**Specification for RAMM Inventory Updates**

**New subdivisions, construction or maintenance work**

**on the QLDC network**

Version 1.3 – December 2017

**CONTENTS**

1. [GENERAL](#_bookmark0) [3](#_bookmark1)
2. [LINEAR ASSETS](#_bookmark3) [3](#_bookmark3)
	* + General Carriageway information
		+ [Carriageway Surface](#_bookmark8)
		+ [Pavement Layer](#_bookmark9)
		+ [Surface Water Channels](#_bookmark4)  [3](#_bookmark4)
		+ [Footpaths](#_bookmark5) [4](#_bookmark5)
		+ [Berm](#_bookmark7) [8](#_bookmark9)
		+ Road Markings [9](#_bookmark10)
3. [POINT ASSETS](#_bookmark11) [9](#_bookmark11)
	* + [Drainage](#_bookmark12)  [10](#_bookmark12)
		+ [Signs](#_bookmark13)  [10](#_bookmark13)
		+ [Street Furniture (Minor Structures)](#_bookmark14) [13](#_bookmark14)
		+ [Retaining Wall](#_bookmark15)
		+ Street Lighting [14](#_bookmark15)

**DOCUMENT HISTORY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Version  | Action | Date | Prepared by | Approved by |
| 1.00 | First Draft  | July 2017 | Alison Tomlinson  |  |
| 1.2 | Revision | October 2017  | Alison Tomlinson |  |
|  | Update | November 2017 | Alison Tomlinson |  |

### General

* 1. This specification applies to all roading assets that will be vested in or are currently managed by Queenstown Lakes District Council.
	2. Data must be provided following any contractor works (construction or maintenance) on Queenstown Lakes District Council's (QLDC) roading assets and for any transport assets to be taken over (vested) by Council. Failure to provide the correct data may delay the issue of 224(c) or payment of contract of work, where appropriate.
	3. Data must be provided on the RAMM update sheets. The most up to date form can be found on the QLDC website.

<http://www.qldc.govt.nz/planning/resource-consents/land-developments-and-subdivisions/>

* 1. This data specification should be read in conjunction with the QLDC Land Development and Subdivision Code of Practice (NZS 4404/2010 with QLDC amendments).
	2. NZTA’s’ Chipsealing in New Zealand’ provides a huge resource and can provide further detail on specific parts of the seal data. <https://www.nzta.govt.nz/resources/chipsealing-new-zealand-manual/chipsealing-in-new-zealand.html>

**Naming Conventions**

* 1. **Update File**: Please rename RAMM spreadsheet as follows: ‘date of submission’\_’resource consent number’\_’subdivision name’\_RAMM

e.g. 2017\_12\_ 11\_RM123456\_subdivision name\_RAMM

Any amendments should have the updated submission date.

* 1. **Email correspondence**: Any email correspondence should contain in the subject the resource consent number and the development name.

### RAMM System

* 1. RAMM (Road Assessment and Maintenance Management) is the Asset Management system used for QLDC Transport Assets. Information about this system can be found here <http://www.ramm.com/>
	2. RAMM User Manuals and the latest revision of NZTA State Highway Database Operation Manual (SMO50) May 2009 are to be used as the basis for the collection of all data for this work. For more information on type of entries required, consult the State Highway Database Operation Manual.

<https://www.nzta.govt.nz/resources/state-highway-database-operation-manual/>

* 1. Point assets shall be recorded with GPS locations as Northing & Easting defined by NZ map grid co-ordinates. The Linear assets shall have start and end coordinates for GPS locations.
	2. The QLDC RAMM database must be up to date by 30 June each year for running the NZTA annual statistics and reports.

### Measurement Method

* 1. Northing and Easting coordinates shall use NZTM and the accuracy shall be within the same limit as above.
	2. All distance measurement shall be made using an odometer properly calibrated with a maximum error of +/- 1m for 1km or alternatively by an accurate measuring wheel which has a wheel diameter of 300mm.
	3. Odometer calibration strip will be a straight 2km long piece of road and should be properly marked. The calibration of the odometer shall be checked regularly or immediately after the tyre pressures of the vehicle have been altered in any way.
	4. All offsets and widths shall be measured to the nearest 0.1m using an accurate tape measure or measuring wheel.
	5. RAMM uses the road origin as the zero point so all the Reference Points (RPs) for all assets are recorded with reference to the origin. Where amendments or additions to existing roads are made, the existing RPs can be obtained from the Mobile Roads website <https://mobileroad.org/index.html>

**Health & Safety**

* 1. All inventory staff shall as a minimum safety measure comply with the Health and Safety Act, COPTTM.

**Review**

* 1. This specification will be reviewed regularly and the most recent version should always be downloaded from the QLDC website.

### Liner Assets

NZTA SMO50 defines assets with start and end metres as “linear” assets.

