



Attachment files for:

Item 8: QLDC Land Development and Subdivision Code of Practice

Ordinary meeting of the Queenstown Lakes District Council

to be held on Wednesday, 3 June 2015 beginning at 1pm



QLDC Land Development and Subdivision Code

Part 1: General

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions

1. General Requirements and Procedures

Subdivisions and developments shall comply with Section 1 General Requirements and Procedures of NZS 4404:2010 except as modified by this document.

Subdivisions and developments shall also comply with all relevant policies or procedures adopted by the Council. Where ambiguities and inconsistencies exist between this code and any Policy or procedure adopted by the Council it is the developers responsibility to identify these and obtain guidance from the Council confirming which document should be followed.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development. Where community specific considerations cannot be met, written acceptance of an alternative method shall be obtained from the Council.

1.1. Scope

Refer to NZS 4404:2010 section 1.1

1.2. Interpretation

Refer to NZS 4404:2010 section 1.2

1.3. Context

Refer to NZS 4404:2010 section 1.3

1.4. Low impact design

Refer to NZS 4404:2010 section 1.4

1.5. Climate Change

Refer to NZS 4404:2010 section 1.5

1.6. Urban design protocol

Refer to NZS 4404:2010 section 1.6

1.7. Requirements for design and construction

All parts of NZS 4404:2010 section 1.7 shall be complied with except for the following amendments and additions

1.7.1 Investigation and Design

Item (b) of NZS 4404:2010 section 1.7.1 shall be removed and replaced with the following text

1.7.1 (b) Hold full membership in the respective professional bodies

1.8. Review and certification of design and construction

All parts of NZS 4404:2010 section 1.8 shall be complied with except for the following amendments and additions

All references to 'Approve' or 'Approval' shall be replaced with "Review and Acceptance"

1.8.1. Documents to be submitted for review and acceptance

1.8.1.1. Delete and replace with

Prior to, or as a condition of, granting a resource consent for subdivision or development of land, or as otherwise required by a district plan, or as otherwise considered necessary by QLDC when considering applications to construct infrastructure, QLDC shall require documents to be submitted including the following:

- (a) Engineering review and acceptance application form and deposit
- (b) Design, construction, operation and maintenance documentation including drawings, specifications and calculations for the following:
 - (i) Earthworks and geotechnical requirements
 - (ii) Roading and site access including a design and access statement (see 3.2.6 of NZS4404:2010) and a road safety audit (see 3.2.7 of NZS4404:2010)
 - (iii) Stormwater (including overland flow paths and a catchment wide assessment if required by the Council)
 - (iv) Wastewater
 - (v) Water supply
 - (vi) Landscape
 - (vii) Network Utility Services
- (c) A geo-professional's report on the suitability of the land for subdivision or development if required by the Council
- (d) Other reports as considered necessary by QLDC in the circumstances of the proposed infrastructure in order to meet the requirements of this code
- (e) An access and maintenance strategy shall be provided for all non-standard assets to be vested to QLDC. Unless otherwise agreed in writing with QLDC, or as required by relevant legislation, the strategy document shall be prepared on the basis that no specialist training or equipment shall be required to access the vested asset.
- (f) A design certificate, for each design discipline, in the form of the certificate in schedule 1A of NZS 4404:2010. Each certificate shall include a schedule of

documents to which it applies. The limit of damages shall be agreed with the Council.

All documents other than signed certificates shall be submitted electronically as an enabled PDF (searchable PDF, not a scanned copy). Colour hard copies of all documents shall be provided at any time if requested by QLDC.

All documents shall demonstrate that they have passed through an internal Quality Management System. As a minimum they shall clearly show that they have been checked and approved by a suitable person (refer to section 1.7 for the requirements of a suitable person) different from the document author.

1.8.2. Drawings

Refer to NZS 4404:2010 section 1.8.2

1.8.3. Design basis for documents submitted for review and certification

Refer to NZS 4404:2010 section 1.8.3

1.8.4. Certification of design

Refer to NZS 4404:2010 section 1.8.4

1.8.5. Notification of contracts and phases of construction

Refer to NZS 4404:2010 section 1.8.5

1.8.6. Supervision of construction

Refer to NZS 4404:2010 section 1.8.6

1.8.7. Connecting to existing services

Refer to NZS 4404:2010 section 1.8.7

1.8.8. Testing and inspection

Refer to NZS 4404:2010 section 1.8.8

1.8.8 Add to Clause

Prior to requesting inspection by QLDC the developer shall submit copies of test certificates/reports confirming that the infrastructure has been inspected and proved satisfactory.

1.8.9. Maintenance

Refer to NZS 4404:2010 section 1.8.9

1.8.9 Add to clause

Extended maintenance periods may be imposed if adequate testing and supervision cannot be demonstrated.

1.8.10. Completion documentation

Refer to NZS 4404:2010 section 1.8.10

1.8.10 Add to clause

(b) Replace second sentence with – As-Built plans shall be provided as electronic data and shall be in a format that meets QLDC’s GIS and As-built standard

(h) A schedule of all assets to be taken over (vested) by Council. The schedule shall utilise QLDC’s Asset Register Templates.

1.8.11. Approval of uncompleted work

Refer to NZS 4404:2010 section 1.8.11

1.9. Bonds and charges

Refer to NZS 4404:2010 section 1.9

1.9.1.3 Add to clause

The bond amount shall be a minimum of 1.5 times the higher amount of two quotes approved by QLDC.

1.11 Defect Liability Bond – Add Clause

Prior to the issue of a 224(c) certificate a defects liability bond shall be entered into by the developer for all assets to be vested to the Council. The bond shall be valued at 5% of the construction costs for all assets to be vested. The bond shall be for a minimum of 12 months commencing on the date of 224c issue and will only be released following a site inspection by the Developer and the Council. The bond shall be secured by an appropriate guarantee or shall be in cash and lodged with the Council. Alternative arrangements may be agreed with the Council.



QLDC Land Development and Subdivision Code

Part 2: Earthworks &
Geotechnical requirements

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

2 Earthworks and Geotechnical Requirements

Developments shall comply with Section 2 Earthworks and geotechnical requirements of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

2.1 Scope

Refer to NZS 4404:2010 section 2.1

2.2 General

Refer to NZS 4404:2010 section 2.2

2.2.1 Objective – Add to clause

A geo-professional shall meet the requirements of 1.1.7 as amended by QLDC's Land Development and Subdivision Code Part 1

And

- Modifications to the existing natural environment are to be minimised or avoided in order to preserve the existing landscape and habitat features as far as is practicable;
- The land is to be stable at all times

2.3 Design

Refer to NZS 4404:2010 section 2.3

2.3.9 Retaining Walls – Add clause

Where retaining walls are needed, specific design is required. Initial designs should be discussed with the Council before detailed design is carried out. The following are general criteria for retaining walls.

Retaining walls shall be designed of permanent materials and have an expected life in excess of 50 years. They should also be aesthetically designed to be compatible with the appearance of the surrounding area.

Safety barriers shall be provided in accordance with NZS 4404:2010 section 3.3.4 as modified by this code.

A building consent is required when there is a surcharge weight on the upper side of a retaining wall, or if the retaining wall is over 1500mm in height.

The approval of the Council is required for any works or structures on the road reserve. Approval will only be given where the Council is satisfied that no practical alternative exists to installing the structure on the road carriageway.

All walls within the road reserve shall be designed by a Chartered Professional Engineer in accordance with the NZ Building Code and a building consent obtained where required. Retaining walls below any road carriageway, and supporting road reserve shall be designed to allow for future vehicle surcharging (from anywhere in the road reserve) against the wall.

The design shall consider future maintenance requirements including drainage maintenance. This includes allowance for mowing of grassed areas by installing mowing strips.

2.3.10 Cut and fill batters – Add clause

A suitably qualified person shall provide a site-specific design (including benching if appropriate) for approval by Council where cut or fill batters:

- Are steeper than 2 horizontal to 1 vertical;
- Exceed 3m in height;
- Are constructed using moisture content susceptible soils; or
- Have features that Council deems to require specific engineering input.

The minimum width of any bench shall be 1.8m. Stormwater shall be conveyed to a point clear of the filling and discharge in such a manner as to prevent erosion.

Unless formed in rock, all batters shall be formed such that they may be reinstated with grass or other consistent vegetation.

The edge of the batter should be a minimum of 600mm behind the kerb or back edge of the footpath.

Safety barriers shall be provided in accordance with NZS 4404:2010 section 3.3.4 as modified by this code.

