The reference to the code, including the clause, all needs to be updated. We need to refer to the TCD Manual Part 2, Section 7, but tempered with whatever was in section 3.11.8 referred to on the picture. And my only change to the TCD is the first diagram in the positioning of signs should have 1 and 2 change around.	Add to 5th paragraph of 3.3.12: Placement of the road name signs shall be in accordance with TCD (2004), except for the sign positioning in Table 7.7 at T intersections of: (a) minor road with minor road, or (b) minor road with undivided major road shall have positions 1 and 2 switched.  Update reference in Drawing B6-3 to "Refer to TCD Manual Part 2: Section 7 for street name signs, and QLDC's infrastructure code clause 3.3.12 for fonts and colours within QLDC" and to align with the Street Sign Specification, 2002.	
New Item	Roads	3.4.4.2	We need to clarify section 3.4.4.1 of the Code to reflect that Option 2 (2nd coat by QLDC's roading maintenance contractor) is only available for QLDC vested roads, not private roads or right of ways. Wording is unclear currently.	Reword to: There are 2 options available for completion of the second coat seal, depending on the ownership of the road: 1) Independently by the developer, this includes private roads and right of ways. A bond will be required if this work will occur post-224c certification to ensure it is completed within the next available sealing season following the first coat application. Details of the second coat seal shall be provided to Council on completion via the Roading Asset data provision/RAMM update sheet process. Council will retain 5% of the bond for 12 months following completion of the second coat to cover any defects occurring within that period. 2) For Council-vested roads, the work may be completed as part of the Council's annual sealing programme and the developer covers costs paid to the council for undertaking this work. The developer shall provide payment to Council to cover the cost of this work prior to 224c certification for subdivision.	

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**Stage 2 Drawings Amendments Register**

2020 Drawing Number	Drawing Name	Stage 1 Amendments (2019)	Stage 2 Amendments (2020)
B1-1	Typical Combined Service Trench Detail	No Change	<ul style="list-style-type: none"> <li>Added "as per Code of Practice Table 5.6 and 6.4" to note about voltage cables.</li> <li>Remove LV and HV labels and replace with "power cables".</li> <li>Removed "NTS" as it is now in the title block</li> </ul>
B1-2	Standard Pipe Embedment	No Change	No Change
B1-3	Typical Pipe Bedding & Backfill for Carriageways	No Change	<ul style="list-style-type: none"> <li>Changed Min 10 asphalt to "asphalt as per accepted design"</li> </ul>
B1-4	Typical Pipe Bedding & Backfill for Vehicle Crossings & non trafficable	No Change	<ul style="list-style-type: none"> <li>Changed "See R-02, R-03..." to "See drawing B5-21 and B5-22".</li> <li>Changed 150 mm dim to 1500.</li> <li>Changed Min 10 asphalt to "asphalt as per accepted design"</li> <li>Hatch on Gap 65 for top detail changed to match hatch on bottom.</li> </ul>
B1-5	Manhole Detail A –Typical Plan view	<ul style="list-style-type: none"> <li>Replace Table 1 of the Auckland Council drawing with the current table in QLDC drawing B1-5.</li> <li>replace "deviation angle" with "deflection"</li> <li>Update to remove dimensions for flexible connection detail, and reference B1-9 instead</li> </ul>	<ul style="list-style-type: none"> <li>Combined drawings B1-9 and B1-6 to B1-6</li> <li>Changed "Channeling" to "channelling" for international spelling</li> <li>D02 reference changed to drawing B1-6.</li> <li>NZS:4404 reference changed to B1-7.</li> <li>Added section tags to relate to B1-6.</li> <li>Added note "If a deviation is sought from the requirements in the table above, justifiable calculations must be given and be to Council's satisfaction."</li> <li>Adjusted concrete haunching to have a perpendicular connection with the manhole wall.</li> <li>Removed rungs from manhole dwgs and notes.</li> <li>Changed haunching to corbals on leader and note 3.</li> <li>Added Dimension "X" and labelled "Minimum distance between pipe openings (X) = 0.7 x larger pipe ID or 300mm, whichever is greater".</li> <li>Added dimension "R", labelled "Minimum benching radius R = 2 x pipe ID."</li> <li>Deleted leaders referring to flexible connection detail as it was removed from B1-6.</li> <li>Removed full stop from watertight note for consistency.</li> <li>Deleted arrow from opening to edge of manhole.</li> <li>Note 5 changed ".the requirements in the table above.." to "the requirements in the detail above..",</li> <li>Added note 6: "&gt;75deg deflection shall require specific design for manhole risers for any diameter of pipe &gt;375mm." which was moved from above.</li> <li>Deleted "SD*: Specific Design" and "around Specific Design."</li> <li>Removed last sentence in note 4 and moved access opening in drawing over downstream pipe and deleted line that was in the centre of the opening (vertically).</li> </ul>