### Attributes common all linear assets

### To avoid repetition, this section describes attributes common to most linear assets

| Carriageway Surface |  |
| --- | --- |
| Attribute | Description |
| Action | Used in the import process (‘ add’ or’ amend’ record to the database). For QLDC import use only. Can be left blank |
| Start and end displacement | The displacement at each seal join is to be recorded. The readings become the start and end displacement of respective seal sections. - not signs or easily moveable infrastructure.Existing RPs can be found here <https://mobileroad.org/index.html> |
| Start and end names | The start and end names can be very useful for locating the sections physically. References like seal join/ end of seal, xx m from intersection, street address or any other permanent reference are the common start and end descriptions. |
| Length | Length of section (m) |
| Width | This shall be recorded if the surface is not the full width of the carriageway. In case of full width just tick the full width flag. |
| Width | This shall be recorded if the surface is not the full width of the carriageway. In case of full width just tick the full width flag. |
| Side | The side of the carriageway on which the asset is located. e.g. surface channel The Assets along small median islands can be recorded as either on left or right with an offset from the kerb face. For kerb and channel that runs parallel to the carriageway the distance to edge of seal can be set to 0. When the kerb and channel is offset from the edge of the seal, this must be measured. |
| Offset | Record zero where surfacing is full width. If it is not the full width measure the offset to the edge of the surface from the LHS carriageway edge or kerb face. |
| GPS Coordinates | Northing and Easting coordinates  |

### General Road (carriageway) Data and Metadata

Roads in **RAMM** are divided into logical sections named Carriageways, normally split from junction to junction. These contain more general information about the roads and general metadata.

| General Carriageway Information  |  |
| --- | --- |
| Attribute | Description / option |
| Road Name | Road Name  |
| Sub Area (town/locality | e.g. Gibbston, Luggate,  |
| Development Name & Stage | Name development is known by –include phase/stage if relevant. |
| Resource Consent Number | e.g. RM0123456 |
| Surveyor Company | Company surveying the development |
| Surveyor Name | Who undertook the data collection? |
| Date of survey  | When was data collected? |
| QLDC ward | Wanaka | Wakatipu |
| Date Vested (224c) | If not yet vested, provide estimated date |
| Pavement Use Group(1, 2, 3, 4, 5, 6, 7) | Estimated traffic use. This depends upon the Average Daily Traffic. Generally the traffic count data provided in the database will be used to determine the pavement use band. For new sub-divisional roads, a rate of 1 vehicle movement per meter of total road length is used as a basis to estimate number of vehicles per day.  |
|  | 1 ADT <1002 ADT 100-5003 ADT 500-2,0004 ADT 2,000-4,0005 ADT 4,000-10,0006 ADT 10,000-20,0007 ADT >20,000 |
| Urban / Rural | Urban / Rural |
| Terrain | F | Flat  |
| R | Rolling (Trucks need lower gears to climb) |
| M | Mountainous (All vehicles need lower gears to climb) |
| Lighting Category | Specify road lighting category as per ANS 1158 e.g. P3, P4 |
| Warranty details | Particularly for LED Luminaires. Details to include, warranty end, copy of warranty and who is registered with warranty. |
| Second Coat seal details. | Provide details of second coat seal. Include seal design document. Indicate planned date of second coat, confirm if this be done by developer or through QLDC reseals programme at developer cost? Details of bond if relevant  |

### Carriageway Surface (wearing course)

All surfacing work greater than 100m in length and 3.3m wide shall be recorded in the RAMM carriageway surface table in the same way as recording normal surfacing items, this includes road widening- a note should be recorded to indicate widening as opposed to full width treatment.

However, the expected life and the reason for surfacing is to be noted (e.g. make-safe work).

Some information is ascertained from a field inspection and other information is to be provided by the sealing crew.