2.4 Approval of proposed works

Refer to NZS 4404:2010 section 2.4

2.5 Construction

Refer to NZS 4404:2010 section 2.5

2.6 Final documentation

Refer to NZS 4404:2010 section 2.6



QLDC Land Development and Subdivision Code

Part 3: Transportation

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

3. General Requirements and Procedures

Developments shall comply with Section 3 Roads of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development. Where community specific considerations cannot be met, written acceptance of an alternative method shall be obtained from the Council.

3.1 Scope

Refer to NZS 4404:2010 section 3.1

3.2 General

Refer to NZS 4404:2010 section 3.2

3.2.2 Related Standards and Guidelines – add to clause 3.2.2 of NZS 4404:2010

Standards and Guidelines shall include all policies and guidelines adopted by the Council

3.2.6 Design and access statement – add to clause

(f) How cyclists will be provided for

3.2.7 Road safety Audit – amend clause 3.2.7 of NZS 4404:2010

Road safety audits carried out in accordance with the NZTA Road safety audit procedures for projects shall be provided for both design and post construction phases of all roads to be vested in the Council. Any recommendations of the Safety Audits shall be completed to the Council's satisfaction. Exemption from providing road safety audits shall be granted by the Council at its sole discretion.

3.3 Design

Refer to NZS 4404:2010 section 3.3

3.3.1 – Design Requirements – Add to Clause 3.3.1 of NZS 4404:2010

All designs shall be suitable for the climatic conditions experienced in the Queenstown Lakes District.

And

The assessment of traffic loading shall be on the basis of full development to the extent defined in the current district plan. Where a road services adjacent land then the full development to the extent defined in the current district

plan of all the land serviced by the road shall be included in the assessed traffic loading.

The assessment of residential traffic loading shall be on the basis of eight vehicle movements per Residential Unit per day.

Where the new roads being installed are required by Council to service adjacent future development as part of the future Council network then those roads will be designed and constructed on the basis of full development to the extent defined in the current district plan.

The cost of increased road construction to service adjacent future development will be apportioned between the applicant and the Council and agreed in writing with the Council's Asset Performance Team prior to construction.

3.3.1.9 – Add to clause 3.3.1.9 of NZS 4404:2010

Private access ways and drive ways shall also be sealed from the carriageway to the property boundary

3.3.3.2 CBR Tests - Add to clause 3.3.3.2 of NZS 4404:2010

The use of Scala Penetrometer to determine the CBR value on local roads with clay and colluvial materials shall be approved by the Council at its sole discretion.

And

CBR values shall be determined by an IANZ (International Accreditation New Zealand) accredited laboratory. Details of the CBR values determined, together with certification by the accredited laboratory shall be submitted for approval by Council prior to the issue of a certificate in accordance with clause 224(c) of the Resource Management Act 1991.

3.3.3 Pavement Structural design – Add to clause 3.3.3 of NZS 4404:2010

Where applicable the assessment of Equivalent Standard Axels (ESA) shall include a growth rate of 6% per annum for any existing traffic loading.

3.3.4 Safety Barrier Provision – Add to clause 3.4 of NZS 4404:2010

Where roads, private ways or other vehicular or pedestrian access, whether public or private, run parallel with land which drops away to a height of greater than 1.0m at an angle of greater than 45 degrees within 2.0m of the edge of the road or footpath, the side shall be provided with safety barriers to protect pedestrian and vehicular traffic.

3.3.6 Parking, Passing, and loading – Add to Clause

All indented parking bays shall be designed and constructed to avoid sharp corners. Corners shall be designed and constructed with adequate radiuses to allow for cleaning by street cleaners utilising rotary brushes.

3.3.8 No exit roads – add to clause (paragraph 2)

Areas required for turning shall be suitably marked to maintain access and prevent parking from blocking the turning area. Markings shall be in accordance with clause 3.3.12

3.3.11 Footpaths, accessways, cycle paths, and berms – Add to clause

Footpaths shall be separated from the kerbline by a minimum of 0.9m berm except:

- at indented parking bays
- in Commercial Town Centres
- in steep terrain when approved by Council
- In industrial/commercial areas when approved by Council

3.3.12 Traffic signs, markings and road furniture – Add to clause 3.3.12 of NZS

4404:2010

Reflective raised pavement markers shall not be used to provide for road marking or to identify fire hydrants.

3.3.14 Road Lighting – add to clause

All road lighting to be vested to the Council shall be LED unless agreed in writing by the Council's Asset Performance Team

And

All luminaires shall be selected from the NZTA M30 accepted luminaires list

And

All road lighting assets including but not limited to columns, lamps and mountings shall be approved by Council's Asset Performance Team

And

All lighting required to provide illumination for vested assets and external areas which are accessible to the public shall have a minimum rating of IP65

And

All lighting shall comply with the intent of the Southern Lighting Strategy.

3.3.19.6 Kerbs and Channels – Add to Clause 3.3.19.6 of NZS 4404:2010

When their installation is approved mountable kerbs shall be "Kerbmaster No8" profile.

3.3.19.7 Sumps – Add to clause 3.3.19.7 of NZS 4404:2010

All grates shall be of a design that are cycle friendly. Grate slots shall not run parallel to the direction of carriageway travel.

And

The invert level of all sump chambers shall be greater than 500mm below the invert level of the outlet pipe.

3.4 Construction

3.4.1 – Introduction – Add to Clause 3.4.1 of NZS 4404:2010

All construction methods and materials shall be suitable for the climatic conditions experienced in the Queenstown Lakes District.

3.4.2.3 Base Course – Add to Clause 3.4.2.3 of NZS 4404:2010

Material sourced from the Shotover River shall not be used in basecourse layers.



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Part 4: Stormwater

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

4 Stormwater

Developments shall comply with Section 4 Stormwater of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

4.1 Scope

Refer to NZS 4404:2010 section 4.1

4.2 General

Refer to NZS 4404:2010 section 4.2

4.2 General – Add to clause

The designer shall agree the approach to be taken for stormwater with the Council prior to commencing any work.

4.2.4 Catchment Management Planning – Add to clause

The designer shall be responsible for checking that the capacity of the downstream network is adequate for any proposed increase in discharge with the Council.

4.3 Design

Refer to NZS 4404:2010 section 4.3

4.3.3 Future Development – Replace Clause with

Unless agreed in writing by the Council where further subdivision or development is allowed for within the current district plan upstream of the one under consideration the council shall require infrastructure to be constructed to the upper limits of the subdivision/development to allow for future connections.

The assessment of required capacity shall be on the basis of full development to the extent defined in the current district plan. Where infrastructure may service adjacent land then the full development to the extent defined in the current district plan of all the land that may be serviced by the infrastructure shall be included in the capacity calculations.

Where the new infrastructure being installed is required by Council to service future development then that infrastructure will be designed and constructed

on the basis of full development to the extent defined in the current district plan.

The cost of increased infrastructure to service adjacent future development shall be agreed in writing with the Council's Asset Performance Team prior to commencing work.

4.3.5 Design Criteria Add to clause

The design shall accommodate all upstream catchments on the basis of full development allowed for in the district plan. (The catchment area shall be based on geographical and topographical boundaries and not development boundaries).

Discharge to an existing reticulated network, or other Council owned stormwater network, shall require consent/permission from the Council.

Discharge to an existing network from a primary system shall be at a rate (litres per second) no greater than would have occurred for the undeveloped catchment during a 60 minute 5 year storm.

Table 4.1 – Recommended AEP for design storms. Delete table and replace with

All Primary Systems shall, as a minimum, cater for the worst case 1 in 20 year return period (5% AEP) storm with no surface flooding.

Where no secondary flow path is available the worst case 1 in 100 year return period (1% AEP) storm shall be catered for with no surface flooding.

4.3.7.1 Low impact design stormwater systems – Add to clause

The Council's preferred method of stormwater control is a low impact design solution. The designer shall gain written approval from the Council's Asset Performance Team that the proposed maintenance requirements are acceptable prior to submitting a design for acceptance.

4.3.7.4 Detention Ponds – Add to clause

Detention ponds shall only be used with prior approval from the Council.

4.3.7.9 Soakage devices

Replace 4.3.7.9 (a) with – (a) Capacity adequate for a 5% AEP event;

4.3.9.2 Materials – Replace Clause with

All pipes shall be PE 100, PVC (minimum class SN8) or rubber ring joint reinforced concrete and meet the relevant standards as listed in Table A1 of NZS4404:2010. Unless otherwise agreed in writing by the Council. Acceptance of design documentation without separate written approval shall not constitute acceptance of an alternative material.

4.3.9.4 Minimum Cover – Add to clause

Cover in carriageways, footpaths and crossings shall be no less than 1m. Cover outside of the carriageway, footpaths, crossings or other trafficable areas shall be no less than 0.6m.

4.3.10.1 Standard manholes – Amend clause

The distance between manholes shall not exceed 100m.