B1-6	Manhole Details B	No Change	<ul style="list-style-type: none"> <li>Changed "B/D01" section title to match sections on B1-5.</li> <li>Removed D05 drawing reference in Note 1.</li> <li>Corrected spelling mistake "referred".</li> <li>Changed name to Manhole Detail B - Typical Cross Section for consistency.</li> <li>Removed stepped iron detail as it is in B1-7.</li> <li>Added note "Concrete corbels required at pipe penetrations".</li> <li>Removed rungs in dwg and note/leader.</li> <li>Changed concrete collar at top of MH to straight line, 100 mm thick. Add leader "100mm PRECAST REINFORCED RING WITH CHAMFER".</li> <li>Removed 750mm dimension to flexible joint.</li> <li>Changed "compacted fill bedding" to "compacted fill bedding to designer specification according to ground conditions".</li> <li>Added leader "gritted pipe starter" to intake pipe.</li> </ul>
B1-7	Manhole Detail C	No Change	<ul style="list-style-type: none"> <li>Drawing D05 reference to safety platform removed.</li> <li>D01 reference removed as detail is on this sheet - changed to "rungs as specified at 300mm"</li> <li>Renamed drawing to "External Drop Manhole"</li> <li>Removed everything except the external drop MH plan and the section.</li> <li>Added internal drop details from B1-8.</li> <li>Changed elevation to section and section to plan for internal drop titles.</li> <li>"note" changed to "notes" for consistency.</li> <li>Notes from B1-8 added and combined with existing notes.</li> <li>Removed note 4</li> <li>"minimum" to beginning of Note 5.</li> </ul>

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B1-8	Mini & Drop Manhole Detail	No Change	<ul style="list-style-type: none"> <li>Removed note about use of earthenware pipe required (2 instances).</li> <li>Rotate capped tee 90 degrees.</li> <li>Replace Note 3 with: DN 1200 MH to be used with internal drop structures</li> <li>Removed notes 2-4.</li> <li>Moved all internal drop details to B1-7.</li> <li>Corbals formed to be rectangular at pipe penetration.</li> <li>Extended edge of structure to meet pipe (there was a gap, filled with concrete).</li> </ul>
<del>drawing deleted</del>	<del>Manhole Detail – Typical Cross Section</del>	<del>No Change</del>	<del>Drawing deleted – combined as B1-6</del>
<del>drawing deleted</del>	<del>PVC Inspection Chamber (Residential Only)</del>	<del>No Change</del>	<del>Drawing deleted</del>
B1-10	Lateral Connections for two Properties	No Change	<ul style="list-style-type: none"> <li>Replaced bends with Y-junction and 45 degree connection in both details (x3).</li> <li>Removed bottle neck part of lateral off MH connection.</li> <li>Add leader "Y-junction" (x4) and "elbow to suit".</li> <li>Show minimanhole with frame and cover, concrete surround, 200 mm max cover, and compacted drainage metal (AP20), and ground profile.</li> </ul>
<del>drawing deleted</del>	<del>Manhole Typical Heavy Duty Frame &amp; Lid</del>	<del>No Change</del>	<del>Drawing deleted</del>
B1-11	Domestic Drainage (Shallow Connection) Detail	No Change	<ul style="list-style-type: none"> <li>D07 and D08 changed to Drawing B1-3 and B1-4.</li> <li>Changed marker post leader to "Green (SW) or Red (WW) painted marker post"</li> <li>Removed note 1.</li> </ul>
B1-12	Domestic Drainage (Deep Connection) Detail	No Change	<ul style="list-style-type: none"> <li>D07 and D08 changed to Drawing B1-3 and B1-4.</li> <li>Changed marker post leader to "Green (SW) or Red (WW) painted marker post"</li> </ul>
<del>drawing deleted</del>	<del>Anti Scour Blocks For Steep Lines</del>	<del>No Change</del>	<del>Drawing deleted</del>
B2-1	Fire Hydrant	No Change	<ul style="list-style-type: none"> <li>"all dims in mm" note changed to "all dimensions in millimetres".</li> <li>Full stops added in notes for consistency.</li> <li>Remove "665 MESH" and mesh linework.</li> <li>Raised concrete to be flush with lid.</li> <li>Note re: 30 mm drop removed.</li> <li>Note 4 added "All Fire Hydrants shall be installed on supply pipes that have a minimum cover of 1000 mm to allow for suitable clearances, if required localised lowering of the supply pipes can be achieved by tapering down from 5 m either side of the Fire Hydrant."</li> </ul>
<del>drawing deleted</del>	<del>Fire Hydrant Cover</del>	<del>No Change</del>	<del>Drawing deleted</del>
B2-2	Typical Cast Iron Valve Box	<ul style="list-style-type: none"> <li>Updated drawing to current practice valve box.</li> </ul>	<ul style="list-style-type: none"> <li>Leader added: "concrete anchor block required if pvc pipe only".</li> <li>Relocated tracer wire within pipe.</li> <li>Added ground hatching beneath concrete blocks, changed 50 mm to 110 mm and aligned top of box with top of concrete block.</li> <li>Added 'Max' after 1000 mm dimension.</li> <li>Notes 1 and 2 added:  1. CONCRETE SURROUNDS 370x480x90H Ø200 HOLE FITS CAST IRON VALVE BOX 225x235  2. FIRE HYDRANT CONCRETE SURROUND 570x430x110H FITS 405x255 SV OR FH CAST IRON BOX". Asphalt extended to valve box as per hydrant detail</li> </ul>