| Carriageway Surface |  |
| --- | --- |
| Attribute | Description |
| Surfacing Date | This is the date when the surfacing was placed. |
| Contract Details | Useful information includes Contract Number, Contractor’s Name and the Specification Type. Example of specification type is P9, P23, P11, P17 etc. |
| Design Life | The design life of the seal. |
| Surfacing Material | AC | Asphaltic Concrete |
| OGPA | Open Graded Porous Asphalt |
| INBLK | Interlocking Blocks |
| 1CHIP | Single Coat Seal |
| 2 CHIP | Two Coat Seal |
| SLRY | Slurry Seal |
| SMA | Stone Mastic Asphalt |
| VFILL  | Void Fill |
| CONC | Exposed Aggregates |
| METAL | Metal Running Course |
| LOCK | Locking Coat Seal  |
| B/S | Bicouche/Sandwich |
| TEXT | Texturising Seal |
| Chip Size | *Sizes of Aggregate* This has to be supplied by the sealing crews. Chip seal grades to be used range from 2 to 6, with grade 2 being the largest chip and grade 6 the smallest. For two coat chip seal the second chip size is also recorded. |
| Source of aggregates |  Quarry name  |
| Polished stone values (PSV)  | PSV as rated by quarry. PSV is a measure of the ability of the chip to provide an on-going safe, skid-resistant surface under heavy traffic.Refer for Chipsealing in NZ for more detail (page 313) |
| (ALD) | The Average least dimension ALD is the average thickness of the chips when they are lying on a flat surface in their most stable position. (ALD) chip size units in mm, average\_dim <= 20 Refer for Chipsealing in NZ for more detail (page 316). |
| Binder type | B180 | Bitumen 180/200  |
| B130 | Bitumen 130/150 |
| B60 | Bitumen 60/70 |
| B80 | Bitumen 80/100 |
| E180 | Emulsion 180/200 |
| E80 | Emulsion 80/100 |
| PORT  | Portland Cement |
| WATR  | Water |
| Adhesion Agent | Type of used and the amount in binder. |
| Polymer Additive | percentage of polymer modification (%) |
| Polymer Type | 340A | Flexiphalt 340A |
| AX14 | Mobilflex |
| AXH | PAVEflex SBS High Modified Asphalt Binder |
| AXM | PAVEflex SBS Medium Modified Asphalt Binder |
| EFXC | Emoflex C |
| ERL | PAVEflex SBR Low Modified 180/200 Emulsion |
| ERM | PAVEflex SBR Medium Modified 180/200 Emulsion |
| EX15 | EX 15 |
| EXH | PAVEflex SBS High Modified 180/200 Emulsion |
| EXL | PAVEflex SBS Low Modified 180/200 Emulsion |
| EXM | PAVEflex SBS Medium Modified 180/200 Emulsion |
| PMBP | PAVEflex PMB |
| RLA | RLA2066/S |
| RSDS | Road Science RS 2 Dust Seal |
| RSHD | Road Science RS 4 Heavy Duty |
| RSHE | Road Science RS 4 Heavy Duty Extreme |
| RSHG | Road Science RS 3 High Strength |
| RSHP | Road Science RS 4 Heavy Duty Plus |
| RSL1 | Road Science RS 1 Improved Seal |
| RSL2 | Road Science RS 1 Improved Seal Plus |
| RSL3 | Road Science RS 1 Improved Seal Extreme |
| RSPA | Road Science RS 3 Porous Asphalt |
| RSQR | Road Science RS 3 Quiet Road |
| RSS1 | Road Science RS 1 Superior Seal |
| RSS2 | Road Science RS 1 Superior Seal Plus |
| RSS3 | Road Science RS 1 Superior Seal Extreme |
| RSSP | Road Science RS 4 Spill Resistant |
| RSUT | Road Science RS 3 Ultra Thin |
| SBR | Styrene Butadiene Rubber |
| SBS | Styrene Butadiene Styrene |
| SIS | Styrene Isoprene Styrene |
| SXH | PAVEflex SBS High Modified 180/200 Cutback |
| SXL | PAVEflex SBS Low Modified 180/200 Cutback |
| SXM | PAVEflex SBS Medium Modified 180/200 Cutback |
| TMEH | Techniflex PM Emuls |
| Cutter Type | Type and the Quantity |
| Binder Flux  | Amount of Flux in Binder |
| App rate | Spray Application Rate- in litre/sqm or % binder content in mix.Residual Rate App. (rate >= 0.2 ) and (rate <= 9.99 )Application Rate not required for AC |
| Work origin | All developments are likely to be ‘New Roads’ |
| Surface Function | Function of the surface: 1st Coat, 2nd Coat or Reseal, m=membrane seal. Where AC has a membrane seal “M” should be used as the surface function for the membrane seal and the asphaltic surfacing has a surface function of 2 (i.e.: 2nd coat seal. |

### Pavement Layer

This table is used to store information related to structural pavement including the sub-grade beneath the pavement. Since it is not possible to check after the road is sealed it is critical that this information is recorded at the time of construction.

All work greater than 30m in length and 2m wide shall be recorded in the RAMM pavement table in the same way as recording normal pavement items. This includes road widening- a note should be recorded to indicate widening as opposed to full width treatment.

This information is extremely important and is used for calculating the pavement strength and the development of pavement deterioration model (dTIMS). Type, source, and strength of each layer.

All pavement reconstruction or repair work greater than 100m in length and 3.3m wide shall be recorded in the RAMM pavement layer table.