4.3.10.3 Size of Manholes – Delete section of clause

Delete second sentence of Clause 4.3.10.3. (Note – The minimum internal diameter of a manhole shall be 1050 mm.)

4.3.10.4 Shallow Manholes – Delete and replace

Delete clause 4.3.10.4 and replace with – The minimum internal diameter of a manhole shall be 1050 mm.

4.3.13 Building over Council Infrastructure – Add Clause

No building shall be constructed over any stormwater drain, nor shall any structure foundation be located within a line extending at 45° from 150mm below the pipe invert to the ground surface, or within 1.5m either side of the pipe, without the specific approval of the Council.

The Council will only give approval to construct a building over a stormwater drain if;

- I. It is impractical to construct a new main clear of the zone of influence;
and
- II. A manhole is installed within 10m of both sides of the building; and
- III. The pipe runs in a straight line both vertically and horizontally
between manholes;
and
- IV. There are no connections under the building; and
- V. The condition of the pipe is checked by closed circuit television survey
prior to construction at the applicant's cost and the pipe condition is
approved as acceptable by Council;
and
- VI. Structures straddling or founded within the above zone are designed
by a Chartered Professional Engineer such that there is no loading
from the building applied to the stormwater pipe;
and
- VII. A memorandum of encumbrance is drawn up at the applicant's
expense indemnifying the Queenstown Lakes District Council against
any claims for damage caused by the presence, maintenance,
replacement or upgrade of the stormwater pipe.

4.3 Approval of proposed infrastructure

Refer to NZS 4404:2010 section 4.4

4.4 Construction

Refer to NZS 4404:2010 section 4.5



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Part 5: Wastewater

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

5 Wastewater

Developments shall comply with Section 5 Wastewater of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

5.1 Scope

Refer to NZS 4404:2010 section 5.1

5.2 General

Refer to NZS 4404:2010 section 5.2

5.2 General – Add to clause

The designer shall agree the approach to be taken for wastewater with the Council prior to commencing any work.

5.3 Design

Refer to NZS 4404:2010 section 5.3

5.3.3 Future Development – Replace Clause with

Unless agreed in writing by the Council where further subdivision or development is allowed for within the current district plan upstream of the one under consideration the council shall require infrastructure to be constructed to the upper limits of the subdivision/development to allow for future connections.

The assessment of required capacity shall be on the basis of full development to the extent defined in the current district plan. Where infrastructure may service adjacent land then the full development to the extent defined in the current district plan of all the land that may be serviced by the infrastructure shall be included in the capacity calculations.

Where the new infrastructure being installed is required by Council to service future development then that infrastructure will be designed and constructed on the basis of full development to the extent defined in the current district plan.

The cost of increased infrastructure to service adjacent future development shall be agreed in writing with the Council's Asset Performance Team prior to commencing work.

5.3.4 System design – Add to clause

The designer shall be responsible for checking with the Council that the downstream network is adequate to accommodate the proposed subdivision/development.

5.3.5.1 Design Flow (a) – Replace with

(a) Residential flows

- i. Average dry weather flow of 250 litres per person /dwelling unit per day
- ii. Dry weather diurnal PF of 2.5
- iii. Dilution/infiltration factor of 2 for wet weather
- iv. Number of people per dwelling of 3

5.3.7.2 Materials – Replace Clause with

All pipes shall be PE 100, PVC (minimum class SN8) or rubber ring joint reinforced concrete and meet the relevant standards as listed in Table A1 of NZS4404:2010. Acceptance of design documentation without separate written approval shall not constitute acceptance of an alternative material.

5.3.7.5 Minimum Cover – Add to clause

Cover in carriageways, footpaths and crossings shall be no less than 1m. Cover outside of the carriageway, footpaths, crossings or other trafficable areas shall be no less than 0.6m.

5.3.8 Maintenance structures – Add

The minimum internal diameter of a manhole shall be 1050 mm.

5.3.8 Manholes Figure 5.2 – Amend Figure

The maximum distance between maintenance structures shall be 100m

5.3.11 Pumping stations and pressure mains – add to clause

All products and components including pumps shall be approved by the Council prior to submitting a design for acceptance.

All pressure main pipework shall be PE 100.

5.3.14 Building over Council Infrastructure – Add Clause

No building shall be constructed over any wastewater drain, nor shall any structure foundation be located within a line extending at 45° from 150mm below the pipe invert to the ground surface, or within 1.5m either side of the pipe, without the specific approval of the Council.

The Council will only give approval to construct a building over a wastewater drain if;

- i. It is impractical to construct a new main clear of the zone of influence;

- and
- ii. A manhole is installed within 10m of both sides of the building;
and
- iii. The pipe runs in a straight line both vertically and horizontally between manholes;
and
- iv. There are no connections under the building;
and
- v. The condition of the pipe is checked by closed circuit television survey prior to construction at the applicant's cost and the pipe condition is approved as acceptable by Council;
and
- vi. Structures straddling or founded within the above zone are designed by a Chartered Professional Engineer such that there is no loading from the building applied to the wastewater pipe;
and
- vii. A memorandum of encumbrance is drawn up at the applicant's expense indemnifying the Queenstown Lakes District Council against any claims for damage caused by the presence, maintenance, replacement or upgrade of the wastewater pipe.

5.4 Approval of proposed infrastructure

Refer to NZS 4404:2010 section 5.4

5.5 Construction

Refer to NZS 4404:2010 section 5.5

5.5.7 Connection to existing systems – add Clause

Connection to existing wastewater mains will only be undertaken by Queenstown Lakes District Council, or its authorised agents, at the cost of the applicant.



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Part 6: Water Supply

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

6 Water Supply

Developments shall comply with Section 6 Water Supply of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

6.1 Scope

Refer to NZS 4404:2010 section 6.1

6.2 General

Refer to NZS 4404:2010 section 6.2

6.2 General – Add to clause

The designer shall agree the approach to be taken for water supply with the Council prior to commencing any work.

6.2.1 – Amend Clause

Replace (a) & (b) with

- (a) A water main allowing an appropriate point of supply; and
- (b) A service connection from the main for each property.

6.3 Design

Refer to NZS 4404:2010 section 6.3

6.3.3 Future Development – Replace Clause with

Unless agreed in writing by the Council, where further subdivision or development is allowed for within the current district plan adjacent to the one under consideration the council shall require infrastructure to be constructed to the extents of the subdivision/development to allow for future connections.

The assessment of required capacity shall be on the basis of full development to the extent defined in the current district plan. Where infrastructure may service adjacent land then the full development to the extent defined in the current district plan of all the land that may be serviced by the infrastructure shall be included in the capacity calculations.

Where the new infrastructure being installed is required by Council to service future development then that infrastructure will be designed and constructed on the basis of full development to the extent defined in the current district plan.

The cost of increased infrastructure to service adjacent future development will be agreed in writing with the Council's Asset Performance Team prior to commencing work.

6.3.4 System design – Add to clause

The designer shall be responsible for checking with Council that the network is adequate to accommodate the proposed subdivision/development.

6.3.5.5 Minimum Flows – delete clause and replace with

The minimum flow shall be:

- (a) 25 L/min for each Residential Unit
- (b) As specified in SNZ PAS 4509

6.3.5.6 Minimum water demand – Delete clause and replace with

The minimum peak domestic demand shall be based on:

- (a) Daily consumption of 250 litres/person/day
- (b) Peak factor of 4.0 (Queenstown), 6.6(Rest of District)
- (c) Number of people per Residential Unit of 3.0

6.3.5.10 Design Pressure – Amend clause

Replace paragraph 3 with

The design pressures shall be between 300kPa and 900kPa

6.3.5.10.1 Operating pressure/working pressure – delete and replace clause with

The maximum allowable operating pressure in mains of 100mm dia and greater shall not exceed 900kPa without the specific approval of Council's Chief Engineer.

The maximum allowable operating pressure of rider mains and service connections shall not exceed 900kPa

6.3.6.1 Materials – Add to clause

All pipes shall be HDPE 100. Unless otherwise agreed in writing by the Council. Acceptance of design documentation without separate written approval shall not constitute acceptance of an alternative material.

6.3.8.1 System Layout General – Add to clause

(d) Where practicable water mains shall be laid in the road berm outside of the carriageway and any associated drainage features.

(e) All water mains shall be laid within legal public road reserves where practicable. Easements of a minimum width of 3.0m shall be provided for all water supply

systems that are to be vested in Council or the system owner where they cross any private land.

6.3.12.10.1 Minimum Cover – Add to clause

Cover in carriageways, footpaths and crossings shall be no less than 1m. Cover outside of the carriageway, footpaths, crossings or other trafficable areas shall be no less than 0.6m.