B2-3	Typical Service Connection	<ul style="list-style-type: none"> <li>Add note to drawing: Connection to main to be made by Talbot ferrule or similar (to include isolation point)</li> <li>Updated drawing B3-4 to align with WS14 Watercare drawing, but altered to reflect the Acuflo Manifolds that Council specifies. This removes the gate valve, meter, brass tail piece with the double check.</li> <li>Add as note to B2-4: 25mm ID connections require 2 x Acuflo boxes or 500mm box with bases</li> <li>Update drawing: remove secondary valve, meter box, and marker post.</li> <li>Add note to B2-4: Electro Fusion (EF) elbows only to be used</li> <li>Add note to B2-4: When there is no option but to install toby box in trafficable driveway / riderway then a 150mm x 150mm (WxD) concrete nib is required</li> <li>Add note to B2-4: Option of using 50mm brass Talbot instead of elbow off main</li> </ul>	<ul style="list-style-type: none"> <li>Added note "An Acuflo GM900 manifold with blank cap and screw-in dual check valve shall be installed on each connection and positioned inside an AMB035 (lid-less box/base combination) with a AMB300 (300mm with lid) box positioned above to give required depth (600mm) near the property boundary and also be clear of any vehicular movements."</li> <li>Added "bronze" to "...existing pvc water main use bronze Talbot ferrule."</li> <li>Added "jumbo" to note 4. changed dimension of tail to be depth of 1m (1000mm).</li> <li>Changed note 3 to "When there is no option but to install a toby box in a trafficable area then a trafficable cast box with cast iron lid is required."</li> <li>Changed note 2 to "OPTION OF A CONTINUOUS PIPE LAID IN ACCORDANCE WITH MANUFACTURE MINIMUM BEND RADIUS, AND IF THIS CANNOT BE ACHIEVED THEN ELECTRO FUSION (EF) ELBOWS ARE TO BE USED."</li> <li>PE pipe bend to above the ground surface.</li> <li>Dimension added "1000 above ground" for tail.</li> <li>Restored main connection from 2018 drawing.</li> <li>Removed self tapping callout.</li> <li>Changed note 6 to 450mm from 600mm, also dimension of nominal depth to 450-500 rather than 550-650.</li> <li>Moved lateral up (shrink box) to be to proportionate scale.</li> <li>Added detail of Acuflo GM900 Manifold configuration</li> <li>Added "ID" after diameters.</li> <li>Added leader to bend saying "see note 2".</li> <li>Main moved down and pipe bent before connection to resemble realistic installation.</li> <li>Removed additional valve on downstream side of meter so that there is one valve and one meter.</li> </ul>

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B2-4	Sluice Valve Detail	No Change	<ul style="list-style-type: none"> <li>Valve copied to match concrete surround detail from B2-3 and tube extended down to surround valve better.</li> <li>Strapping note added "not required for PE pipe if valve is welded in" and straps removed from drawing.</li> <li>Pipe dia. changed to 150mm from 200mm. Added concrete hatch to both details (was only on right detail).</li> <li>Removed concrete blocks from the bottom of the pipe that slots over the valve.</li> </ul>
B2-5	Typical Thrust Block Details	No Change	<ul style="list-style-type: none"> <li>Changed to landscape.</li> <li>Table updated from Table 7.3 of WSA03 and notes replaced.</li> <li>Added concrete thrust block for flanged valves detail from figure 7.15 from WSA03.</li> <li>Updated notes to include updates from WSA 03, and retained Notes 2, 9, 10 and 11 from 2018 Appendix B</li> </ul>
B2-6	Residential Fire System Connection with Potable Supply	<ul style="list-style-type: none"> <li>Changed title of drawing B2 -7 to say "Domestic Fire System Connection with Potable Supply"</li> <li>Altered B2 - 7 so that backflow prevention should be within the boundary for both the potable and fire supply</li> </ul>	<ul style="list-style-type: none"> <li>Add "residential" in note 1.</li> <li>Change "removeable ss cover" to "removable, lockable, anti-tamper, insulated plastic cover".</li> <li>Add concrete hatching and label to concrete pad.</li> <li>Add ground hatching.</li> <li>Shrink dump drain down to be realistic.</li> </ul>
