CJN TECHNOLOGIES LIMITED

What's New in RAMM 2004

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CHAPTER 1

Introduction

This chapter gives you a brief description of this guide, with quick links to the relevant sections, as well as an overview of our publications.

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About This Guide

Welcome to *What's New in RAMM 2004*.

This document is a brief introduction to the changes we've made to the RAMM (**R**oad **A**ssessment and **M**aintenance **M**anagement) software for 2004.

Whether you're new to RAMM or familiar with it, you'll find much that is of interest. Every year we do our best to improve and enhance your experience with RAMM, and the features documented here are the result of our continuing efforts to improve our product.

Please don't hesitate to contact us (see "Contacting Us" on page 10) for any comments or queries you may have.

Surfaces

Surfaces (on page 11) have been reviewed, and the Top Surface and Major Seals have been replaced by a new Surface Structure Table.

Pavement Strength

The Pavement Strength application developed by HTC Asset Management Services to calculate the Strength Number (SNP) for Treatment Lengths is now implemented within RAMM (see "Pavement Strength" on page 19).

RAMM Traffic Signals

This stand-alone application (see "RAMM Traffic Signals" on page 23) allows you to manage Traffic Signal assets in much the same way as you currently manage Street Light assets.

Bylaws

In keeping with the implementation of the Land Transport Rule *Setting of Speed Limits 2003,* under the Local Government Act of 2002, RAMM now has the ability to record and manage features governed by bylaws (see "Bylaws" on page 27), such as speed zones.

Street Light Inventory Management

SLIM (see "Street Light Inventory Management" on page 29) has a number of enhancements to its interface, as well as to the Contract Maintenance, Claims and Reporting functions. We are also publishing a separate SLIM user guide.

Maintenance Contractor Enhancements

The Maintenance Contractor functionality (see "Maintenance Contractor Enhancements" on page 31) used by SLIM, Signs and Traffic Signals has been improved.

RAMM Asset Valuation

A number of improvements have been made to Asset Valuation (see "RAMM Asset Valuation" on page 33) for greater accuracy. The most important is the introduction of Formal Valuation Components for Treatment Lengths.

Bridges

Bridge information (see "Bridges" on page 35) has now been enhanced to clarify asset definitions and incorporate new types, measurements, components and restrictions.

RAMM Assessment

Risk determination for assets (see "Determining Weighting, Condition and Risk" on page 41) has been enhanced in RAMM Assessment, and you're now able to preview your Master Worksheet Template before using it (see "Master Worksheet Template Preview" on page 42).

Mapping

The RAMM Mapping module (see "Mapping" on page 43) has been completely redesigned for greater ease and efficiency of use. Two new layers, for *Address* and *Parcel*, will also be included with RAMM 2004.

User Interface Enhancements

Offsets (on page 45) have been standardised, you can customise the RAMM toolbars (see "Customising the Toolbar" on page 46), and the RAMM3D functionality has also been enhanced (see "RAMM 3D" on page 46).

Miscellaneous Enhancements

We've also put in a number of enhancements to make working with RAMM easier and more consistent in these areas:

- Minor Structures (on page 49)
- Eastings and Northings for Assets with Length (on page 50).
- Transfund Reports (on page 50)
- Decision Cube Filter (on page 51)
- Auditing (on page 52)

- Displacement Graph (on page 52)
- dTIMS and dTIMS CT Unload (on page 52)
- Grip Test (on page 53)
- Multimedia (on page 54)

RAMM Guides

We publish a number of guides. Here's a brief overview of them and what they cover.

With every major release of RAMM, we publish a brief description of what's new in the release:

- *What's New In RAMM*.

Main functions and basic tasks in RAMM are described in:

- *Using RAMM*.

Advanced functions in RAMM are in a separate guide:

- *Working With RAMM*, including:
  - RAMM Network Manager.
  - Transaction Logging.
  - RAMM SQL.
  - Bridges.
  - Maintenance Activity.
  - Pavement Structure.
  - Surfaces.
  - Minor Structures.
  - Skid Resistance.
  - Strength Number Calculation.
  - RAMM Security.

We have some other specific RAMM guides:

- *Managing RAMM*.

- *SLIM (Street Light Inventory Management)*.
- *RAMM Asset Valuation*.
- *RAMM Assessment*.
- *NOMAD Forward Work Planning*.
- *RAMM Traffic Signals*.

We have two reference guides for advanced database details:

- *Working With Treatment Lengths*.
- *RAMM Database Reference*.

Your Feedback Please

If you have any feedback about this document or about the software itself, please contact us (see "Contacting Us" on page 10). We welcome your observations and suggestions, as they help us to improve what we offer you.

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CHAPTER 2

Surfaces

A comprehensive review of Surfaces in RAMM in 2003 has resulted in the Surface information being simplified, presented better, and made more accurate. You also have greater flexibility with regard to maintaining Surfaces.

- You can view Top, Major and Detailed Surfaces independently, in RAMM as well as in RAMM 3D, and by *seal join to seal join*, or *split by carriageway*.
- New controls have been included to make working with Surfaces (especially cleaning up Top Surfaces) easier.
- *Total Surface Depth* and the *number of seal layers* can now be calculated.
- You can now capture *Reasons* for resealing and analyse *Years to Reseal*.

For more information, see the Surfaces chapter in the *Working With RAMM* guide.

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First and Second Coat Seals

The way Surface materials are described has changed, and some clarification is necessary - particularly if you wish to find 1st Coat seals or 2nd Coat seals.

Earlier, you could only enter 1st or 2nd Coat surfaces if the material was *Single Coat, Two Coat* or *Racked-In* seal. For databases relying on surface data to indicate

pavement reconstruction, it's important to identify all 1st and 2nd Coat surfaces regardless of the material.

To solve this problem both Surface Material and Function (1st Coat, 2nd coat or Reseal) are recorded for each surface.

RAMM 2003 Surface Material	RAMM 2004 Surface Material	RAMM 2004 Surface Function
COAT1	1CHIP	1ST COAT
COAT2	1CHIP	2ND COAT
RSEAL	1CHIP	RESEAL
TWO1	2CHIP	1ST COAT
TWO2	2CHIP	2ND COAT
TWORS	2CHIP	RESEAL
RACK1	RACK	1ST COAT
RACK2	RACK	2ND COAT
RACKRS	RACK	RESEAL

Each Surface, therefore, has a flag to state whether it is a *1st Coat seal, 2nd Coat seal* or *Reseal*.

NOTE: If you use *SQL scripts* or *ACE reports* that contain the old codes, you will need to update them to select the correct Surface Function. For example, if your script uses COAT1, TWO1 or RACK1 to find 1st Coat seals, you will need to update them to select surfaces with Function set to 1ST COAT. You'll need to make the same change to find 2nd Coats and Reseals.

Working With Surfaces

One thing you'll want to do with Surface Structure is clean up your Top Surfaces. These three enhancements make it easy.