6.3.14.1 Valves general – Add to clause

All valves types, materials and manufactures shall be approved by the Council's Asset Performance Team prior to a design being submitted for acceptance.

and

(g) A valve shall be located on all legs of a junction and positioned no further than 20m from the junction unless otherwise agreed with the Council.

6.3.18 Water Meters and Backflow Prevention – Add Clause

Water meters shall be installed by the developer at all points of supply on the property boundary and must be accessible to pedestrians. Once installed and following 224c certification the meters are owned and maintained by QLDC. All meters shall be in accordance with QLDC's water metering policy or as agreed in writing by QLDC's Asset Planning and Asset Performance teams.

6.3.19 Building over Council Infrastructure – Add Clause

No building shall be constructed over any water supply pipe, nor shall any structure foundation be located within a line extending at 45° from 150mm below the pipe invert to the ground surface, without the specific approval of the Council.

The Council will only give approval to construct a building/structure over a water main if;

- i. It is impractical to construct a new main clear of the zone of influence;
and
- ii. A valve is installed within 10m of both sides of the building;
and
- iii. The pipe runs in a straight line both vertically and horizontally between valves;
and
- iv. There are no connections under the building;
and

- v. The condition of the pipe is checked pot holes every 10m prior to construction at the applicant's cost and the pipe condition is approved as acceptable by Council;
and
- vi. Structures straddling or founded within the above zone are designed by a Chartered Professional Engineer such that there is no loading from the building applied to the water main;
and
- vii. A memorandum of encumbrance is drawn up at the applicant's expense indemnifying the Queenstown Lakes District Council against any claims for damage caused by the presence, maintenance, replacement or upgrade of the water pipe.

6.4 Approval of proposed infrastructure

Refer to NZS 4404:2010 section 6.4

6.5 Construction

Refer to NZS 4404:2010 section 6.5



QLDC Land Development and Subdivision Code

Part 7: Landscape

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

7 Landscape

Design and construction shall be undertaken in accordance with the requirements of Part 7, Landscape of NZS 4404:2010 except as amended and extended for Queenstown Lakes District Council requirements in the clauses below, and any Queenstown Lakes District Council guidelines and specifications relating to landscape and reserves. Developments shall comply with Section 7 Landscape of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

7.1 Scope

Refer to NZS 4404:2010 section 7.1

7.2 General

Refer to NZS 4404:2010 section 7.2

7.2 General – Add to clause

Consultation with Queenstown Lakes District Council's Operations [Parks] department is required on all landscape matters in potential reserves prior to the design phase and development plan approvals. This includes consulting on the potential to create new reserve land and/or improve existing reserves. Public land for reserves shall only be created and vested in Council where there is an identified need in consultation with Council's Operations [Parks] department.

7.2.1 Approval – Delete and replace first sentence with

Consultation with the Council on landscape design and construction at an early stage, and prior to submission of any engineering designs for acceptance, is required.

7.2.3 Reserves – Amend clause to

Queenstown Lakes District Council's requirements for new reserve provisions should be determined prior to the initial design stage through consultation with the Operations [Parks] department.

When assessing reserve provision and development proposals the Council will consider:

- Filling existing gaps in reserve provisions

- Encouraging improvement of existing reserves
- Development designs that are sympathetic to the existing landscape character of the area
- Development designs that will provide recreational benefit to the community and/or District
- Preserving existing lookout and observation points
- Protecting heritage features and sites
- Protecting and enhancing sites of ecological importance
- Securing reserve land at the subdivision stage(s) of development.

Council may request recreation, landscape, heritage or ecological assessments for consideration.

If new reserve land is considered appropriate, layout plans showing proposed location of reserves are required to be approved by Queenstown Lakes District Council's Operations [Parks] department prior to an application for an outline development plan, a plan change, a resource or building consent or a connection to Council services being lodged.

All reserve provision and development proposals should be approved in principle by Queenstown Lakes District Council's Operations [Parks] department prior to any public consultation.

Detailed development plans for all future reserves shall be submitted with applications for subdivision consent, and no work is to be carried out on site before approval of the development plans from Council's Operations [Parks] department. No work is to be carried out until development contributions have been calculated and agreed with Council. Council agreements relating to individual stages of development will allow work to commence on those stages.

All reserve development shall be completed in accordance with the plans acceptable to Queenstown Lakes District Council's Operations [Parks] department. 'As-built' plans shall be provided for all reserves. Development may include earthworks, drainage, irrigation, planting, paths, structures (such as seating, tables, lighting, rubbish bins, fencing, barriers, signs, and play equipment) and facilities (such as toilets and changing sheds) as agreed with Council's Operations [Parks] department.

7.3 Design

Refer to NZS 4404:2010 section 7.3

Planting and other landscaping shall be appropriate to and compatible with the local environment. The design layout and plant species selection shall be based on the consideration of the following:

- Ability of plants to thrive on the site
- Height of plants at time of maturity and future shading impacts
- Size of planting areas, including road berms, to be compatible with plant species

- To be sympathetic to the existing landscape character of the area
- Provide for long-term sustainable management.

Planting and other landscaping features shall be easily maintainable and minimise overall life cycle costs inclusive of establishment, irrigation, maintenance and replacement.

7.3.1 Location

Replace “TAs may have their own requirements and standards that need to be met” in the first paragraph of the clause with “Refer to the Queenstown Lakes District Council Street Tree Planting Guidelines”.

Add to end of clause “Detailed development plans showing distances of trees from paths, structures and underground services shall be provided for the approval of Queenstown Lakes District Council’s Operations [Parks] department so as to reduce the potential for future conflicts between trees and infrastructure. All trees and vegetation planted near high voltage transmission lines must comply (including when maturity is reached) with the Electrical (Hazards from Trees) Regulations 2003”.

7.3.3 Existing vegetation and trees – add at start of clause

Where there is existing vegetation and/or trees in an area proposed as reserve, Queenstown Lakes District Council’s Operations [Parks] department shall decide whether they are to be removed or retained prior to development and Arboricultural and/or Ecological assessments shall be provided on Council’s request to inform this decision. Vegetation and/or trees to be removed or retained shall be identified on the development plans.

7.3.6 Species selection

Replace “The TA should maintain a register of suitable species for local conditions” in the first paragraph of the clause with “Refer to the Queenstown Lakes District Council Street Tree Planting Guidelines”.

Add “Fruit trees and native tree species suitable to the environment shall be promoted in reserves, where appropriate”.

7.3.10 Planting period and irrigation – amend second paragraph of clause to

Depending on the location and season of planting, Queenstown Lakes District Council’s Operations [Parks] department may require provision for temporary irrigation of native gardens, grass areas or revegetation planting. Provision for watering during the establishment of plants or lawn may be required for these areas if not otherwise irrigated. Grass areas in reserves in CBDs or shopping precincts, sports field turf and all specimen trees and exotic gardens shall be permanently irrigated and irrigation plans shall be supplied for approval by Council’s Operations [Parks] department.

7.4 Construction and maintenance

Refer to NZS 4404:2010 section 7.4

7.4.1 Introduction – add to end of clause

Sign-off for practical completion shall be obtained from the Queenstown Lakes District Council's Operations [Parks] department at the end of the maintenance period. Maintenance and plant replacement shall be undertaken until sign-off. Prior to sign-off, grass and planting areas shall have a fully established sward of grass or planting coverage without any visible gaps. There should be no weeds present in the planting areas, and weed species should consist of no more than 5% of grass areas. All trees should be in good health, structure, form and be free of disease.

7.4.4 Planting grass areas**7.4.4.4 Amend clause to**

The area for grass seeding shall be free of all weed species. Grass seed mix shall be in accordance with the Queenstown Lakes District Council Turf Reinstatement Specifications, January 2007.

7.4.5 Mulch

Add new section as below

7.4.5.3

Mulch shall be evenly spread at the base of the trunk and shall not be stacked into a volcano shape.



QLDC Land Development and Subdivision Code

Part 8: Network Utility Services

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

8 Network Utility Services

Developments shall comply with Section 8 Network Utility Services of NZS 4404:2010 except as modified by this document.

8.1 Scope

Refer to NZS 4404:2010 section 8.1

8.2 General

Refer to NZS 4404:2010 section 8.2

8.3 Design

Refer to NZS 4404:2010 section 8.3

8.4 Construction

Refer to NZS 4404:2010 section 8.4

8.4.7 Completion of work – add clause

Following completion of the works and prior to issuing a 224(c) certificate the developer shall provide written confirmation from the Network Utility Service providers that the installation has been completed to their standards and that they are satisfied with access provisions allowing for maintenance and future upgrading of their network.



Attachment files for:

Item 9: QLDC Land Development and Subdivision Code of Practice

Ordinary meeting of the Queenstown Lakes District Council

to be held on Wednesday, 3 June 2015 beginning at 1pm



QLDC Land Development and Subdivision Code

Part 1: General

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions

1. General Requirements and Procedures

Subdivisions and developments shall comply with Section 1 General Requirements and Procedures of NZS 4404:2010 except as modified by this document.