| Pavement Layer  |  |
| --- | --- |
| **Attribute** | **Description** |
| Start and end displacement | The displacement at each seal join is to be recorded. The readings become the start and end displacement of respective pavement layers.  |
| Start and end names | The start and end names can be very useful for locating the sections physically. References like seal join/ end of seal, xx m from intersection, street address or any other permanent reference are the common start and end descriptions - not signs or easily moveable infrastructure. |
| Seal Design documents attached | Indicate yes/no if the seal designs have been sent through |
| Length | Length of section (m) |
| Width | This shall be recorded if the surface is not the full width of the carriageway. In case of full width just tick the full width flag. |
| Thickness | Provide layer thickness |
| Date constructed reconstructed or removed | This is the date when the surfacing was placed. |
| **Stabilisation agents**  | if used. |
| **Layer or subgrade** | Flag to indicate if the record relates to a pavement Layer or a Subgrade Layer. Determine whether you are dealing with the pavement or subgrade. Typically work on new subdivisions will contain both where rehabs of existing roads will just be pavement layers. |
| **Layer strength** **Sub-grade CBR values.** | Enter pavement strength |
| **Indicate order of pavement layers**  | For each road, indicate order of pavement layers by numbering the layers. The bottom layer is layer number 1. |
| **Work origin** | Provide the type of works. New subdivisions will normally be ‘new roads’  |
| Specification Type | E.g. P9, P23, P11, P17 etc |
| Design Life | The design life of the seal. |
| Pavement Material | The material used to construct the pavement layer |
| AP40 | All passing 40MM sieve |
| AP100 | All passing 100mm sieve |
| AP150 | All passing 150mm sieve |
| AP20 | All passing 20MM sieve |
| AP32 | All passing 32mm sieve |
| AP40 | All passing 40MM sieve |
| AP41 | All passing 41mm sieve |
| AP42 | All passing 42mm sieve |
| AP43 | All passing 43mm |
| AP44 | All passing 44mm |
| AP65 | All passing 65MM sieve |
| AP7 | All passing 7mm sieve |
|  |  |
| Chip Size | *Sizes of Aggregate* This has to be supplied by the sealing crews. Chip seal grades to be used range from 2 to 6, with grade 2 being the largest chip and grade 6 the smallest. For two coat chip seal the second chip size is also recorded. |
| Source of aggregates |  Quarry name  |
| Polished stone values (PSV)  | PSV as rated by quarry. PSV is a measure of the ability of the chip to provide an on-going safe, skid-resistant surface under heavy traffic.Refer for Chipsealing in NZ for more detail (page 313) |
| (ALD) | The Average least dimension ALD is the average thickness of the chips when they are lying on a flat surface in their most stable position. (ALD) chip size units in mm, average\_dim <= 20 Refer for Chipsealing in NZ for more detail (page 316). |
| Binder type | B180 | Bitumen 180/200  |
| B130 | Bitumen 130/150 |
| B60 | Bitumen 60/70 |
| B80 | Bitumen 80/100 |
| E180 | Emulsion 180/200 |
| E80 | Emulsion 80/100 |
| PORT  | Portland Cement |
| WATR  | Water |
| Adhesion Agent | Type of used and the amount in binder. |
| Polymer Additive | Type used and the amount in binder. |
| Cutter Type | Type and the Quantity |
| Binder Flux  | Amount of **Flux** in Binder |
| **Application rate** | Spray Application Rate- in litre/sqm or % binder content in mix.Residual Rate App. (rate >= 0.2 ) and (rate <= 9.99 ) |
| Remove Date | Relevant for a rehab if a pavement layer is being replaced. Not usually required for a new road. |
| Contract Details | Contract Number, Contractor’s Name  |

### Surface Water Channels

Kerb and channel renewal greater than 30m in length are to be included as an inventory update.

| Surface Water Channels  |  |
| --- | --- |
| Attribute | Description |
| Start and end displacement | To be measured within each carriageway section. These are to be measured from the midpoint of the quadrant formed as the channel turns from one road to the next. |
| The Length of surface water channel | The difference between start and end displacement. When the channel does not run in a straight line, the extra length must be measured and added as a length adjustment. This extra length is to be noted in a separate column. |
| Side | The side of the carriageway on which the surface channel is located. The channel along small median islands can be recorded as either on left or right with an offset from the kerb face. For kerb and channel that runs parallel to the carriageway the distance to edge of seal can be set to 0. When the kerb and channel is offset from the edge of the seal, this must be measured. |
| Construction Date | Other important information to be recorded in RAMM are the contract details and the date when the channel is completed. |
| Channel Types Standard Code | KCC  | Kerb & Channel (Concrete) |
| KDC | Kerb and Dished Channel (Concrete)??? |
| DC | Dished Channel (Concrete) |
| DS | Dished Channel (Sealed) |
| DA | Dished Channel (Asphalt) |
| KC | Kerb Only (Concrete) |
| KS | Kerb Only (Stone) |
| SLTC | Slot Channels (Concrete) |
| SWCD | Earth Surface Water Channel (Deep) (>200mm deep) |
| SWCS | Earth Surface Water Channel (Shallow) (<200mm deep) |

### Footpaths, Cycleway & shared)

All footpath resurfacing greater than 30m in length for full width shall be recorded in the footpath resurfacing table of RAMM.