- *Validation warnings* are generated when a new surface narrowly mis-matches the seal joins or width of an existing surface, and would cause non existent narrow strips or short lengths of *old surface* to appear in Top Surfaces.
- *Full width tickbox*. If matching up Surfaces to seal width is not necessary, you can instruct RAMM to treat Surfaces as full width.
- You can now set a *minimum width, length* and *maximum gap* for Top Surfaces. Top Surfaces below these thresholds will be ignored, and nearby surfaces stretched lengthways to cover small gaps. Larger gaps will remain, and will be reported.

Achieved Surface Life Cube

A Decision Cube to provide analysis of *Years To Reseal* by *Surface Material, Chip Size, Pavement Use* and *Area* is available in RAMM Manager.

It can be accessed from the RAMM Manager main window menu by selecting **Reports > Achieved Surface Life**.

Surface Views

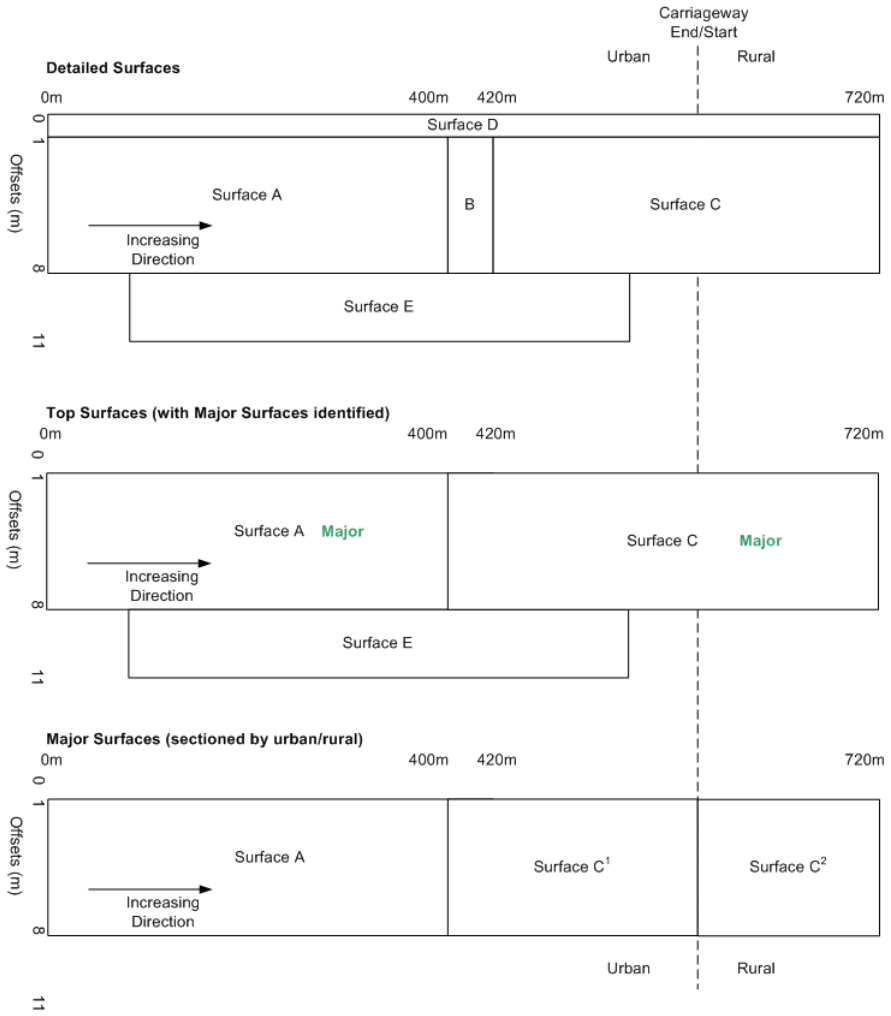
Surface views in RAMM are now less *cluttered*, and you can configure the view to show exactly what you need.

Three main views are now available in RAMM Surface Structure:

- Detailed Surfaces.
- Top Surfaces.
- Major Surfaces.

In addition, you can view Surfaces *seal join to seal join* or *split by carriageway*, both in RAMM and in RAMM 3D.

The diagram below shows all three views applied to the same section of road.

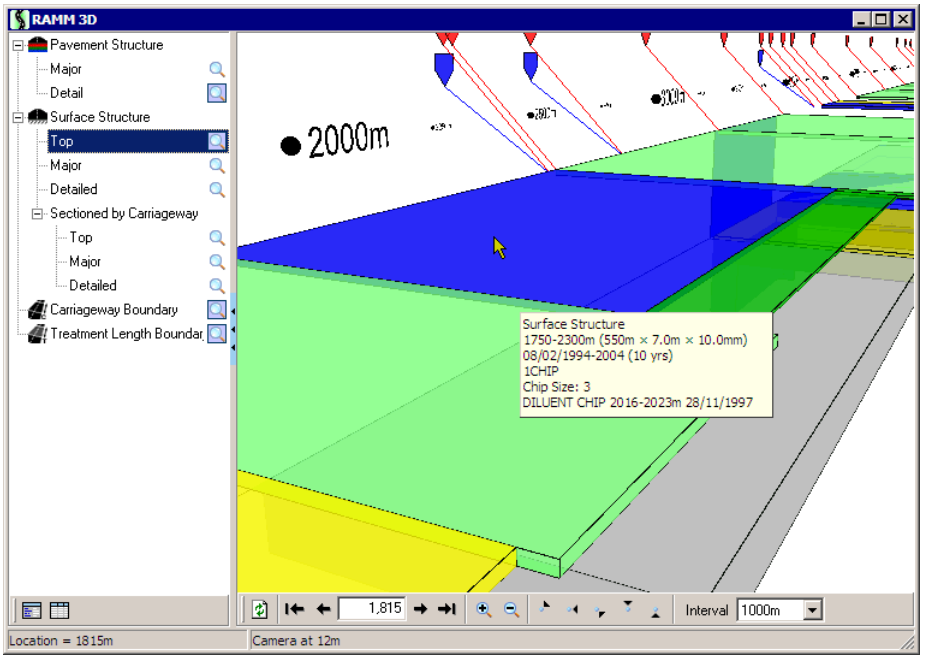


We anticipate that you'll use the Top Surface and Major Surface views most often.

Surface Views in RAMM 3D

For a different perspective on Surfaces, you can also access the updated Surface views incorporated into RAMM 3D (on page 46).

This is a RAMM 3D view of **Top Surfaces** for a State Highway road section. You'll note that you can also view Major Surfaces, Detailed Surfaces, or switch off Surfaces completely with the Surface Structure controls on the left panel.



Surface Depth

Surface Depth and the number of *Seal Layers* are also now calculated in RAMM 2004.