Subdivisions and developments shall also comply with all relevant policies or procedures adopted by the Council. Where ambiguities and inconsistencies exist between this code and any Policy or procedure adopted by the Council it is the developers responsibility to identify these and obtain guidance from the Council confirming which document should be followed.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development. Where community specific considerations cannot be met, written acceptance of an alternative method shall be obtained from the Council.

1.1. Scope

Refer to NZS 4404:2010 section 1.1

1.2. Interpretation

Refer to NZS 4404:2010 section 1.2

1.3. Context

Refer to NZS 4404:2010 section 1.3

1.4. Low impact design

Refer to NZS 4404:2010 section 1.4

1.5. Climate Change

Refer to NZS 4404:2010 section 1.5

1.6. Urban design protocol

Refer to NZS 4404:2010 section 1.6

1.7. Requirements for design and construction

All parts of NZS 4404:2010 section 1.7 shall be complied with except for the following amendments and additions

1.7.1 Investigation and Design

Item (b) of NZS 4404:2010 section 1.7.1 shall be removed and replaced with the following text

1.7.1 (b) Hold full membership in the respective professional bodies

1.8. Review and certification of design and construction

All parts of NZS 4404:2010 section 1.8 shall be complied with except for the following amendments and additions

All references to 'Approve' or 'Approval' shall be replaced with "Review and Acceptance"

1.8.1. Documents to be submitted for review and acceptance

1.8.1.1. Delete and replace with

Prior to, or as a condition of, granting a resource consent for subdivision or development of land, or as otherwise required by a district plan, or as otherwise considered necessary by QLDC when considering applications to construct infrastructure, QLDC shall require documents to be submitted including the following:

- (a) Engineering review and acceptance application form and deposit
- (b) Design, construction, operation and maintenance documentation including drawings, specifications and calculations for the following:
 - (i) Earthworks and geotechnical requirements
 - (ii) Roading and site access including a design and access statement (see 3.2.6 of NZS4404:2010) and a road safety audit (see 3.2.7 of NZS4404:2010)
 - (iii) Stormwater (including overland flow paths and a catchment wide assessment if required by the Council)
 - (iv) Wastewater
 - (v) Water supply
 - (vi) Landscape
 - (vii) Network Utility Services
- (c) A geo-professional's report on the suitability of the land for subdivision or development if required by the Council
- (d) Other reports as considered necessary by QLDC in the circumstances of the proposed infrastructure in order to meet the requirements of this code
- (e) An access and maintenance strategy shall be provided for all non-standard assets to be vested to QLDC. Unless otherwise agreed in writing with QLDC, or as required by relevant legislation, the strategy document shall be prepared on the basis that no specialist training or equipment shall be required to access the vested asset.
- (f) A design certificate, for each design discipline, in the form of the certificate in schedule 1A of NZS 4404:2010. Each certificate shall include a schedule of

documents to which it applies. The limit of damages shall be agreed with the Council.

All documents other than signed certificates shall be submitted electronically as an enabled PDF (searchable PDF, not a scanned copy). Colour hard copies of all documents shall be provided at any time if requested by QLDC.

All documents shall demonstrate that they have passed through an internal Quality Management System. As a minimum they shall clearly show that they have been checked and approved by a suitable person (refer to section 1.7 for the requirements of a suitable person) different from the document author.

1.8.2. Drawings

Refer to NZS 4404:2010 section 1.8.2

1.8.3. Design basis for documents submitted for review and certification

Refer to NZS 4404:2010 section 1.8.3

1.8.4. Certification of design

Refer to NZS 4404:2010 section 1.8.4

1.8.5. Notification of contracts and phases of construction

Refer to NZS 4404:2010 section 1.8.5

1.8.6. Supervision of construction

Refer to NZS 4404:2010 section 1.8.6

1.8.7. Connecting to existing services

Refer to NZS 4404:2010 section 1.8.7

1.8.8. Testing and inspection

Refer to NZS 4404:2010 section 1.8.8

1.8.8 Add to Clause

Prior to requesting inspection by QLDC the developer shall submit copies of test certificates/reports confirming that the infrastructure has been inspected and proved satisfactory.

1.8.9. Maintenance

Refer to NZS 4404:2010 section 1.8.9

1.8.9 Add to clause

Extended maintenance periods may be imposed if adequate testing and supervision cannot be demonstrated.

1.8.10. Completion documentation

Refer to NZS 4404:2010 section 1.8.10

1.8.10 Add to clause

(b) Replace second sentence with – As-Built plans shall be provided as electronic data and shall be in a format that meets QLDC’s GIS and As-built standard

(h) A schedule of all assets to be taken over (vested) by Council. The schedule shall utilise QLDC’s Asset Register Templates.

1.8.11. Approval of uncompleted work

Refer to NZS 4404:2010 section 1.8.11

1.9. Bonds and charges

Refer to NZS 4404:2010 section 1.9

1.9.1.3 Add to clause

The bond amount shall be a minimum of 1.5 times the higher amount of two quotes approved by QLDC.

1.11 Defect Liability Bond – Add Clause

Prior to the issue of a 224(c) certificate a defects liability bond shall be entered into by the developer for all assets to be vested to the Council. The bond shall be valued at 5% of the construction costs for all assets to be vested. The bond shall be for a minimum of 12 months commencing on the date of 224c issue and will only be released following a site inspection by the Developer and the Council. The bond shall be secured by an appropriate guarantee or shall be in cash and lodged with the Council. Alternative arrangements may be agreed with the Council.



QLDC Land Development and Subdivision Code

Part 2: Earthworks &
Geotechnical requirements

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

2 Earthworks and Geotechnical Requirements

Developments shall comply with Section 2 Earthworks and geotechnical requirements of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

2.1 Scope

Refer to NZS 4404:2010 section 2.1

2.2 General

Refer to NZS 4404:2010 section 2.2

2.2.1 Objective – Add to clause

A geo-professional shall meet the requirements of 1.1.7 as amended by QLDC's Land Development and Subdivision Code Part 1

And

- Modifications to the existing natural environment are to be minimised or avoided in order to preserve the existing landscape and habitat features as far as is practicable;
- The land is to be stable at all times

2.3 Design

Refer to NZS 4404:2010 section 2.3

2.3.9 Retaining Walls – Add clause

Where retaining walls are needed, specific design is required. Initial designs should be discussed with the Council before detailed design is carried out. The following are general criteria for retaining walls.

Retaining walls shall be designed of permanent materials and have an expected life in excess of 50 years. They should also be aesthetically designed to be compatible with the appearance of the surrounding area.

Safety barriers shall be provided in accordance with NZS 4404:2010 section 3.3.4 as modified by this code.

A building consent is required when there is a surcharge weight on the upper side of a retaining wall, or if the retaining wall is over 1500mm in height.

The approval of the Council is required for any works or structures on the road reserve. Approval will only be given where the Council is satisfied that no practical alternative exists to installing the structure on the road carriageway.

All walls within the road reserve shall be designed by a Chartered Professional Engineer in accordance with the NZ Building Code and a building consent obtained where required. Retaining walls below any road carriageway, and supporting road reserve shall be designed to allow for future vehicle surcharging (from anywhere in the road reserve) against the wall.

The design shall consider future maintenance requirements including drainage maintenance. This includes allowance for mowing of grassed areas by installing mowing strips.

2.3.10 Cut and fill batters – Add clause

A suitably qualified person shall provide a site-specific design (including benching if appropriate) for approval by Council where cut or fill batters:

- Are steeper than 2 horizontal to 1 vertical;
- Exceed 3m in height;
- Are constructed using moisture content susceptible soils; or
- Have features that Council deems to require specific engineering input.

The minimum width of any bench shall be 1.8m. Stormwater shall be conveyed to a point clear of the filling and discharge in such a manner as to prevent erosion.

Unless formed in rock, all batters shall be formed such that they may be reinstated with grass or other consistent vegetation.

The edge of the batter should be a minimum of 600mm behind the kerb or back edge of the footpath.

Safety barriers shall be provided in accordance with NZS 4404:2010 section 3.3.4 as modified by this code.

2.4 Approval of proposed works

Refer to NZS 4404:2010 section 2.4

2.5 Construction

Refer to NZS 4404:2010 section 2.5

2.6 Final documentation

Refer to NZS 4404:2010 section 2.6



QLDC Land Development and Subdivision Code

Part 3: Transportation

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

3. General Requirements and Procedures

Developments shall comply with Section 3 Roads of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development. Where community specific considerations cannot be met, written acceptance of an alternative method shall be obtained from the Council.