B2-7	Commercial Fire System Connection with Potable Supply	Moved side elevation from B2-9 to B2-8.	<ul style="list-style-type: none"> <li>Specify valve is an Acuflo</li> <li>Change "inground council water meter box (jumbo box)" to "inground council valve box".</li> <li>Concrete pad label and hatching, plus earth hatching added to elevation.</li> <li>Change "road" to "road reserve" in note 5.</li> <li>Note 3 changed to "a BFP shall be installed in accordance with the manufacturer recommendations, and the appropriate BFP used should be determined based on the hazard. If using a RPZ BFP, it shall be installed above ground. All other BFP's should be above ground where possible. The BFP shall allow any water discharged to drain to ground in an obvious manner."</li> <li>Bullet three of note 1, added "An RPZ valve shall be located above ground."</li> <li>Added strainer to elevation (including adding a leader to identify) and shrink dump valve detail to be realistic.</li> <li>Note 2 changed to "Backflow preventers shall be located directly within the road frontage boundary of the property served in every instance except where in a CBD environment where there may be no space within the building frontage for an above ground cabinet."</li> </ul>
B2-8	Water Supply with Bulk Flow Meter	<ul style="list-style-type: none"> <li>Add a drawing after B2-7/8 showing a standard detail for a bulk flow meter/commercial without firefighting</li> <li>Moved side elevation from B2-9 to B2-8 and added new side elevation detail to drawing B2-9.</li> </ul>	<ul style="list-style-type: none"> <li>Took out "A" in note 7 to read "...shall have words 'meter' and/or..."</li> <li>Changed imperial units 12" and 30" to 300mm - 750mm.</li> <li>Note 1 bullet 2, changed "...a strainer and approved.." to "...an approved..".</li> <li>Removed second sentence in note 3 for clarity.</li> <li>Added "jumbo box" to water meter box callout.</li> <li>Changed "optional water meter" to "bulk flow water meter".</li> <li>Added supply valve leader and ball valve leaders.</li> <li>Inserted a ball valve behind the strainer.</li> <li>Removed "where possible from note 1, bullet point 4.</li> <li>Added to Note 3 "Where double check valve devices are installed in an underground chamber, the design must allow for servicing by top entry and the chamber must be well drained. For larger sized double check valve devices, it is good practice to install these above ground, for ease of access and possible future upgrading to reduced pressure zone devices."</li> <li>Draw first valve as a gate valve</li> <li>Double line added at top of jumbo box to represent a lid.</li> <li>Note 2 changed to "Backflow preventers shall be located directly within the road frontage boundary of the property served in every instance except where in a CBD environment where there may be no space within the building frontage for an above ground cabinet."</li> </ul>
B2-9	PRV Valve Chamber	<ul style="list-style-type: none"> <li>Add note 2 to drawing: Consideration needs to be given for drainage within the valve chamber.</li> </ul>	<ul style="list-style-type: none"> <li>labelling consistency - used leaders instead of callouts. Then corrected upstream/downstream inconsistency.</li> <li>Removed "2x" from "2x flexible dismantling joints" note and made "joints" singular and removed one dismantling joint from drawing.</li> <li>Dismantling joint and flange detail changed to match Figure 8.22 of WSA02.</li> <li>Added drain to chamber floor.</li> <li>Made top of box flush to the ground in section view and ground hatching added.</li> <li>One flange added on each side of PRV.</li> </ul>
B2-10	Water Sampling Point	<ul style="list-style-type: none"> <li>Change annotation from "25mm Ball Valve" in Section 2 with "Acuflo GM900"</li> </ul>	<ul style="list-style-type: none"> <li>Corrected spelling of "Acuflo"</li> <li>Dimensions don't match up - changed 755 to 765mm,</li> <li>Section tag consistency - Moved tag B to centre.</li> <li>Added "or similar" to "220x220 valve box" note.</li> <li>"valve box" changed to "toby box".</li> <li>Sections aligned across page by concrete pad.</li> </ul>
B3-1	Private Pressure Sewer Main Connection to Sewer Lateral	No Change	<ul style="list-style-type: none"> <li>Ground hatching extended across length.</li> <li>Changed "road" to "road reserve".</li> <li>Note "Y-junction and bent to suit" added.</li> <li>Valve box added around rodding eye cap per figure 10 of G13 in the NZ Building Code</li> </ul>
<del>drawing deleted</del>	<del>Pump Station: Split Access Hatch</del>	<del>Add note to drawing B3-2: Four fold out safety rails are to be included in the lid construction - these are available as units from pump station fitting suppliers</del>	<del>Drawing Deleted</del>

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<del>drawing deleted</del>	<del>Pump Station: Split Access Hatch Sections</del>	No Change	<del>Drawing Deleted</del>
<del>drawing deleted</del>	<del>Pump Station: Split Access Hatch Frame-Details</del>	No Change	<del>Drawing Deleted</del>
<del>drawing deleted</del>	<del>Pump Station: Split Access Hatch Cover-Details</del>	No Change	<del>Drawing Deleted</del>
B4-1	Inlet & outlet Structures	No Change	<ul style="list-style-type: none"> <li>• "Table 1" label added.</li> <li>• Note 7 changed to "Inlets exceeding 450mm diameter to have anti-vermin screens fitted, except when the pipe is less than to m long."</li> <li>• Added note 8: "Table 1 is for forming inlet and outlet structures outside manufacturer's specifications".</li> <li>• Update Note 1 to say "or equivalent" after each mesh description</li> </ul>