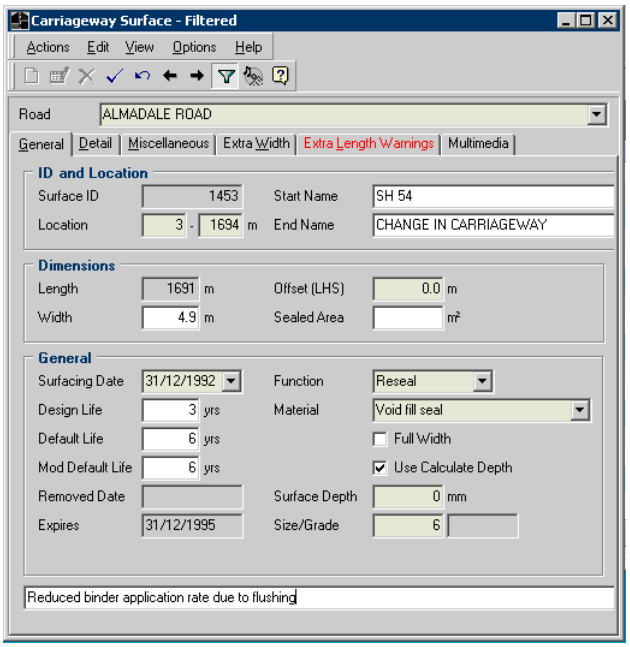
Surface Life

You now have increased flexibility with regard to monitoring *Surface Life* and changes to it over the lifetime of the surface.

You can enter a *Design Life*, as you could in RAMM 2003. In a separate column, RAMM assigns a *Default Life* from the lookup tables (RAMM used to do this only if life was left null). In addition, a *Modified Default Surface Life* is assigned by RAMM, and this is the only Life that's adjusted by RAMM.

Modified Default Surface Life is updated by RAMM from:

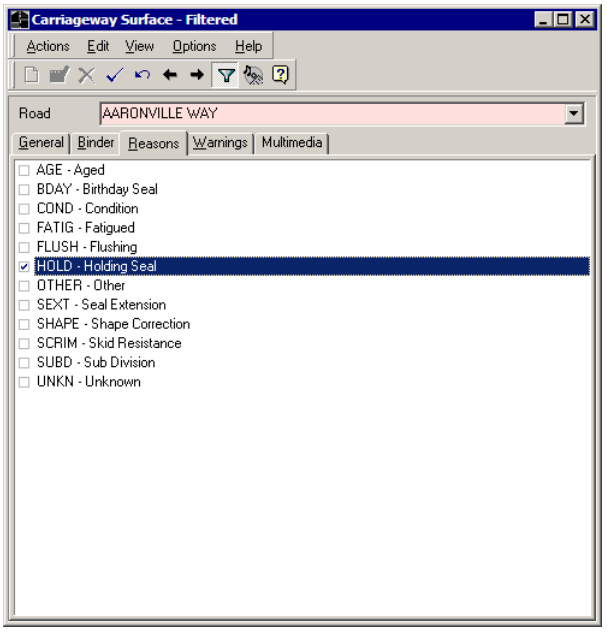
- The related Surface Life lookup table.
- Carriageway pavement use.
- Surface chip size.
- Material.
- Carriageway area - if the option to maintain Surface Life by Carriageway Area (cway_area) is activated.



You can view and maintain Surface Life in the Carriageway Surface Detail window. All 3 Life values are included in exported Surface data, for analysis in other tools.

Surface Reason

RAMM now allows you to select *Surface Reasons* that can be selected when entering a new surface.

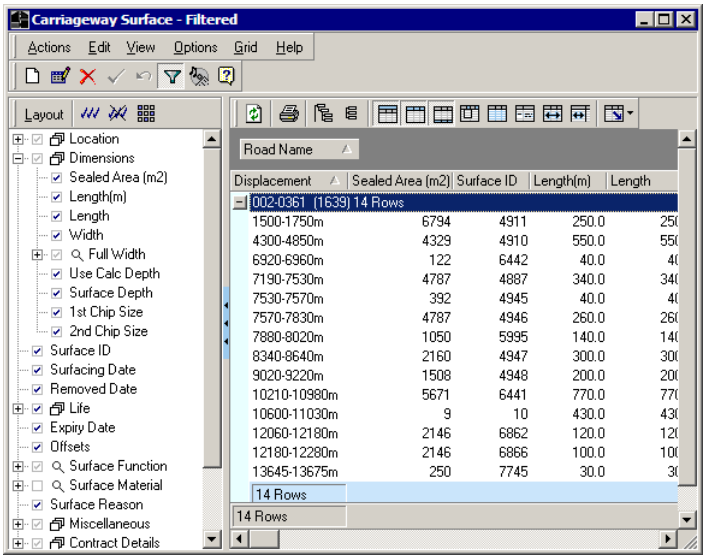


The Surface Reasons can be set up and maintained in RAMM Manager.

Surface Area Determination

You can now view the Sealed Area column in the Carriageway Surface Grid for Top, Major and Detailed Surfaces.

The inclusion of Sealed Area for Top Surfaces provides a simpler mechanism for incorporating extra seal on parking bays, intersections etc and reduced sealing around traffic islands in sealed area calculations.



CHAPTER 3

Pavement Strength

The Pavement Strength application developed by HTC Asset Management Services to calculate the Strength Number (SNP) for Treatment Lengths has now been implemented within RAMM in keeping with a recommendation of the RIMS Group.

For a detailed look at Pavement Strength, see our chapter in the *Working With RAMM* guide.

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Calculating Pavement Strength

The following methods for calculating SNP have been implemented:

- FWD with Thickness.
- FWD without Thickness.
- Typical Pavement Method.
- Direct Data Entry.

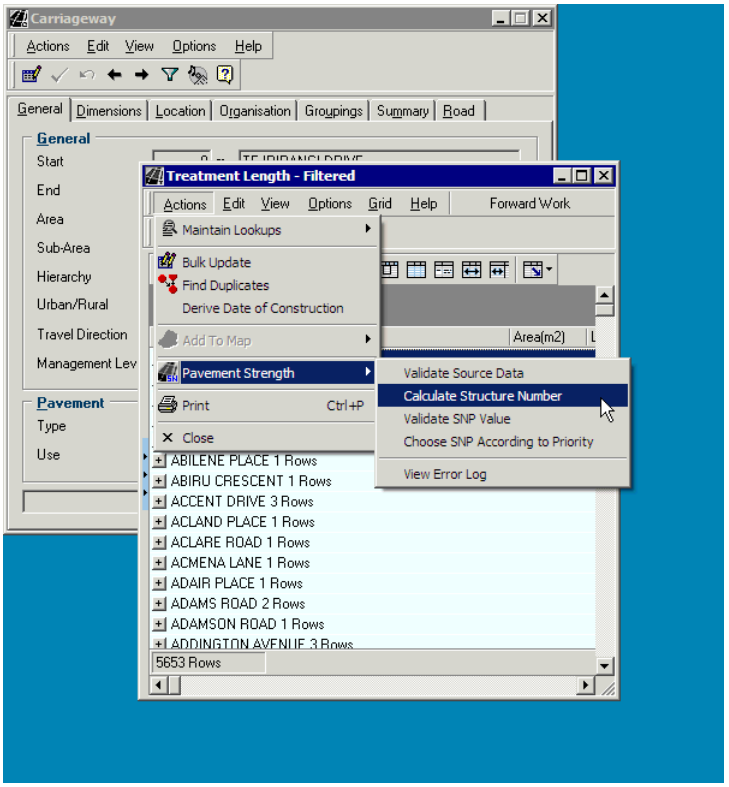
Definitions for most of the parameters for Pavement Strength is done using RAMM Manager.