| Footpaths |  |
| --- | --- |
| Attribute | Description |
| Start and end displacement | To be measured within each carriageway section. These are to be measured from the midpoint of the quadrant formed as the channel turns from one road to the next. |
| The Length of Footpath | The difference between start and end displacement. When the footpath does not run in a straight line, the extra length must be measured and added as length adjustment. This extra length is to be noted in a separate column. |
| Side | is the side of the road where footpath is on. |
| Footpath use | Footpath, Cycle path, Shared,  |
| Construction Date | Other important information to be recorded in RAMM are the contract details and the date when the channel is completed. |
| Width of footpath | Width is an average value for the length of the footpath. A new record may be entered when the width changes by more than 20mm or footpath position changes for more than 30m. Bus stop area and other monuments area is to be recorded as an extra area. Any extra area of footpath is to be measured in square metres. |
| Footpath Position (related to berm) | B | Boundary |
| K | Kerb |
| M | Middle |
| R | Remote from road |
| J | Accessway (ends away from the road) |
| E | Accessway (Joins another road) |
| W | Whole Width (no berm) |
| Remote from road | When recording footpaths remote from roads the extra information related to “other road” field like name and displacements is to be recorded separately. |
| Footpath Use | 1 | Low | Residential (local roads & cul de sacs) |
| 2 | Low/Medium  | Residential with higher pedestrian’s number |
| 3 | Medium | Servicing schools/shops/churches/community halls etc. |
| 4 | Medium/High  | Minor Retail Centres |
| 5 | High | Major Retail Centres |
| Footpath Surfacing | The start of footpath with reference to origin and ends when there is change in surfacing type, material or age. |
| Surfacing Date and Construction Date | The contractor or consultant shall provide actual construction dates and if it is a completely new footpath. In this case the surfacing date may be the same or a little bit later. If it is resurfacing work the construction date is obtained from RAMM. |
| Surfacing Material | standard surfacing codes are as follows |
| AC | AsPhaltic Concrete |
| C | Concrete |
| IB | Interlocking Block |
| M | Metal |
| S | Seal |
| T | Timber |
| SL | Slurry Seal |
| Surface Depth | The standard depth of footpath base and surface have been categorized in order to filter the footpath for renewal, maintenance or new subdivision we have used the following surface - they are not the actual depth just numbers. |
| Overlays or resurfacing | 12mm  |
| New Subdivision | 19mm |
| Reconstruction | 18mm |
| Maintenance | 20mm |
| Binder type | B180 | Bitumen 180/200  |
| B130 | Bitumen 130/150 |
| B60 | Bitumen 60/70 |
| B80 | Bitumen 80/100 |
| E180 | Emulsion 180/200 |
| E80 | Emulsion 80/100 |
| PORT  | Portland Cement |
| WATR  | Water |

### Berm

The grass area within the road reserve between the carriage way and the road boundary in urban areas is also recorded as roading asset.

| **Berm** |  |
| --- | --- |
| Attribute | Description |
| Start and end displacement | To be measured within each section. The cover type is to be recorded in a separate column. Berm section changes with the change in cover types or the change in width. The location of streetscape is recorded in RAMM whereas the details about Streetscape data or the garden area may be recorded in a separate database managed by Parks & Greenspace Team. Normally the length of the berm is the difference in end and start displacements. |
| GPS Coordinates |  |
| Side | The side of the road that berm is on. |
| Width | The width of the berm is to be recorded. If there is a path in the middle of the grass berm the combined width of the grassed area on either side of the footpath is recorded. The smaller service strip area on the road reserve at the property boundary about 40cm or less are not recorded as berm. |
| Berm Type:  | Level or Banks |
| ***Plant Cover*** | G GrassGS Grass, ShrubsGC Grass, CoverGCS Grass, Cover, shrubsGF Grass, FlowerSC Grass, Flower, Shrubs, CoverC CoverCS Cover, ShrubsP PlantsF FlowersFC Flower, CoverFCS Flowers, Cover, ShrubsST Stone |  |

### Marking Table

Marking Table is used for entering the types, locations, and specifications for painted pavement marking.