3.1 Scope

Refer to NZS 4404:2010 section 3.1

3.2 General

Refer to NZS 4404:2010 section 3.2

3.2.2 Related Standards and Guidelines – add to clause 3.2.2 of NZS 4404:2010

Standards and Guidelines shall include all policies and guidelines adopted by the Council

3.2.6 Design and access statement – add to clause

(f) How cyclists will be provided for

3.2.7 Road safety Audit – amend clause 3.2.7 of NZS 4404:2010

Road safety audits carried out in accordance with the NZTA Road safety audit procedures for projects shall be provided for both design and post construction phases of all roads to be vested in the Council. Any recommendations of the Safety Audits shall be completed to the Council's satisfaction. Exemption from providing road safety audits shall be granted by the Council at its sole discretion.

3.3 Design

Refer to NZS 4404:2010 section 3.3

3.3.1 – Design Requirements – Add to Clause 3.3.1 of NZS 4404:2010

All designs shall be suitable for the climatic conditions experienced in the Queenstown Lakes District.

And

The assessment of traffic loading shall be on the basis of full development to the extent defined in the current district plan. Where a road services adjacent land then the full development to the extent defined in the current district

plan of all the land serviced by the road shall be included in the assessed traffic loading.

The assessment of residential traffic loading shall be on the basis of eight vehicle movements per Residential Unit per day.

Where the new roads being installed are required by Council to service adjacent future development as part of the future Council network then those roads will be designed and constructed on the basis of full development to the extent defined in the current district plan.

The cost of increased road construction to service adjacent future development will be apportioned between the applicant and the Council and agreed in writing with the Council's Asset Performance Team prior to construction.

3.3.1.9 – Add to clause 3.3.1.9 of NZS 4404:2010

Private access ways and drive ways shall also be sealed from the carriageway to the property boundary

3.3.3.2 CBR Tests - Add to clause 3.3.3.2 of NZS 4404:2010

The use of Scala Penetrometer to determine the CBR value on local roads with clay and colluvial materials shall be approved by the Council at its sole discretion.

And

CBR values shall be determined by an IANZ (International Accreditation New Zealand) accredited laboratory. Details of the CBR values determined, together with certification by the accredited laboratory shall be submitted for approval by Council prior to the issue of a certificate in accordance with clause 224(c) of the Resource Management Act 1991.

3.3.3 Pavement Structural design – Add to clause 3.3.3 of NZS 4404:2010

Where applicable the assessment of Equivalent Standard Axels (ESA) shall include a growth rate of 6% per annum for any existing traffic loading.

3.3.4 Safety Barrier Provision – Add to clause 3.4 of NZS 4404:2010

Where roads, private ways or other vehicular or pedestrian access, whether public or private, run parallel with land which drops away to a height of greater than 1.0m at an angle of greater than 45 degrees within 2.0m of the edge of the road or footpath, the side shall be provided with safety barriers to protect pedestrian and vehicular traffic.

3.3.6 Parking, Passing, and loading – Add to Clause

All indented parking bays shall be designed and constructed to avoid sharp corners. Corners shall be designed and constructed with adequate radiuses to allow for cleaning by street cleaners utilising rotary brushes.

3.3.8 No exit roads – add to clause (paragraph 2)

Areas required for turning shall be suitably marked to maintain access and prevent parking from blocking the turning area. Markings shall be in accordance with clause 3.3.12

3.3.11 Footpaths, accessways, cycle paths, and berms – Add to clause

Footpaths shall be separated from the kerbline by a minimum of 0.9m berm except:

- at indented parking bays
- in Commercial Town Centres
- in steep terrain when approved by Council
- In industrial/commercial areas when approved by Council

3.3.12 Traffic signs, markings and road furniture – Add to clause 3.3.12 of NZS

4404:2010

Reflective raised pavement markers shall not be used to provide for road marking or to identify fire hydrants.

3.3.14 Road Lighting – add to clause

All road lighting to be vested to the Council shall be LED unless agreed in writing by the Council's Asset Performance Team

And

All luminaires shall be selected from the NZTA M30 accepted luminaires list

And

All road lighting assets including but not limited to columns, lamps and mountings shall be approved by Council's Asset Performance Team

And

All lighting required to provide illumination for vested assets and external areas which are accessible to the public shall have a minimum rating of IP65

And

All lighting shall comply with the intent of the Southern Lighting Strategy.

3.3.19.6 Kerbs and Channels – Add to Clause 3.3.19.6 of NZS 4404:2010

When their installation is approved mountable kerbs shall be "Kerbmaster No8" profile.

3.3.19.7 Sumps – Add to clause 3.3.19.7 of NZS 4404:2010

All grates shall be of a design that are cycle friendly. Grate slots shall not run parallel to the direction of carriageway travel.

And

The invert level of all sump chambers shall be greater than 500mm below the invert level of the outlet pipe.

3.4 Construction

3.4.1 – Introduction – Add to Clause 3.4.1 of NZS 4404:2010

All construction methods and materials shall be suitable for the climatic conditions experienced in the Queenstown Lakes District.

3.4.2.3 Base Course – Add to Clause 3.4.2.3 of NZS 4404:2010

Material sourced from the Shotover River shall not be used in basecourse layers.



QLDC Land Development and Subdivision Code

Part 4: Stormwater

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

4 Stormwater

Developments shall comply with Section 4 Stormwater of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

4.1 Scope

Refer to NZS 4404:2010 section 4.1

4.2 General

Refer to NZS 4404:2010 section 4.2

4.2 General – Add to clause

The designer shall agree the approach to be taken for stormwater with the Council prior to commencing any work.

4.2.4 Catchment Management Planning – Add to clause

The designer shall be responsible for checking that the capacity of the downstream network is adequate for any proposed increase in discharge with the Council.

4.3 Design

Refer to NZS 4404:2010 section 4.3

4.3.3 Future Development – Replace Clause with

Unless agreed in writing by the Council where further subdivision or development is allowed for within the current district plan upstream of the one under consideration the council shall require infrastructure to be constructed to the upper limits of the subdivision/development to allow for future connections.

The assessment of required capacity shall be on the basis of full development to the extent defined in the current district plan. Where infrastructure may service adjacent land then the full development to the extent defined in the current district plan of all the land that may be serviced by the infrastructure shall be included in the capacity calculations.

Where the new infrastructure being installed is required by Council to service future development then that infrastructure will be designed and constructed

on the basis of full development to the extent defined in the current district plan.

The cost of increased infrastructure to service adjacent future development shall be agreed in writing with the Council's Asset Performance Team prior to commencing work.

4.3.5 Design Criteria Add to clause

The design shall accommodate all upstream catchments on the basis of full development allowed for in the district plan. (The catchment area shall be based on geographical and topographical boundaries and not development boundaries).

Discharge to an existing reticulated network, or other Council owned stormwater network, shall require consent/permission from the Council.

Discharge to an existing network from a primary system shall be at a rate (litres per second) no greater than would have occurred for the undeveloped catchment during a 60 minute 5 year storm.

Table 4.1 – Recommended AEP for design storms. Delete table and replace with

All Primary Systems shall, as a minimum, cater for the worst case 1 in 20 year return period (5% AEP) storm with no surface flooding.

Where no secondary flow path is available the worst case 1 in 100 year return period (1% AEP) storm shall be catered for with no surface flooding.

4.3.7.1 Low impact design stormwater systems – Add to clause

The Council's preferred method of stormwater control is a low impact design solution. The designer shall gain written approval from the Council's Asset Performance Team that the proposed maintenance requirements are acceptable prior to submitting a design for acceptance.

4.3.7.4 Detention Ponds – Add to clause

Detention ponds shall only be used with prior approval from the Council.

4.3.7.9 Soakage devices

Replace 4.3.7.9 (a) with – (a) Capacity adequate for a 5% AEP event;

4.3.9.2 Materials – Replace Clause with

All pipes shall be PE 100, PVC (minimum class SN8) or rubber ring joint reinforced concrete and meet the relevant standards as listed in Table A1 of NZS4404:2010. Unless otherwise agreed in writing by the Council. Acceptance of design documentation without separate written approval shall not constitute acceptance of an alternative material.

4.3.9.4 Minimum Cover – Add to clause

Cover in carriageways, footpaths and crossings shall be no less than 1m. Cover outside of the carriageway, footpaths, crossings or other trafficable areas shall be no less than 0.6m.

4.3.10.1 Standard manholes – Amend clause

The distance between manholes shall not exceed 100m.

4.3.10.3 Size of Manholes – Delete section of clause

Delete second sentence of Clause 4.3.10.3. (Note – The minimum internal diameter of a manhole shall be 1050 mm.)

4.3.10.4 Shallow Manholes – Delete and replace

Delete clause 4.3.10.4 and replace with – The minimum internal diameter of a manhole shall be 1050 mm.