You may need to analyse only a portion of your network, in which case you would use the RAMM Treatment Length Grid or Detail screen to assign Treatment Lengths to the relevant Sub-Network. You can then define what calculation methods are available to that Sub-Network.

Calculating Structural Numbers

Once you've configured your parameters and Pavement method options, you use the Treatment Length grid in RAMM to calculate SNP directly from RAMM data.

Select the Treatment Lengths that you require for the analysis (all Treatment Lengths except those that are disabled, or the Sub-networks you've defined earlier) and then run the calculation process.



Any errors generated from the process can be viewed immediately afterwards in the form of a report.

If possible, RAMM will calculate a value for SNP using each of the methods. The best of these results, based on the priority assigned to the method, is subsequently recorded against the Treatment Length.

CHAPTER 4

RAMM Traffic Signals

This chapter describes RAMM Traffic Signals.

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Maintenance and Functionality

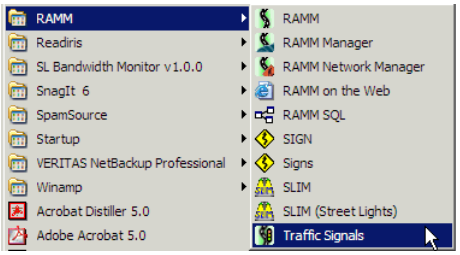
RAMM Traffic Signals is RAMM 2004's new application for the management of controlled intersections.

Like SLIM, RAMM Traffic Signals helps you maintain and manage your Traffic Signal assets. You can raise *dispatches* linked to problems on the network, undertake *maintenance*, and *claim* for repairs that have been completed.

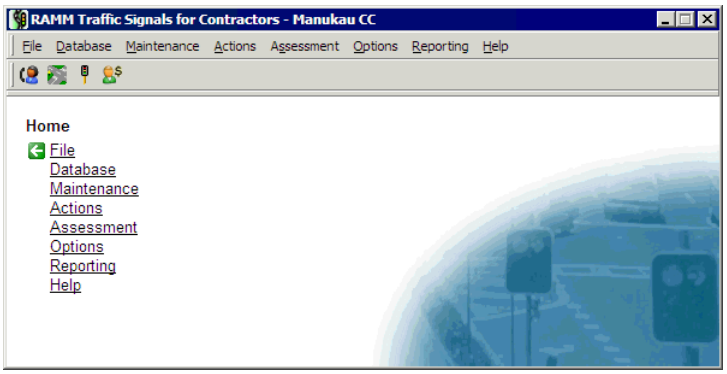
In designing this functionality we've followed Traffic Signal conventions for naming Primary, Secondary and Tertiary lanterns. One major difference from SLIM is that each Traffic Signal is located by *Intersection* rather than by Pole. You can use our Mapping (on page 43) module to view Traffic Signals, and RAMM 2004 includes the capacity to generate Intersections from your RAMM Map.

Launching RAMM Traffic Signals

When you upgrade to RAMM 2004, you'll see Traffic Signals as a new application in the RAMM program group.



The Traffic Signals interface is similar to that of RAMM Manager.



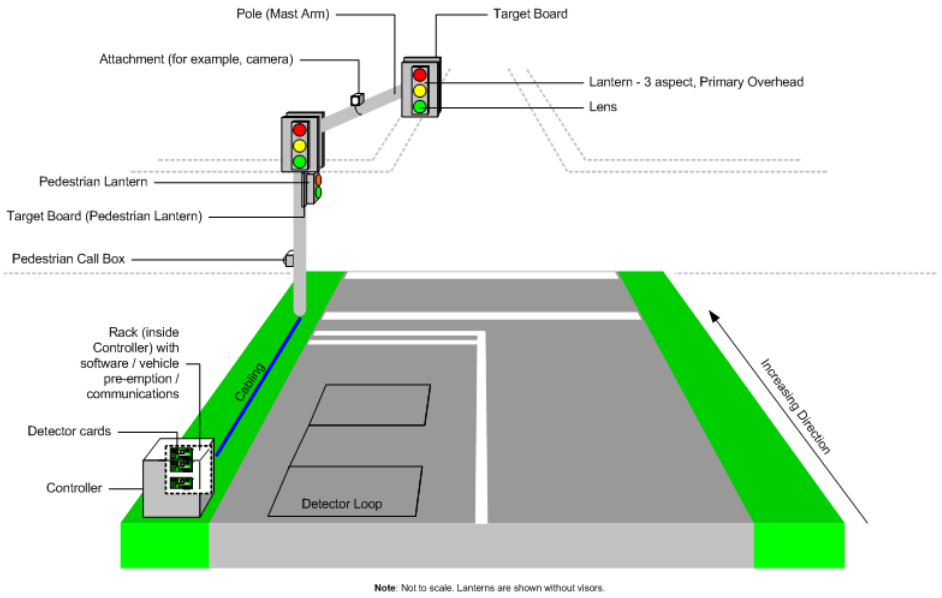
The main window shows the menu items available to you - you can select the functions you require from here as well as from the menu bar.

The main functions are accessed from the toolbar just above the main screen.

- Dispatch Entry Window
- Intersections Window
- Traffic Signals Window
- Contract Claims Window

Traffic Signal Asset Diagram

The diagram below illustrates the main components of Traffic Signals and their location.



For more information, see the *RAMM Traffic Signals* guide.

CHAPTER 5

Bylaws

RAMM is now capable of recording *Bylaws*- for example, *Speed Zones, No Stopping Zones, Parking Restrictions* and *One Way Streets*.

This functionality was initially developed to record and manage speed limits for all roads as a result of the Land Transport Rule *Setting of Speed Limits 2003* coming into force in 2004.

Launch Bylaws from the **Miscellaneous** toolbar of the RAMM main window as indicated below.

Bylaw Maintenance

Bylaws and related Registers are maintained in RAMM Manager with the help of a standard Maintenance screen accessed from **RAMM Manager > Lookups > Bylaws**.

We have a number of *navigators* to assist you. Click **RAMM Manager > Projects > Bylaws** to access them.