| Road Markings  |  |
| --- | --- |
| Attribute | Description |
| Start and end displacement | To be measured within each carriageway section. These are to be measured from the midpoint of the quadrant formed as the channel turns from one road to the next. |
| Marking Types | M75 | BUS LANE |
| M76 | BUS LANE ENDS |
| M62 | Bus stop |
| M71 | CAUTION |
| M49 | CHILDREN |
| M26 | CROSS ROADS |
| M72 | CYCLE LANE |
| M02 | Centreline 100mm 3 x 7 |
| M01 | Centreline 100mm continuous |
| M43 | Combination arrows |
| M73 | Cycle symbol |
| M47 | DISABLED PARKING |
| M55 | Destination Legend |
| M15 | Edge 100mm continuous |
| M13 | Edge 150mm continuous |
| M15A | Edge 200mm continuous |
| M14 | Edge 75mm continuous |
| M25 | Emerg exit sig sh white |
| M70 | Fire hydrant |
| M74 | Flush Median |
| M12A | Lane Line 100mm 1m x 1m |
| M31 | GIVE WAY |
| M51 | GIVE WAY AHEAD |
| M59 | Intersection Continuity Lines (150mm 1 x 3) |
| M18 | Island pre warn |
| M46 | KEEP CLEAR |
| M42 | Left turn arrow |
| M61 | Loading zone |
| M35 | NO ENTRY |
| M37 | NO EXIT |
| M32 | NO LEFT TURN |
| M48 | NO PARKING |
| M33 | NO RIGHT TURN |
| M36 | NO TURNS |
| M03 | No Overtaking 100mm continuous |
| M04 | No Overtaking advance 100mm 13 x 7 |
| M60 | No Stopping Line (yellow) 100mm 1 x 1 |
| M29 | ONE LANE BRIDGE |
| M34 | ONE WAY |
| M64 | Other zone |
| M52 | PED. CROSS AHEAD |
| M58 | Painted Speed Hump |
| M17 | Painted island |
| M16 | Painted shoulder |
| M65 | Park Limit Lines parallel |
| M67 | Park bays angle |
| M66 | Park meter bays |
| M20 | Pedestrian crossing |
| M21 | Pedestrian crossing diamond |
| M80 | RRPM Blue Arcylic |
| M05 | RPM non-reflective |
| M11 | RRPM red (edge line) mono-directional |
| M08 | RRPM white bi-directional |
| M07 | RRPM white mono-directional |
| M09 | RRPM white/yellow bi-directional |
| M10 | RRPM yellow bi-directional |
| M06 | RRPM yellow mono-directional |
| M24 | Railway crossing |
| M19 | Right turn bay |
| M56 | SCHOOL |
| M53 | SCHOOL PATROL |
| M28 | SLOW |
| M57 | SPEED HUMP |
| M30 | STOP |
| M50 | STOP AHEAD |
| M23 | Signalised intersection crosswalk |
| M22 | Signalised mid-block crosswalk |
| M3850 | Speed circle 50km/h |
| M3870 | Speed circle 70km/h |
| M38 | Speed circles |
| M44 | TURN LEFT |
| M45 | TURN RIGHT |
| M63 | Taxi stand |
| M12 | lane 100mm 3 x 7 |
| M41 | right turn arrow |
| M40 | straight arrow |
| M78 | Give Way Limit Lines |
| M79 | Stop Limit Lines |
| Marking Materials | PT | Paint |
| PM | Raised Pavement Marker |
| RP | Reflectorised Paint |
| TP | Thermoplastic |
| CP | Cold Applied Plastic Line Marking |
| TC | Thermoplastic – Cold |
| TH | Thermoplastic – Hot |
| RA | Red Asphalt |
| EP | Epoxy Resin (for coloured surfacing) |
| RD | Red Designer Pavement |
| RS | Red Street Bond |
| Marking Colour | BK | Black out Paint |
| BU | Blue |
| GR | Green |
| RE | Red |
| UN | Unknown |
| WH | White |
| YE | Yellow |

### POINT ASSETS

Point assets include:

* Drainage
* Signs
* Features
* Vehicle Crossings
* Street Lights

### Drainage

Data is to be captured for sumps and culverts,

| Drainage  |  |
| --- | --- |
| Attribute | Description |
| Start and end displacement | To be measured within each carriageway section. These are to be measured from the midpoint of the quadrant formed as the channel turns from one road to the next. |
| Drainage Type  | CP1 | Catchpit type 1 |
| CP2 | Catchpit type 2 |
| CP3 | Catchpit type 3 |
| CP1B | Catchpit type Butler |
| CUL | Culvert |
| DAM | Dam |
| GRID | Debris catching grid |
| DWELL | Deep well shaft |
| DCHM | Drop Chamber |
| FLUME | Flume down batter |
| MHOLE | Manhole |
| OTHER | Other |
| OFCUL | Outfall Culvert |
| SCOUR | Scour Protection |
| SDCUL | Side Culvert |
| SIDE | Side drain |
| SP | Soak pit |
| SPILL | Spillway |
| SUB | Subsoil drain |
| SUMP | Sump |
| SWC | Surface Water Channe |
| CP4 | Twin Butler Catchpit |
| WR | Water Race |
| WEIR | Weir |
| Displacement | The distance in metres from the road origin to the point where the drainage is located. If a sump is at the mid-point of the quadrant from one road to another, it is normally recorded in the major road. |
| Offset | The distance between the road centrelines and the sump grate in metres. This will usually be half the carriageway width if the width is uniform. |
| Side | The side of the carriageway where the drainage is located. |
| GPS Coordinates | Northing and Easting coordinates to be recorded using a hand held device. |

### Signs Table

Signs shall be recorded using MOTSAM codes

The photograph reference where applicable. The photographs can be attached as a media file while using RAMM or Pocket RAMM.