4.3.13 Building over Council Infrastructure – Add Clause

No building shall be constructed over any stormwater drain, nor shall any structure foundation be located within a line extending at 45° from 150mm below the pipe invert to the ground surface, or within 1.5m either side of the pipe, without the specific approval of the Council.

The Council will only give approval to construct a building over a stormwater drain if;

- I. It is impractical to construct a new main clear of the zone of influence;
and
- II. A manhole is installed within 10m of both sides of the building; and
- III. The pipe runs in a straight line both vertically and horizontally
between manholes;
and
- IV. There are no connections under the building; and
- V. The condition of the pipe is checked by closed circuit television survey
prior to construction at the applicant's cost and the pipe condition is
approved as acceptable by Council;
and
- VI. Structures straddling or founded within the above zone are designed
by a Chartered Professional Engineer such that there is no loading
from the building applied to the stormwater pipe;
and
- VII. A memorandum of encumbrance is drawn up at the applicant's
expense indemnifying the Queenstown Lakes District Council against
any claims for damage caused by the presence, maintenance,
replacement or upgrade of the stormwater pipe.

4.3 Approval of proposed infrastructure

Refer to NZS 4404:2010 section 4.4

4.4 Construction

Refer to NZS 4404:2010 section 4.5



QLDC Land Development and Subdivision Code

Part 5: Wastewater

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

5 Wastewater

Developments shall comply with Section 5 Wastewater of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

5.1 Scope

Refer to NZS 4404:2010 section 5.1

5.2 General

Refer to NZS 4404:2010 section 5.2

5.2 General – Add to clause

The designer shall agree the approach to be taken for wastewater with the Council prior to commencing any work.

5.3 Design

Refer to NZS 4404:2010 section 5.3

5.3.3 Future Development – Replace Clause with

Unless agreed in writing by the Council where further subdivision or development is allowed for within the current district plan upstream of the one under consideration the council shall require infrastructure to be constructed to the upper limits of the subdivision/development to allow for future connections.

The assessment of required capacity shall be on the basis of full development to the extent defined in the current district plan. Where infrastructure may service adjacent land then the full development to the extent defined in the current district plan of all the land that may be serviced by the infrastructure shall be included in the capacity calculations.

Where the new infrastructure being installed is required by Council to service future development then that infrastructure will be designed and constructed on the basis of full development to the extent defined in the current district plan.

The cost of increased infrastructure to service adjacent future development shall be agreed in writing with the Council's Asset Performance Team prior to commencing work.

5.3.4 System design – Add to clause

The designer shall be responsible for checking with the Council that the downstream network is adequate to accommodate the proposed subdivision/development.

5.3.5.1 Design Flow (a) – Replace with

(a) Residential flows

- i. Average dry weather flow of 250 litres per person /dwelling unit per day
- ii. Dry weather diurnal PF of 2.5
- iii. Dilution/infiltration factor of 2 for wet weather
- iv. Number of people per dwelling of 3

5.3.7.2 Materials – Replace Clause with

All pipes shall be PE 100, PVC (minimum class SN8) or rubber ring joint reinforced concrete and meet the relevant standards as listed in Table A1 of NZS4404:2010. Acceptance of design documentation without separate written approval shall not constitute acceptance of an alternative material.

5.3.7.5 Minimum Cover – Add to clause

Cover in carriageways, footpaths and crossings shall be no less than 1m. Cover outside of the carriageway, footpaths, crossings or other trafficable areas shall be no less than 0.6m.

5.3.8 Maintenance structures – Add

The minimum internal diameter of a manhole shall be 1050 mm.

5.3.8 Manholes Figure 5.2 – Amend Figure

The maximum distance between maintenance structures shall be 100m

5.3.11 Pumping stations and pressure mains – add to clause

All products and components including pumps shall be approved by the Council prior to submitting a design for acceptance.

All pressure main pipework shall be PE 100.

5.3.14 Building over Council Infrastructure – Add Clause

No building shall be constructed over any wastewater drain, nor shall any structure foundation be located within a line extending at 45° from 150mm below the pipe invert to the ground surface, or within 1.5m either side of the pipe, without the specific approval of the Council.

The Council will only give approval to construct a building over a wastewater drain if;

- i. It is impractical to construct a new main clear of the zone of influence;

- and
- ii. A manhole is installed within 10m of both sides of the building;
and
- iii. The pipe runs in a straight line both vertically and horizontally between manholes;
and
- iv. There are no connections under the building;
and
- v. The condition of the pipe is checked by closed circuit television survey prior to construction at the applicant's cost and the pipe condition is approved as acceptable by Council;
and
- vi. Structures straddling or founded within the above zone are designed by a Chartered Professional Engineer such that there is no loading from the building applied to the wastewater pipe;
and
- vii. A memorandum of encumbrance is drawn up at the applicant's expense indemnifying the Queenstown Lakes District Council against any claims for damage caused by the presence, maintenance, replacement or upgrade of the wastewater pipe.

5.4 Approval of proposed infrastructure

Refer to NZS 4404:2010 section 5.4

5.5 Construction

Refer to NZS 4404:2010 section 5.5

5.5.7 Connection to existing systems – add Clause

Connection to existing wastewater mains will only be undertaken by Queenstown Lakes District Council, or its authorised agents, at the cost of the applicant.



QLDC Land Development and Subdivision Code

Part 6: Water Supply

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

6 Water Supply

Developments shall comply with Section 6 Water Supply of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

6.1 Scope

Refer to NZS 4404:2010 section 6.1

6.2 General

Refer to NZS 4404:2010 section 6.2

6.2 General – Add to clause

The designer shall agree the approach to be taken for water supply with the Council prior to commencing any work.

6.2.1 – Amend Clause

Replace (a) & (b) with

- (a) A water main allowing an appropriate point of supply; and
- (b) A service connection from the main for each property.

6.3 Design

Refer to NZS 4404:2010 section 6.3

6.3.3 Future Development – Replace Clause with

Unless agreed in writing by the Council, where further subdivision or development is allowed for within the current district plan adjacent to the one under consideration the council shall require infrastructure to be constructed to the extents of the subdivision/development to allow for future connections.

The assessment of required capacity shall be on the basis of full development to the extent defined in the current district plan. Where infrastructure may service adjacent land then the full development to the extent defined in the current district plan of all the land that may be serviced by the infrastructure shall be included in the capacity calculations.

Where the new infrastructure being installed is required by Council to service future development then that infrastructure will be designed and constructed on the basis of full development to the extent defined in the current district plan.

The cost of increased infrastructure to service adjacent future development will be agreed in writing with the Council's Asset Performance Team prior to commencing work.

6.3.4 System design – Add to clause

The designer shall be responsible for checking with Council that the network is adequate to accommodate the proposed subdivision/development.

6.3.5.5 Minimum Flows – delete clause and replace with

The minimum flow shall be:

- (a) 25 L/min for each Residential Unit
- (b) As specified in SNZ PAS 4509

6.3.5.6 Minimum water demand – Delete clause and replace with

The minimum peak domestic demand shall be based on:

- (a) Daily consumption of 250 litres/person/day
- (b) Peak factor of 4.0 (Queenstown), 6.6(Rest of District)
- (c) Number of people per Residential Unit of 3.0

6.3.5.10 Design Pressure – Amend clause

Replace paragraph 3 with

The design pressures shall be between 300kPa and 900kPa

6.3.5.10.1 Operating pressure/working pressure – delete and replace clause with

The maximum allowable operating pressure in mains of 100mm dia and greater shall not exceed 900kPa without the specific approval of Council's Chief Engineer.

The maximum allowable operating pressure of rider mains and service connections shall not exceed 900kPa

6.3.6.1 Materials – Add to clause

All pipes shall be HDPE 100. Unless otherwise agreed in writing by the Council. Acceptance of design documentation without separate written approval shall not constitute acceptance of an alternative material.

6.3.8.1 System Layout General – Add to clause

(d) Where practicable water mains shall be laid in the road berm outside of the carriageway and any associated drainage features.

(e) All water mains shall be laid within legal public road reserves where practicable. Easements of a minimum width of 3.0m shall be provided for all water supply

systems that are to be vested in Council or the system owner where they cross any private land.

6.3.12.10.1 Minimum Cover – Add to clause

Cover in carriageways, footpaths and crossings shall be no less than 1m. Cover outside of the carriageway, footpaths, crossings or other trafficable areas shall be no less than 0.6m.

6.3.14.1 Valves general – Add to clause

All valves types, materials and manufactures shall be approved by the Council's Asset Performance Team prior to a design being submitted for acceptance.

and

(g) A valve shall be located on all legs of a junction and positioned no further than 20m from the junction unless otherwise agreed with the Council.