One navigator will generate a *Speed Limit Register*. Another will validate *Sign Compliance* for the different zones- for example, whether you have sufficient repeater signs, and where they are placed.

Extensive report generation options are available in Bylaws, and you have a number of options to print the results of the various reports. For example, you can run a report to validate *Overlapping Restrictions*.

For more information, see the Bylaws chapter in the *Working With RAMM* guide.

CHAPTER 6

Street Light Inventory Management

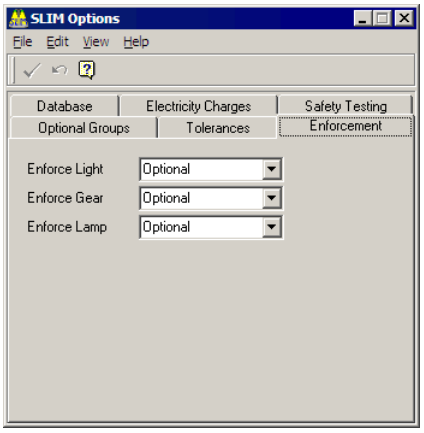
SLIM is to have its own help documentation this year- see the *Street Light Inventory Management* guide. It's available in print, web and integrated help formats and has everything you need to get up and running with SLIM, including support material on related RAMM Modules such as Mapping, Filters, Decision Cubes and Staff Security.

We understand that SLIM users come from a wide variety of backgrounds, so we've geared everything to be needs-based, simple and comprehensive. Every section is illustrated with screen captures and examples.

Within SLIM, you now have control options related to Light, Gear and Lamp replacements. You can now specify that the replacement of a Light, Gear or Lamp *must* be entered, and that these columns can no longer be left blank. Working together with this is a further enhancement to restrict the Light / Make / Model types to previously specified combinations.

Data Entry Enforcement

In SLIM, you can now define whether to enforce entry of certain assets, making it *Optional, Mandatory* or *Not Required*.



This affects the following components:

- Light- *Optional (default)* or *Mandatory*.

- Gear- *Optional (default), Mandatory*, or *Not Required*.
- Lamp- *Optional (default)* or *Mandatory*.

Ensuring Valid Light & Lamp Combinations

You can now define and set specific Lamp and Light combinations. When entering Lights and/or Lamps, SLIM will ensure that the combinations are enforced.

Determining Pole Numbers

SLIM can now search for and generate a report of available Pole Numbers.

NOTE: Some Pole numbers are recorded with a prefix, and you should bear this in mind if the number generated isn't in the sequence you expected.

ICP Numbers

ICP Numbers are used for billing purposes and are assigned by the Lines Company to metered supplies. ICP Number Groups and Numbers can now be assigned to Street Lights.

CHAPTER 7

Maintenance Contractor Enhancements

The Maintenance Contractor system used by SLIM, Signs and RAMM Traffic Signals has been improved.

Indicating Financial Year On the Claim Header

It's now possible to indicate the financial year on the Claim Header.

Maintenance Cost Groups

Maintenance Cost Groups can now be entered against Schedule Items.

Asset Owner Name

The Asset Owner Name will automatically come through from the asset.

CHAPTER 8

RAMM Asset Valuation

RAMM Asset Valuation has a number of improvements this year.

In addition to the brief descriptions below, we have updated the *RAMM Asset Valuation* guide for 2004.

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Formalised Treatment Length Components

RAMM Asset Valuation this year includes an important change in the way valuation components are defined from Treatment Lengths, to avoid the problems inherent in artificially populating data into the Treatment Length table for the sake of asset valuation.

Pavement Structure and *Surface Structure* have been formalised as valuation components of the Treatment Length.

Other Asset Valuation Enhancements

A number of other enhancements to Asset Valuation will make the process easier, more logical, and more secure.

- *Validation*: *Standard Condition Rules* and *Default Replacement Cost Rules* now incorporate extra validation procedures for greater security.
- *NAMS Standard Definitions*: Standard Condition Codes have now been replaced by NAMS Standard Definitions:
    - 1- Excellent.

  - 2- Good.
  - 3- Average.
  - 4- Poor.
  - 5- Very Poor.
  - U- Unknown.
- *Checklists and reminders*: RAMM Asset Valuation now incorporates checklists and methods of reminding you of processes and tasks that need to be done.
- *Reports*: You now have access to more reports, including Configuration, RUL vs DRC, and all reports can show the Asset Owner if required.

See our updated *RAMM Asset Valuation* guide for more details.

CHAPTER 9

Bridges

This chapter describes the enhancements to Bridges this year.

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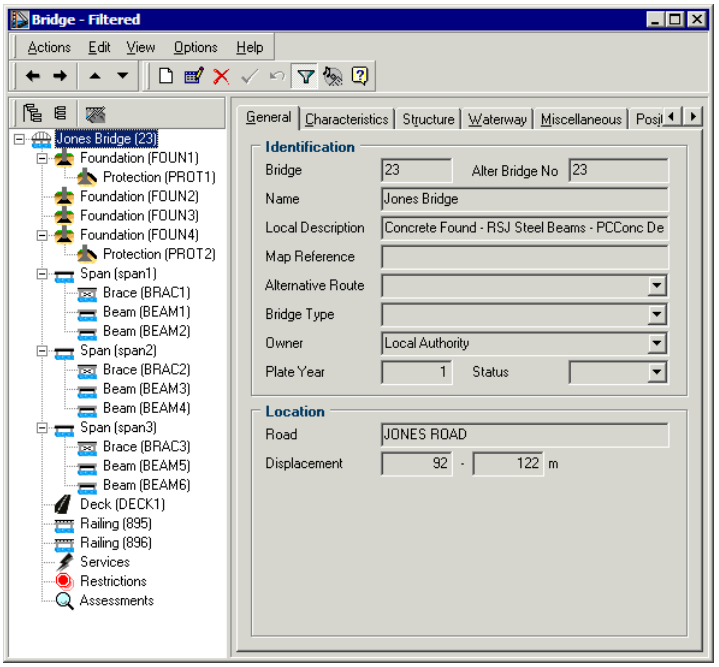
Bridge Detail Window

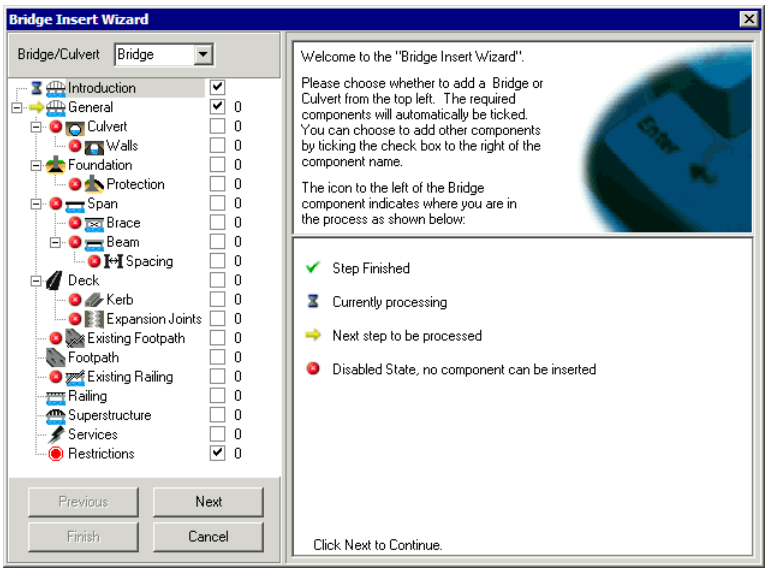
The clarification of Bridge information has been a significant development in RAMM 2004.