B4-2	Concrete Capping Detail	<ul style="list-style-type: none"> <li>• Added drawing to show concrete capping detail for culverts/pipes with less than 1m of cover</li> </ul>	<ul style="list-style-type: none"> <li>• Added note "extend 200mm past edge of culvert" to concrete cap note.</li> <li>• Added 20mpa to concrete capping note.</li> <li>• Added earth hatch.</li> <li>• Removed the following specifications: "DN300 SN8 uPVC Culvert" changed to "non-flexible" (uPVC, PE Culvert)</li> <li>• Removed dimensions 450, 100 M/4 AP40, 200 AP65)</li> <li>• Changed two coat grade 3/5 chip seal to asphalt or chip seal, so there is just the detail surrounding the pipe and then a gap until the road surface.</li> <li>• Added encased detail.</li> <li>• Added note: "3.Pipes in trafficable areas with less than 1.0 c cover shall be concrete capped, and pipes with less than 0.55 mm cover shall be concrete encased. The concrete encasement shall be reinforced concrete and structurally designed for required design load by a structural engineer"</li> <li>• Shift entire detail up to line up with bottom of basecourse.</li> <li>• Add label to basecourse "150mm basecourse AP65"</li> <li>• Add note for mesh at 200mm centres and into drawing.</li> <li>• Change 100 mm cap overhang from 100 to 200mm and update leader accordingly.</li> <li>• Change Note 2 "0.55 mm" to "0.6 m".</li> <li>• Basecourse specified as AP40 rather than AP65.</li> <li>• Removed first two bullet points specifying bars in capping detail and replace with one stating "reinforcement to be determined by a structural engineer" and delete note specifying reinforcement in encasing detail.</li> </ul>
<del>drawing deleted</del>	<del>Drawing B4 3: Rip Rap Lined Swale</del>	No Change	<del>Drawing Deleted</del>
<del>drawing deleted</del>	<del>Rip Rap Lined Swale</del>	No Change	<del>Drawing Deleted</del>
B4-3	Scruffy Dome Detail	No Change	<ul style="list-style-type: none"> <li>• Dimensions tidied and linework made proportionate</li> <li>• Dimension arrows added for 0.5m dimension</li> <li>• Swale grade changed to 1:5 on plan and elevation view.</li> <li>• Syphon removed</li> <li>• Pipe scaled to 225 dia and cut off just inside structure.</li> <li>• Added dimension lines for 0.5 m dimension.</li> <li>• Cut off concrete surround at lid and scaled to 200mm.</li> <li>• Changed/added hatch for gravel and concrete to be consistent with document.</li> </ul>
B4-4	Soak Pit	No Change	<ul style="list-style-type: none"> <li>• Changed orientation to landscape.</li> <li>• Removed duplicated notes from plan view.</li> <li>• Removed all site-specific design elements/dimensions.</li> <li>• Replace "toward" with "away from".</li> <li>• Add Note 2: "Soakpit dimensions to be determined based on ground conditions and specific design."</li> <li>• Add Note 2 text to leader for soak pit dimensions in plan view.</li> <li>• Change "Note:" to "Notes:" and add numbering.</li> </ul>
B5-1	Dimensions of No-Exit Road Turning Areas	<ul style="list-style-type: none"> <li>• Amend the drawing to have it as 10 meters to align with the wording and the correct dwg referenced</li> </ul>	No Change
B5-2	Turning Areas for No-Exit Roads	No Change	<ul style="list-style-type: none"> <li>• Angle changed from 22.5 to 67.5 (incl. direction of angle) to be more applicable for designers and machinery. Meters to metres.</li> </ul>
B5-3	Parking Bay	No Change	No Change
B5-4	Subsoil drains - Roadside	No Change	<ul style="list-style-type: none"> <li>• Removed base dimensions and BIDIM from bases.</li> <li>• Replaced "washed 20 mm reject gravels" with "approved drainage aggregate material".</li> <li>• Removed "lowest" from "min of 200 mm below lowest subgrade level".</li> <li>• Added dimensions on surface water cut-off drain detail for "min 200mm below subgrade level" and "to be determined by design"</li> </ul>

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B5-5	Typical Swale Detail	No Change	<ul style="list-style-type: none"> <li>• Changed name to "Typical Swale Detail"</li> <li>• Note 3 changed to 5% AEP.</li> <li>• Changed Figures 3.6B and C to B5-6 and B5-7.</li> <li>• Dimension added "Min. of 200 mm below lowest subgrade level"</li> <li>• Added grass and topsoil hatch.</li> <li>• Changed 100dia. slotted pipe to 110dia.</li> <li>• Moved "d" dimension to go to top of base of swale.</li> <li>• Changed note 5 to 1:4.</li> <li>• Add carriageway from old rip rap drawing (B4-3).</li> </ul>
B5-6	Typical Swale Detail (when check dams required)	No Change	<ul style="list-style-type: none"> <li>• Changed name to Typical Swale Detail [when check dams required]. Figure 3.6C is B5-7</li> </ul>