6.3.18 Water Meters and Backflow Prevention – Add Clause

Water meters shall be installed by the developer at all points of supply on the property boundary and must be accessible to pedestrians. Once installed and following 224c certification the meters are owned and maintained by QLDC. All meters shall be in accordance with QLDC's water metering policy or as agreed in writing by QLDC's Asset Planning and Asset Performance teams.

6.3.19 Building over Council Infrastructure – Add Clause

No building shall be constructed over any water supply pipe, nor shall any structure foundation be located within a line extending at 45° from 150mm below the pipe invert to the ground surface, without the specific approval of the Council.

The Council will only give approval to construct a building/structure over a water main if;

- i. It is impractical to construct a new main clear of the zone of influence;
and
- ii. A valve is installed within 10m of both sides of the building;
and
- iii. The pipe runs in a straight line both vertically and horizontally between valves;
and
- iv. There are no connections under the building;
and

- v. The condition of the pipe is checked pot holes every 10m prior to construction at the applicant's cost and the pipe condition is approved as acceptable by Council;
and
- vi. Structures straddling or founded within the above zone are designed by a Chartered Professional Engineer such that there is no loading from the building applied to the water main;
and
- vii. A memorandum of encumbrance is drawn up at the applicant's expense indemnifying the Queenstown Lakes District Council against any claims for damage caused by the presence, maintenance, replacement or upgrade of the water pipe.

6.4 Approval of proposed infrastructure

Refer to NZS 4404:2010 section 6.4

6.5 Construction

Refer to NZS 4404:2010 section 6.5



QLDC Land Development and Subdivision Code

Part 7: Landscape

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

7 Landscape

Design and construction shall be undertaken in accordance with the requirements of Part 7, Landscape of NZS 4404:2010 except as amended and extended for Queenstown Lakes District Council requirements in the clauses below, and any Queenstown Lakes District Council guidelines and specifications relating to landscape and reserves. Developments shall comply with Section 7 Landscape of NZS 4404:2010 except as modified by this document.

Where community specific guidelines are available these shall be taken into consideration throughout the design and construction of subdivisions and development.

7.1 Scope

Refer to NZS 4404:2010 section 7.1

7.2 General

Refer to NZS 4404:2010 section 7.2

7.2 General – Add to clause

Consultation with Queenstown Lakes District Council's Operations [Parks] department is required on all landscape matters in potential reserves prior to the design phase and development plan approvals. This includes consulting on the potential to create new reserve land and/or improve existing reserves. Public land for reserves shall only be created and vested in Council where there is an identified need in consultation with Council's Operations [Parks] department.

7.2.1 Approval – Delete and replace first sentence with

Consultation with the Council on landscape design and construction at an early stage, and prior to submission of any engineering designs for acceptance, is required.

7.2.3 Reserves – Amend clause to

Queenstown Lakes District Council's requirements for new reserve provisions should be determined prior to the initial design stage through consultation with the Operations [Parks] department.

When assessing reserve provision and development proposals the Council will consider:

- Filling existing gaps in reserve provisions

- Encouraging improvement of existing reserves
- Development designs that are sympathetic to the existing landscape character of the area
- Development designs that will provide recreational benefit to the community and/or District
- Preserving existing lookout and observation points
- Protecting heritage features and sites
- Protecting and enhancing sites of ecological importance
- Securing reserve land at the subdivision stage(s) of development.

Council may request recreation, landscape, heritage or ecological assessments for consideration.

If new reserve land is considered appropriate, layout plans showing proposed location of reserves are required to be approved by Queenstown Lakes District Council's Operations [Parks] department prior to an application for an outline development plan, a plan change, a resource or building consent or a connection to Council services being lodged.

All reserve provision and development proposals should be approved in principle by Queenstown Lakes District Council's Operations [Parks] department prior to any public consultation.

Detailed development plans for all future reserves shall be submitted with applications for subdivision consent, and no work is to be carried out on site before approval of the development plans from Council's Operations [Parks] department. No work is to be carried out until development contributions have been calculated and agreed with Council. Council agreements relating to individual stages of development will allow work to commence on those stages.

All reserve development shall be completed in accordance with the plans acceptable to Queenstown Lakes District Council's Operations [Parks] department. 'As-built' plans shall be provided for all reserves. Development may include earthworks, drainage, irrigation, planting, paths, structures (such as seating, tables, lighting, rubbish bins, fencing, barriers, signs, and play equipment) and facilities (such as toilets and changing sheds) as agreed with Council's Operations [Parks] department.

7.3 Design

Refer to NZS 4404:2010 section 7.3

Planting and other landscaping shall be appropriate to and compatible with the local environment. The design layout and plant species selection shall be based on the consideration of the following:

- Ability of plants to thrive on the site
- Height of plants at time of maturity and future shading impacts
- Size of planting areas, including road berms, to be compatible with plant species

- To be sympathetic to the existing landscape character of the area
- Provide for long-term sustainable management.

Planting and other landscaping features shall be easily maintainable and minimise overall life cycle costs inclusive of establishment, irrigation, maintenance and replacement.

7.3.1 Location

Replace “TAs may have their own requirements and standards that need to be met” in the first paragraph of the clause with “Refer to the Queenstown Lakes District Council Street Tree Planting Guidelines”.

Add to end of clause “Detailed development plans showing distances of trees from paths, structures and underground services shall be provided for the approval of Queenstown Lakes District Council’s Operations [Parks] department so as to reduce the potential for future conflicts between trees and infrastructure. All trees and vegetation planted near high voltage transmission lines must comply (including when maturity is reached) with the Electrical (Hazards from Trees) Regulations 2003”.

7.3.3 Existing vegetation and trees – add at start of clause

Where there is existing vegetation and/or trees in an area proposed as reserve, Queenstown Lakes District Council’s Operations [Parks] department shall decide whether they are to be removed or retained prior to development and Arboricultural and/or Ecological assessments shall be provided on Council’s request to inform this decision. Vegetation and/or trees to be removed or retained shall be identified on the development plans.

7.3.6 Species selection

Replace “The TA should maintain a register of suitable species for local conditions” in the first paragraph of the clause with “Refer to the Queenstown Lakes District Council Street Tree Planting Guidelines”.

Add “Fruit trees and native tree species suitable to the environment shall be promoted in reserves, where appropriate”.

7.3.10 Planting period and irrigation – amend second paragraph of clause to

Depending on the location and season of planting, Queenstown Lakes District Council’s Operations [Parks] department may require provision for temporary irrigation of native gardens, grass areas or revegetation planting. Provision for watering during the establishment of plants or lawn may be required for these areas if not otherwise irrigated. Grass areas in reserves in CBDs or shopping precincts, sports field turf and all specimen trees and exotic gardens shall be permanently irrigated and irrigation plans shall be supplied for approval by Council’s Operations [Parks] department.

7.4 Construction and maintenance

Refer to NZS 4404:2010 section 7.4

7.4.1 Introduction – add to end of clause

Sign-off for practical completion shall be obtained from the Queenstown Lakes District Council's Operations [Parks] department at the end of the maintenance period. Maintenance and plant replacement shall be undertaken until sign-off. Prior to sign-off, grass and planting areas shall have a fully established sward of grass or planting coverage without any visible gaps. There should be no weeds present in the planting areas, and weed species should consist of no more than 5% of grass areas. All trees should be in good health, structure, form and be free of disease.

7.4.4 Planting grass areas

7.4.4.4 Amend clause to

The area for grass seeding shall be free of all weed species. Grass seed mix shall be in accordance with the Queenstown Lakes District Council Turf Reinstatement Specifications, January 2007.

7.4.5 Mulch

Add new section as below

7.4.5.3

Mulch shall be evenly spread at the base of the trunk and shall not be stacked into a volcano shape.



QLDC Land Development and Subdivision Code

Part 8: Network Utility Services

The Council's minimum engineering requirements will be met by using the New Zealand Standard NZS 4404:2010 and referenced documents therein as the base documents with Schedules that provide specific design information and any Council requirements that may differ from those in NZS 4404:2010 with the following amendments and additions.

8 Network Utility Services

Developments shall comply with Section 8 Network Utility Services of NZS 4404:2010 except as modified by this document.

8.1 Scope

Refer to NZS 4404:2010 section 8.1

8.2 General

Refer to NZS 4404:2010 section 8.2

8.3 Design

Refer to NZS 4404:2010 section 8.3

8.4 Construction

Refer to NZS 4404:2010 section 8.4

8.4.7 Completion of work – add clause

Following completion of the works and prior to issuing a 224(c) certificate the developer shall provide written confirmation from the Network Utility Service providers that the installation has been completed to their standards and that they are satisfied with access provisions allowing for maintenance and future upgrading of their network.