When you launch the Bridge grid from the RAMM Toolbar and then the Detail View you'll immediately notice that the bridge asset tree in the selection panel is more detailed.



Bridge Insert Wizard

The Bridge Insert Wizard has also been enhanced to give you more options, more information while setting up your bridge or your culvert, and more safeguards to ensure that the correct information is entered in the correct order.



Other Bridge Enhancements

We've concurrently made a number of improvements to Bridges in general.

- *Rationalising of Identifiers*: the Bridge, Span, Beam, Brace, Beam Spacing, Deck, Foundation, Protection and Superstructure columns have been rationalised to link logically back to their parent columns. This is both internally, within RAMM, and externally, for User Defined Identifiers.
- *Bridge Restrictions*: the inventory for Deck and Beam has been extended to record restriction information for Moment and Shear values for both. A new restriction, Gross Weight as a Percentage of Class 1, has also been added.
- *New Inventory Items*: Expansion Joints and Kerbs are among the new inventory items available for Bridges.

For a full description of the Bridge enhancements in RAMM 2004, see our chapter on Bridges in the updated *Working With RAMM* guide.

CHAPTER 10

RAMM Assessment

RAMM Assessment is now in a separate printed guide supplied with the RAMM 2004 release, and no longer a chapter in the *Working With RAMM* guide. It will also have its own web help and integrated help.

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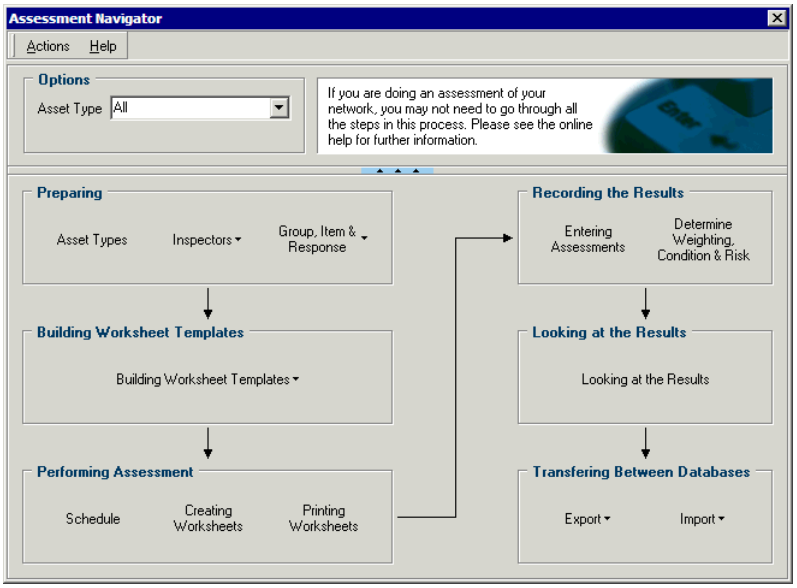
Assessment Navigator

RAMM Assessment's most noticeable improvement this year is a navigator window.

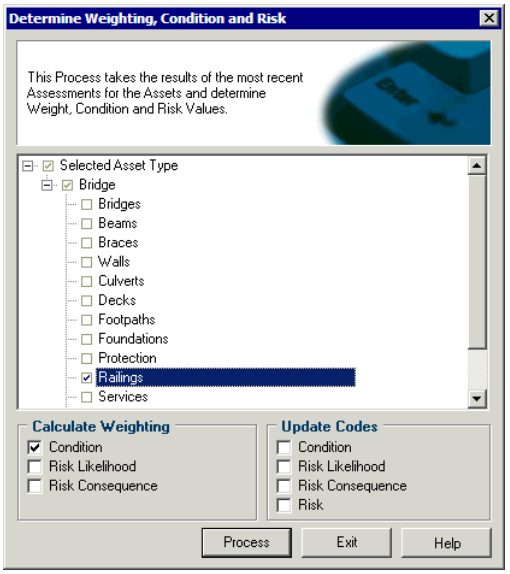
This will make the assessment process much easier by guiding you from step to step in a logical sequence.



Determining Weighting, Condition and Risk

"Priority" has been renamed *Weighting*, to better define the purpose of the column.

We've also simplified the process of calculating weighting (priority), for *condition* and *risk*. What was earlier on separate screens has now been combined into one.



Risk Management

Risk Management in RAMM Assessment has been enhanced to adhere closely to the Standards New Zealand document *Guidelines for Managing Risk HB 143:1999*.

Categories

Assessment Items can now be placed into one of four categories:

- Condition
- Risk Likelihood
- Risk Consequence
- Other

Assessment results for the Condition Items will contribute towards assigning a condition (ranging from Excellent through to Very Poor) to the asset- results from Other items will not be material.

Risk Likelihood and Consequence Matrix

RAMM now records separate codes for Risk Likelihood and Risk Consequence, and analyses combinations of both in a new Risk Matrix to arrive at an overall code for Risk.

A default Risk Matrix will be supplied with RAMM 2004, but you will be able to define your own. You can also have RAMM Assessment assign an overall Risk for the Asset you are assessing from the Risk Matrix.

Master Worksheet Template Preview

When you've built your Master Worksheet Template, you can preview it to see how it will print.

Crib Sheet

A full explanation of the Assessment Items and their Responses has been gathered together into a Crib Sheet. This sheet can be printed once per "Assessment Pack".