B5-7	Typical Check Dam Detail	No Change	<ul style="list-style-type: none"> <li>• Changed section tags and elevation names to A and B.</li> <li>• Changed BIDIM to A14 rather than A12.</li> <li>• Extended concrete to full width</li> <li>• Replaced "railway sleeper" with "20 Mpa concrete check dam" and deleted "railway sleeper" from typical plan view.</li> <li>• Added dimensions to check dam, with 20mm chamfer on concrete check dam (with note), and extended filter fabric to be underneath structure.</li> <li>• Removed wings on elevation B and centred note under title of elevation A.</li> </ul>
B5-8	Kerbs and Dished Channels	No Change	<ul style="list-style-type: none"> <li>• Mirror No. 3 Slip Form Kerb so the footpath is on the right.</li> <li>• Added "maximum" to road edge leader on no. 1 kerb &amp; channel.</li> <li>• Replicated road hatching from no.5 mountable kerb on all kerb details</li> </ul>
B5-9	Typical sump to driveway or right of way	No Change	<ul style="list-style-type: none"> <li>• Removed note 2. Change boundary linetype. Hatched drain for definition.</li> </ul>
B5-10	Flat channel or Yard Sump – Private Only	<ul style="list-style-type: none"> <li>• Add note to drawings: B5-10, B5-11, and B5-20 to require concrete corbals at pipe penetrations.</li> <li>• All sumps should be 1800mm depth and a minimum sediment storage depth of 450mm is to be provided (to invert of pipe).</li> </ul>	<ul style="list-style-type: none"> <li>• Added "A" to Section title for consistency.</li> <li>• Removed 160dia note.</li> <li>• Removed note for corbels for all sump details.</li> <li>• Changed depth of sump to 1800 and depth to pipe to 600 mm min.</li> <li>• Removed "barrel" from notes because manufacturer doesn't use this terminology (Hynds).</li> <li>• Added concrete hatching</li> <li>• Moved 1800 dimension to internal base</li> <li>• Added ground hatching and made pipe a Y-junction and 45 degree connection</li> </ul>
B5-11	Road Sump Detail	<ul style="list-style-type: none"> <li>• Add note to drawings: B5-10, B5-11, and B5-20 to require concrete corbals at pipe penetrations.</li> <li>• All sumps should be 1800mm depth and a minimum sediment storage depth of 450mm is to be provided (to invert of pipe).</li> </ul>	<ul style="list-style-type: none"> <li>• Moved bottom dimension to go to invert of pipe rather than top.</li> <li>• Removed note for corbels for all sump details.</li> <li>• Added 1800mm depth dimension to internal base of sump.</li> <li>• Added 75mm max. dimension to depth between inlet block and top of grate.</li> <li>• Added y junction and 45 bend instead of syphon.</li> <li>• Added max water level with label.</li> <li>• Removed "at all" from note 2.</li> <li>• Changed the detail of the back entry block in B5-11 and 13 to show the cut out.</li> <li>• Changed grate to match grates in B5-12</li> </ul>
B5-12	Different Grate Layouts	No Change	<ul style="list-style-type: none"> <li>• Changed note "(see note 5)" to "(see note 1)" and added note 5 from B5-11 as note 1 on this sheet.</li> <li>• Changed grates to look more realistic (match B5-18).</li> <li>• Dashed vertical line added to show that the 1000 dimension is applied to end of taper.</li> </ul>
B5-13	Standard Back Entry Sump	No Change	<ul style="list-style-type: none"> <li>• Detail and dimensions updated to resemble current practice (Hynds isometric drawing of back entry sump and flat top sump).</li> <li>• Title added to section called "section through grate",</li> <li>• Titles for isometric views added as "Back Entry Sump Isometric View" and "Flat Top Sump Isometric View"</li> <li>• Added notes "Dimensions per manufacturer's specifications." and "All sumps shall be a minimum of 1800 depth."</li> <li>• Drawing title changed to "Standard Flat Top and Back Entry Sump"</li> </ul>
<del>drawing deleted</del>	<del>An Alternative Sump for Hillside Situations</del>	No Change	<del>Drawing Deleted</del>
B5-14	Double back-entry sump for road low points and alternative	No Change	<ul style="list-style-type: none"> <li>• A-A changed to A and B-B to B.</li> <li>• Removed bottom detail: "Alternative connection with outlets to main from both sumps".</li> </ul>
B5-15	Traversable Grates for Precast Headwalls 255mm to 450mm culverts	No Change	<ul style="list-style-type: none"> <li>• Changed "Detail C" to "Section Detail C".</li> <li>• Deleted all details other than isometric view and added note "galvanized traversable grates as per manufacturer's detail".</li> <li>• Removed note 1 about indicative dimensions.</li> <li>• Changed orientation to portrait.</li> <li>• All spellings of "galvanised" changed to "galvanized".</li> <li>• Changed title "255 mm" to "300 mm"</li> </ul>