| Signs  |
| --- |
| Attribute | Description |
| Sign type |  | Information Signs |
|  | Information Miscellaneous Signs |
|  | Permanent Warning Signs Regulatory |
|  | General Signs Regulatory |
|  | Heavy Vehicle Signs  |
|  | Regulatory Parking Signs |
|  | Hazard signs |
|  | Warning |
|  | Guide Signs |
|  | Motorist  |
|  | Services Signs |
|  | Tourist Signs |
|  | Street Name Plates |
| Sign Grouping | If a sign post holds more than one sign then the highest sign should be detailed first and post details should only be detailed for the highest sign (i.e. post details should not be duplicated). Other signs will be recorded as parasites. |
| Displacement | The displacement in metres from the road origin to the sign location is to be recorded. For finger boards and street name plates where it is difficult to determine the road in which the sign is to be recorded, the sign shall be recorded in the more major road. |
| Position | All signs should have NZMG coordinates for Northing and Easting.to +/- 1m accuracy. Typically using Pocket RAMM with a suitable hand held GPS unit the offsets can be generated out of RAMM Map and there is no need to measure them separately. Displacement for a sign is also automatically generated while using RAMM Map for recording the assets. |
| Side | The side of the road on which the sign is placed Left, Right, or Centre |
| Property Name  | If applicable the street number of the property adjacent to the sign should be recorded. |
| Offset from Centreline | The distance from the road centreline to the post closest to the centreline. If the feature is within the carriageway i.e. between the kerb and channels, an offset from the centre line is required. For features outside the carriageway the offset from the centre line will be calculated using existing RAMM carriageway width data. |
| Offset from Kerb line | Offset from the kerb line to Post is the distance from the kerb line to the post closest to the kerb line. Where no kerb is present, the offset shall be measured from the edge of seal. |
| Offset from Kerb line to Edge of Sign | The distance from the kerb line to the edge of sign closest to the kerb line, where no kerb is present the offset is from the edge of seal. |
| Legend | Any variable on the road sign is to be entered in this field (e.g. kilometres, metres, road or place names, kilometres per hour etc). |
| Reverse Side | An entry is required for all double-sided signs (e.g. when an RG1-50 has an RG1-70 on the reverse side of it, the RG1-70 is entered in this field). This includes all signs that are duplicated on the reverse side. The reverse side is the side not visible when travelling in the direction of traffic lane. |
| Sign Width | The height of the sign in millimetres e.g. 750mm |
| Sign Height | The height of the sign in millimetres e.g. 750mm |
| Direction | Direction indicated by the sign. |
| Ground Height | The height from the ground to the bottom of the sign in metres to one decimal place e.g. 2.3 |
| Legend Material | NR | Non-Reflective |
| EG | Engineering Grade (no pattern) |
| HI | High Intensity (honey comb type pattern) |
| DG | Diamond Grade (diamond shape pattern) |
| Legend Colour Background Colour | * The material of the background on the sign is from Legend Material for a list of entries.
* The colour of the background on the sign must be different to the legend colour. Refer to the legend colour above for a list of entries.
 |
| BK | Black |
| BR | Brown |
| BU | Blue |
| GR | Green |
| GY | Grey |
| LI | Lime Green |
| RE | Red |
| UP | Unpainted |
| WH | White |
| YE | Yellow |
| OR | Orange |
| GO | Gold |
|  |  |
| Substrate | The material from which the sign is made |
| AL | Aluminum |
| TI | Timber (to include combination materials) |
| PL | Plastic |
| ST | Steel |
| Support Type | Support shall only be detailed once, for example if there is more than one sign on a support, the highest sign should be taken to have the support and be detailed first. Also put the word stack in the shaded Group column.The type of support that the sign is fixed to is coded as follows: |
| BO | Bollard | FE | Fence |
| BR | Bridge end | GR | Guard rail |
| BU | Building | GT | Gantry |
| CS | Cycle Stand | OB | Overbridge |
| NA | Not Applicable (i.e. Purpose built sign post /or gantry) | PL | Planter |
| TR | Tree | PM  | Parking meter |
| TS | Traffic Signal pole | RA  | Railing |
| UT | Utility pole | SR | Sight rail |
| WA | Wall | ST | Standalone |
| SL | Street Light Pole |  |  |
| Post Type | GT | Gantry |
| SA | Standalone |
| SU | Supported (i.e. post strapped to another post) |
| PA | Parasite (i.e. has support type other than  |
| Post Numbers | The number of posts that support the sign |
| Post Material | The post material is coded as follows:  |
| AL | Aluminium |
| FG | Fibreglass |
| PL | Plastic |
| ST | Steel |
| TI | Timber |

### Street Furniture (Minor Structure)

In the Council’s RAMM system the information related to street furniture is either stored under ***Minor Structure*** or ***Features***. In Minor Structure Table the asset is treated as a linear asset and Features table represents a point asset.