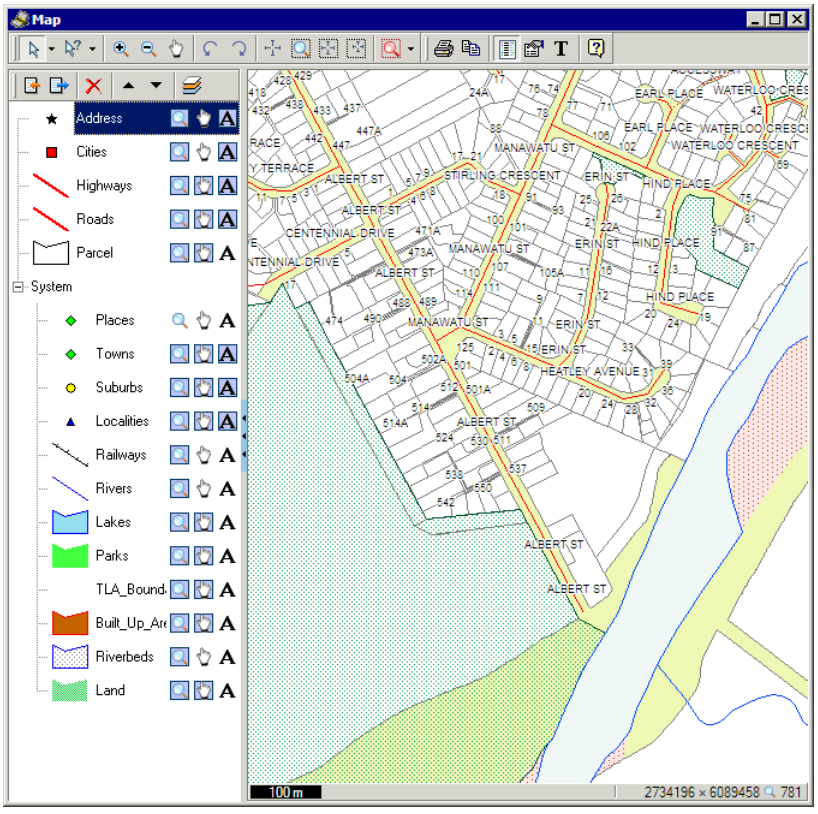
This change means that the Assessment Sheet for each asset does not require as many pages as before. In most cases, you'll see just one sheet per asset.

CHAPTER 11

Mapping

You'll find that the Mapping interface has changed, but the controls themselves haven't.

We've simply streamlined the process to give you easier access to the Mapping controls. Many functions that earlier required a right mouse click are now available on the toolbar.



The Panel sizer on the left gives you quick access to almost everything you need to see on the map. As with RAMM 2003, you can make map layers *visible, selectable* or view their *labels*.

Two new default layers will be included in the RAMM 2004 upgrade - *Address* and *Parcel*.

See our chapter on Mapping in the *Using RAMM* guide for more information. We've also included Mapping in the guides that may be used independently, such as *Street Light Inventory Management* and *RAMM Traffic Signals*.

NOTE: Mapping is a component of RAMM that requires a separate license. If you don't currently use Mapping and would like to check it out, we can arrange a free trial. Contact us (see "Contacting Us" on page 10) for more information.

CHAPTER 12

User Interface Enhancements

Every new version of RAMM includes some enhancements to the user interface to help speed up and ease your work in RAMM- this chapter describes some of them.

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Offsets

Historically the *offset* has been recorded in a number of different ways in RAMM. While this may have been appropriate to the asset type at the time, it has led to inconsistencies.

From RAMM 2004 onwards, we've standardised to recording assets from the *centreline* by default.

An offset measured from the left hand side of the carriageway will be known as *Offset (LHS)*, and an offset measured from the nearest kerb will be known as *Offset (Kerb)*.

The existing RAMM 2003 settings will be retained for existing assets and databases, however, since a centreline offset may not be suitable for some assets. *Features* in RAMM have had centreline offsets - they will continue to do so. For *Street Lights* and *Surfacing*, the offset will continue to be recorded from the left hand side.

The additional offset information has been put on a separate tab called **Position** in the respective asset detail window to reduce clutter.

Customising the Toolbar

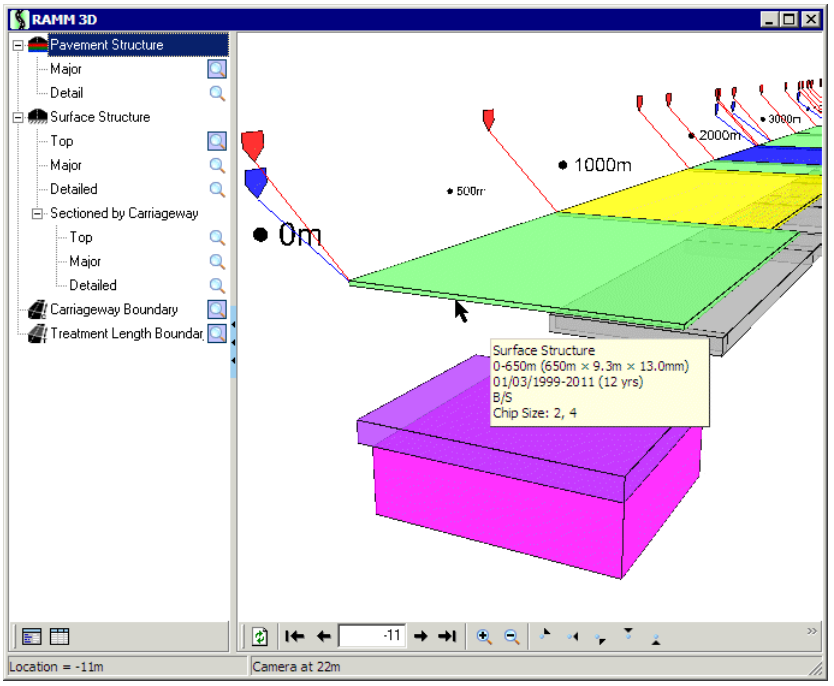
Customising the RAMM main window toolbar is now much easier.

Simply select **Toolbars > Customise Toolbars** in the main RAMM window, and select or deselect the items you wish to see.

If you're not happy with your selections you can return all the toolbars to their default states by selecting **Revert to Default** on the same menu.

RAMM 3D

RAMM 3D, our popular three-dimensional graphic display for Pavement Structure, has now been extended to display Surface Structure (see "Surfaces" on page 11) as well.



The display also includes markers for Carriageway boundaries (red shield markers above) and Treatment Length boundaries (blue shield markers).

The labels are no longer displayed on the pavement and surface sections to reduce clutter and increase readability. Detailed information on any object in the display will pop up when you hover your mouse above it.

CHAPTER 13

Miscellaneous Enhancements

This chapter describes a number of other enhancements in RAMM 2004.

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Minor Structures

Changes have been made to Minor Structures in RAMM so that you are able to record assets which have a Start and End displacement.

This allows a wider range of Minor Structure asset types to be recorded, and we have also added some new types and sub-types.

Amenities

- Planters
- Monuments and Memorials (including Plaques and Statues)
- Seats
- Pavers
- Steps
- Slot Drains

- Rubbish Bins

Street Furniture

In addition to the Street Furniture assets currently in RAMM, the following are now available:

- Bollards
- Shelters
- Fences
- Fountains
- Wheel Stops
- Gas Lamps
- Tram Poles

Eastings and Northings for Assets with Length

Eastings and Northings can also now be recorded at the end of assets with a length, such as a carriageway.

Transfund Reports

A number of improvements have been made to the Transfund Reports you can generate in RAMM Manager.