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B5-16	Mountable Grates for Precast Headwalls 255mm to 450mm Culvert	No Change	<ul style="list-style-type: none"> <li>• Changed "Detail C" to "Section Detail C".</li> <li>• Deleted all details other than isometric view and added note "galvanized traversable grates as per manufacturer's detail".</li> <li>• Also removed note 1 about indicative dimensions.</li> <li>• Changed orientation to portrait.</li> <li>• All spellings of "galvanised" changed to "galvanized".</li> <li>• Changed title "255 mm" to "300 mm"</li> </ul>
B5-17	Berm Sump Detail	<ul style="list-style-type: none"> <li>• Add note to drawings: B5-10, B5-11, and B5-20 to require concrete corbals at pipe penetrations.</li> <li>• All sumps should be 1800mm depth and a minimum sediment storage depth of 450mm is to be provided (to invert of pipe).</li> </ul>	<ul style="list-style-type: none"> <li>• Removed D11 reference.</li> <li>• Changed D19 to B5-19.</li> <li>• Removed note for corbels for all sump details.</li> <li>• Changed basecourse leader to say "suitable backfill material as specified by the designer" to say "suitable bedding material as specified by the designer"</li> <li>• Removed note above outlet about concrete capping, and references to drawings B5-18 and B5-19</li> <li>• Deleted note "standard sump grating and frame" as it's redundant.</li> <li>• Changed syphone to 45deg bend.</li> </ul>
B5-18	Vehicle Crossing - Residential	<ul style="list-style-type: none"> <li>• Note 3. 30mm DG7 (reference NZTA M10 Notes Table N3.3)</li> <li>• Note 4. M4 AP40 (new M4 specification coming out from NZTA Soon that will allow lower spec AP40 in low use environments- which would apply to driveways)</li> </ul>	<ul style="list-style-type: none"> <li>• Changed angle line for low level footpath to match top of kerb on each side.</li> <li>• District plan references updated.</li> <li>• Section tag changed to A - from XX and section titles changed to A.</li> <li>• Removed note 10</li> <li>• Removed values and notes on sections referring to max change of grades and replaced with one note "Max. change of grade in accordance with the district plan".</li> <li>• Changed "665 mesh" to "structural mesh"</li> <li>• Changed "section 29.5 of the district plan" in note 1 to "district plan requirements",</li> <li>• Changed 100mm to 150mm in note 4</li> <li>• Removed "section 29.5.17 of" from note 6, and remove note 9.</li> <li>• Added dashed lines representing footpath across vehicle crossing and add corresponding leader "if the footpath is existing it must be removed at the time of installation"</li> <li>• Changed linetype of boundary to border linetype and thickened lineweight of vehicle crossing.</li> <li>• Removed numerical dimensions from footpath and between footpath and end of flare.</li> <li>• Min 3500 at flare changed to 4000 to align with PDP.</li> </ul>
B5-19	Vehicle Crossing – Commercial / Industrial	No Change	<ul style="list-style-type: none"> <li>• Changed reference to B5-8.</li> <li>• Changed "665 mesh" to "structural mesh"</li> <li>• Changed 100mm to 150mm in note 4</li> <li>• Removed "section 29.5.17 of" from note 5 and 6, and removed note 9.</li> <li>• Added dashed lines representing footpath across vehicle crossing and add corresponding leader "if the footpath is existing it must be removed at the time of installation"</li> <li>• Changed linetype of boundary to border linetype and thickened lineweight of vehicle crossing.</li> <li>• Removed numerical dimensions from footpath and between footpath and end of flare and added "footpath" to the dimension that was 1500 to match B5-21.</li> <li>• Changed section grade to 2%.</li> </ul>
drawing deleted	Road Sump Detail: Heavy Duty Frame & Grate	No Change	Drawing Deleted - section on a to section a
B5-20	Private Rural Access	<ul style="list-style-type: none"> <li>• COP diagram B2-42 should read 3m to 6m (not 3.6m) for 'Residential' and 4m to 9m (not 4.9m) for 'Other'</li> </ul>	<ul style="list-style-type: none"> <li>• District plan reference updated to 29.1.15.</li> <li>• Note 6 added: "minimum depth of 450 mm to top of culvert is required if concrete capped/encased if the road depth cannot be achieved or as agreed with the T.A"</li> <li>• Made property boundary a straight line and changed linetype from fence to boundary to match other drawings.</li> <li>• Changed 100mm to 150mm and 150mm to 200mm in note 2,</li> <li>• "capacity" added to 300mm dia. min culvert note.</li> <li>• "merge slip lane.." note changed to "merge lane.." and removed 29.5.15 reference so just to say "(refer DP)".</li> <li>• Headwall and wingwalls drawn on culvert.</li> </ul>
drawing deleted	Light Sump Frame & Grate	No Change	Drawing Deleted - section on a to section a