The basic information is the same as the Signs assets i.e. displacement, offset, side, height, quantity and GPS coordinates, construction date and the street address.

| Street Furniture  |  |
| --- | --- |
| Attribute | Description |
| Street furniture type | BO | Bollard |
| BS | Bus shelter |
| FE | Fence |
|  |  |
|  |  |
| PL | Planter |
| MM | Monuments and memorials, including plaques and statues. |
| SE | Seats |
|  |  |
| WS | Wheel stops |
| Material | AL | Aluminium |
| CA | Cast Iron (decorative) |
| CO | Concrete  |
| CS | Concrete and Steel |
| CG | Concrete and Galvanised Steel |
| GS | Galvanised Steel |
| PS | Power Coated Steel |
| FI  | Fibreglass |
| RU | High Density Rubber |
| Length | Calculated as the difference between the start and end displacements if the furniture runs parallel to the road. |

### Retaining Wall

This table can be used for entering dimension and material of retaining walls. A great deal of information for each retaining wall can be entered but as a minimum the following attributes must be entered:

| **Retaining Wall** |  |
| --- | --- |
| Attribute | Description |
| Start and end displacement | To be measured within each carriageway section. These are to be measured from the midpoint of the quadrant formed as the channel turns from one road to the next. |
| GPS Coordinates |  |
| Type | ANCH | Anchored |
| CANT | Cantilever |
| COUNT | Counterfort |
| CRIB2 | Double Crib |
| GABN | Gabion |
| GRAV | Gravity |
| MCRIB | Minicrib |
| EARTH | Reinforced Earth |
| ROCK | Rock |
| PILED | Sheet Pile |
| CRIB1 | Single Crib |
| POST | Timber Post and Railing |
| CRIB3 | Triple Crib |
| CONGA | Concrete Gabion |
| Quantity |  |
| Dimension |  |
| Side of Road  |  |
| Material |  |
| Above/Below Road |  |

### Street & Amenity Lighting

| Street Lighting |  |  |  |
| --- | --- | --- | --- |
| Attribute | Field Type | Size | Description |
| ICP IDENTIFIER | TEXT | 100 | Installation and Control Point ID |
| Supply Type | Point of Supply  |
|  | UG | Underground |
|  | OH | Overground |
| Type of Lighting  |  | B | Illuminated Bollard |
|  | G | Ground light |
|  | O | Overhead |
|  | I | Illuminated sign |
| Light Control | How is light controlled |
|  | P | Photocell |
|  | R | Relay |
|  | T | Time switch |
|  | c | CMS |
| Lamp Type  |  | HPS | HPS High Pressure Sodium |
|  | LED | LED |
| Lamp Wattage | Number |  | Eg. 70W, 23W |
| Light Manufacturer | Dropdown | BE | Betacom |
| GO | Gough |
| THOR | Thorn |
| WE | We-ef |
| WH | Windsor Heritage |
| SYLV | Sylvania |
| Light Model | Text |  | Light Model number e.g. GL520 |
| Number of Luminaires | Number |  | Number of luminaires |
| Type of Lighting | Dropdown |  | Amenity / street lighting |
| Luminaire Label present | Y/N |  | Is a luminaire label present? |
| Gear/Ballast Model | Number |  |  |
| Gear/Ballast Make | Number |  |  |
| Gear/Ballast Wattage | Number |  |  |
| Gear/Ballast Description | Dropdown | F6 | Fused 6A |
| F10 | Fused 10A |
| F16 | Fused 16A |
| F25 | Fused 25A |
| F32 | Fused 32A |
| Bracket Type | Dropdown | CA | Cross arm/angle |
| CH | Cross arm/horizontal |
| FA1 | Face/angle |
| FV | Face/vertical |
| SA | Side/angle |
| SCD | Side/curved/decorative |
| SH | Side/horizontal |
| SV | Side/vertical |
| TA | Top/angle |
| TC | Top/curved |
| THD | Top/horizontal/decorative |
| TV | Top/vertical |
| TVD | Top/vertical/decorative |
| Bracket Angle | Number |  |  |
| Bracket Height | Number (m) |  |  |
| Bracket Length from Pole | Number (m) |  |  |
| Outreach | Number  |  |  |
| Pole Number | Text  |  | Identifying number on Pole |
| Pole Owner | Dropdown |  | Council / landowner / Lines company |
| Pole Mount | Dropdown | G | Ground plant |
| S | Shear Base |
| BR | Bridge |
| F | Flange mounted |
| B | Building |
| Pole Material | Dropdown | WOOD | Wood |
| STEE | Steel |
| CON | Concrete |
| FIBR | Fibreglass |
| SPC | Spun Concrete |
| Pole Shape | Dropdown | CIRC | Circular |
| HEX | Hexagonal |
| RECT | Rectangular |
| OCT | Octagonal |
| Pole Model/ Make | Dropdown | SP | Spunlite |
| OC | Oclyte |
|  | Reticulation Column |
| CSP | CSP Pacific |
| DE | Delta |
| Pole Height | Number(metres) |  |  |
| Earthing Type |  | R | Driven Earth Rod |
|  | M | Bonded to Earth Mat |
|  | C | Connected to Earth Conductor |
| **Pole** |  |  |  |

### DATA COLLECTION FORMS

The data must be provided on the RAMM update sheets - Roading Asset Register forms, found on the QLDC website.

<http://www.qldc.govt.nz/planning/resource-consents/land-developments-and-subdivisions/>