Most significantly, we've grouped the Transfund Reports together so that you can generate a single Excel file containing all the reports below. Each report will have its own Worksheet within the file.

- Roughness Performance.
- Smooth Travel Exposure.
- Statistics Phase 1.
- Statistics Phase 2.
- Surface Condition Index.
- Pavement Integrity Index.

Calculation of network length for the *Surface Condition Index (SCI)* report has been standardised to use carriageways.

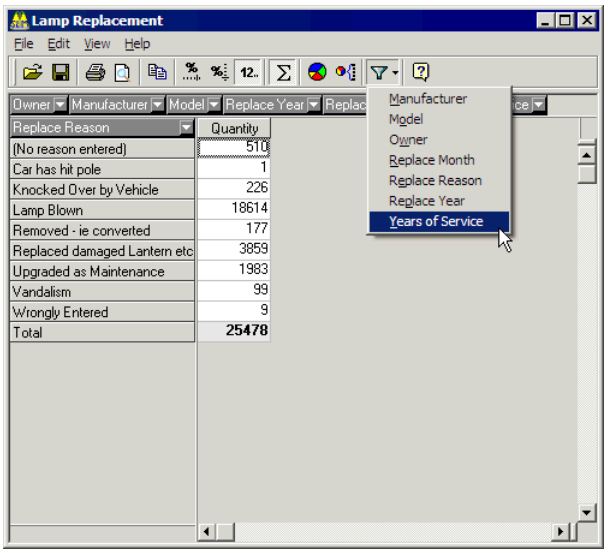
A new report for the *Pavement Integrity Index* is now available.

Up to now two versions of the *Smooth Travel Exposure (STE)* report have been available within RAMM. The 2002 version will supersede all previous versions of the report. In terms of the report content also, the STE report will calculate historical data in a manner similar to the SCI report. Vehicle Kilometres Travelled (VKT) estimates will default to *Latest* for all financial years.

Decision Cube Filter

A filter is now available within the Decision Cube to refine the data returned by the Cube and ensure that your Cube isn't cluttered with unnecessary information.

Once you define your filter criteria, the settings are saved into the system so that the relevant Cube will always apply that criteria automatically.



Auditing

A new Auditing function in RAMM records the tables that have changed in your database together with the date of the change and the user who changed them in an Audit Log.

This will be useful in many ways - Consultants could use this feature to keep track of changes on the network database. Road Controlling Authorities could use the feature to monitor the changes that Consultants make to the database.

You can specify the inventory items you need audited (for example, signs, roughness surveys, or drainage).

Displacement Graph

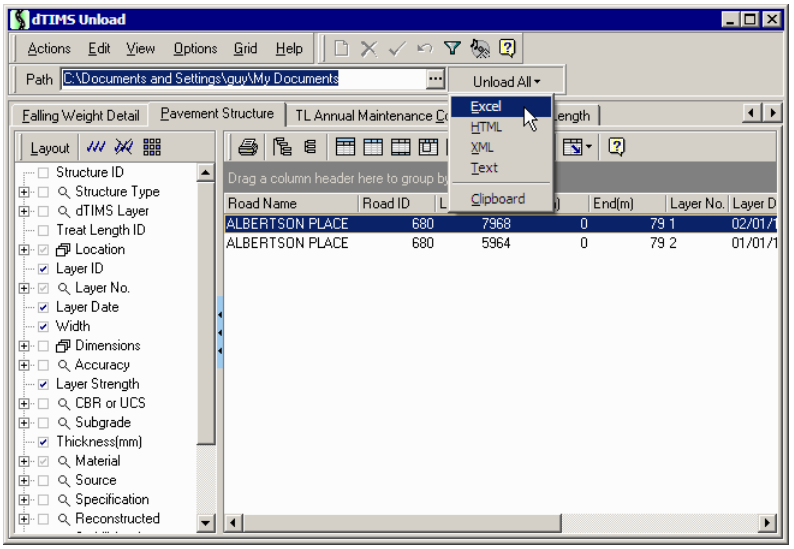
The Displacement Graph now has the ability to plot CAS Data.

When you've loaded your latest Crash data, you'll be able to select *CAS Crash* from the drop-down list of items to plot, and see the crashes in the graph.

dTIMS and dTIMS CT Unload

You can now unload data for dTIMS and dTIMS CT directly from the RAMM toolbar.

You can choose from a number of sources for the unload, as in the tabs below, as well as specific columns in the layout window, and then unload to a destination file in any of the formats indicated by the mouse arrow.



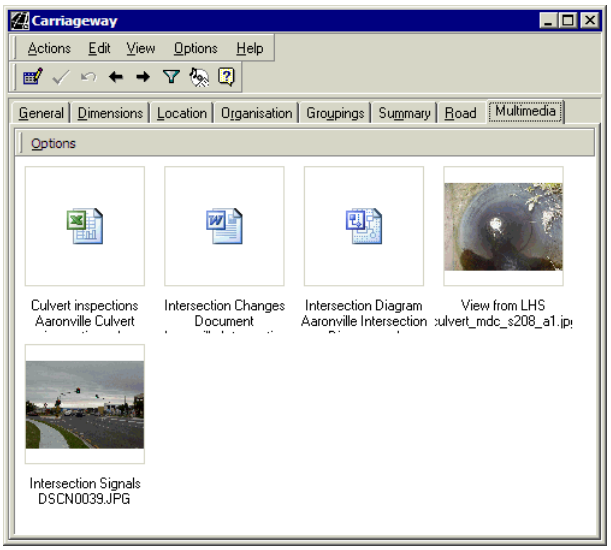
Grip Test

RAMM can now store Grip Test data as well. The Grip Test is a project based, low speed, skid resistance test.

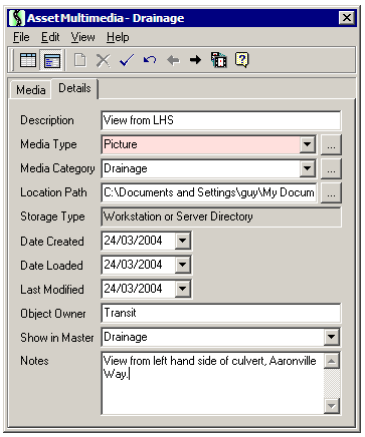
The data is accessed from its own icon on the Condition toolbar of the main RAMM window as indicated below.

Multimedia

The Multimedia maintenance window has been enhanced in a number of ways. All Detail windows will now have a separate Multimedia tab that will show a preview of an multimedia objects attached to the asset.



You also have greater flexibility to define and choose from a number of different media types for your multimedia objects, and group them into categories.



The objects can then be opened in the default application for the object type, and edited or printed.

CHAPTER 14

Database Changes for RAMM 2004

For details of the database changes in RAMM 2004, please go to the Database Changes 2004 page on our website (http://www.cjntech.co.nz/manuals/2004-database-changes.htm).