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B5-21	Non-Precast Headwall Detail	<ul style="list-style-type: none"> <li>Add the drawing detail from the Infrastructure code Rural Access - Figure 3 stacked stone detail with amendment of min diameter (200 to 300mm)</li> </ul>	<ul style="list-style-type: none"> <li>Corrected inconsistency of section tags</li> <li>Corrected spelling errors "shall", "mm" and in all caps for consistency,</li> <li>Added "min" after 75mm to notes</li> <li>Changed 375mm to 300mm in pvc pipe ends dimension</li> <li>Changed "base course" to "access surface" in section B</li> <li>Changed orientation of dimension line for cover over culvert</li> <li>Changed "concrete surround" to "concrete cap", "heavy PVC" to "SN8 PVC" in note 2,</li> <li>Added "if an appropriate depth cannot be achieved" to the end of note 3</li> <li>Added ground hatching on sections A and B and hatching to show ground profile layers in elevation view.</li> <li>Added "longitudinal elevation: headwall" title for top detail.</li> <li>Changed "300mm culvert" dim to "min 200mm".</li> <li>Added concrete cap to section B.</li> <li>Changed headwall horizontal dimension to "pipe diameter x 6" and add concrete capping detail</li> <li>Removed section A</li> <li>Changed Note 1 "300mm" to "200mm".</li> <li>Changed drawing title to "Non-precast Headwall Detail for Culvert Under Access"</li> </ul>
B5-22	Heavy Duty Footpath	No Change	<ul style="list-style-type: none"> <li>Removed "min" from crossfall specification,</li> <li>Changed thickness on heavy duty concrete footpath detail to 150 from 125 and re-scaled</li> <li>Changed "HRC 665 mesh" to "HRC structural mesh"</li> <li>Added "(to be confirmed on site)" to each backfill/subgrade note.</li> </ul>
B5-23	Footpath – Asphalt & Gritted Detail	<ul style="list-style-type: none"> <li>Changed "subgrade" to "basecourse" in drawing</li> </ul>	<ul style="list-style-type: none"> <li>Notes formatting changed for consistency.</li> <li>Removed basecourse note.</li> <li>Changed subgrade note back to "100mm compacted depth of M/4 AP40 on compacted subgrade with CBR &gt;7".</li> <li>Changed peg dimension to 45x45x450.</li> <li>Combined 2 AP40 pavement layers into 1</li> <li>Change dimension "100X40mm H4 timber battens", to "100X50mm H4 battens" and resize.</li> <li>Removed note 4</li> <li>Removed "Max" from crossfall</li> <li>Added "compacted backfill" leader to each detail and changed note 5 from ".5-10mm down.." to "...minimum 5mm down...".</li> <li>Added note "Tracks and trails to be designed and built as per the QLDC Tracks and Trails Design Guide" and removed leader note "grade in accordance.."</li> <li>Changed note on gritted footpath to "45x45x450 H4 timber pegs at 400mm centres. Length to be extended if required to ensure it has been driven into solid unyielded ground."</li> </ul>
B5-24	Pedestrian Crossing Detail	Added detail to the pedestrian crossing cross section to include an approach slab to minimise rutting.	<ul style="list-style-type: none"> <li>Warning tiles to extend width of crossing per RTS14 - added to note to say "tactile warning indicator tiles (in accordance with RTS14)"</li> <li>Added "plan" to title.</li> <li>Notes 1-3 removed</li> <li>665 mesh changed to structural mesh.</li> <li>2.1m dimension of tactile tiles removed.</li> </ul>
<del>drawing deleted</del>	<del>Low Retaining Wall: Stacked Rock</del>	No Change	<del>Drawing Deleted</del>
<del>drawing deleted</del>	<del>Low Retaining Wall: Post &amp; Plank</del>	No Change	<del>Drawing Deleted</del>
<del>drawing deleted</del>	<del>Low Retaining Wall: Gabion</del>	No Change	<del>Drawing Deleted - Full stop taken out of "minimum 100mm..." note for consistency.</del>
<del>drawing deleted</del>	<del>7 Wire Plain Fence</del>	No Change	<del>Drawing Deleted - take out option 1 and replace the title with Section. Leave the timber fencing notes without "option1". Added section tag and "SECTION A"</del>
<del>drawing deleted</del>	<del>Street Lighting: Ground Planted Columns</del>	No Change	<del>Drawing Deleted</del>
B6-1	Street Sign: Pole Mount	No Change	<ul style="list-style-type: none"> <li>Changed reference note to "Refer to TCD Manual Part 2: Section 7 for street name signs, and QLDC's infrastructure code clause 3.3.12 for fonts and colours"</li> </ul>
<del>drawing deleted</del>	<del>CM – 001 Embedment &amp; Trench fill Arrangement</del>	No Change	No Change
B7-2	CM - 003 Bulkheads & Trench stop Standard Details	No Change	No Change
B7-3	WS – 001 Typical Mains Construction – Reticulation Main Arrangements	No Change	No Change
B7-4	WS – 002 Typical Mains Construction – Distribution And Transfer Mains	No Change	No Change
B7-5	WS – 003 Property Services – Connection to an existing PVC Main	No Change	No Change
B7-6	WS – 005 Thrust and anchor blocks – Gate valves and vertical bends if required	No Change	No Change
B7-7	WW – 001 Pipelaying – Typical Arrangements	No Change	No Change

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B7-8	WW – 002 Property connections – Buried interface method	No Change	No Change
B7-9	WW – 003 Maintenance shafts – Typical installation	No Change	No Change
B7-10	WW – 004 Maintenance shafts – MS and variable bend installations	No Change	No Change
B7-11	WW – 005 Maintenance shafts – TMS and connection installation	No Change	No Change