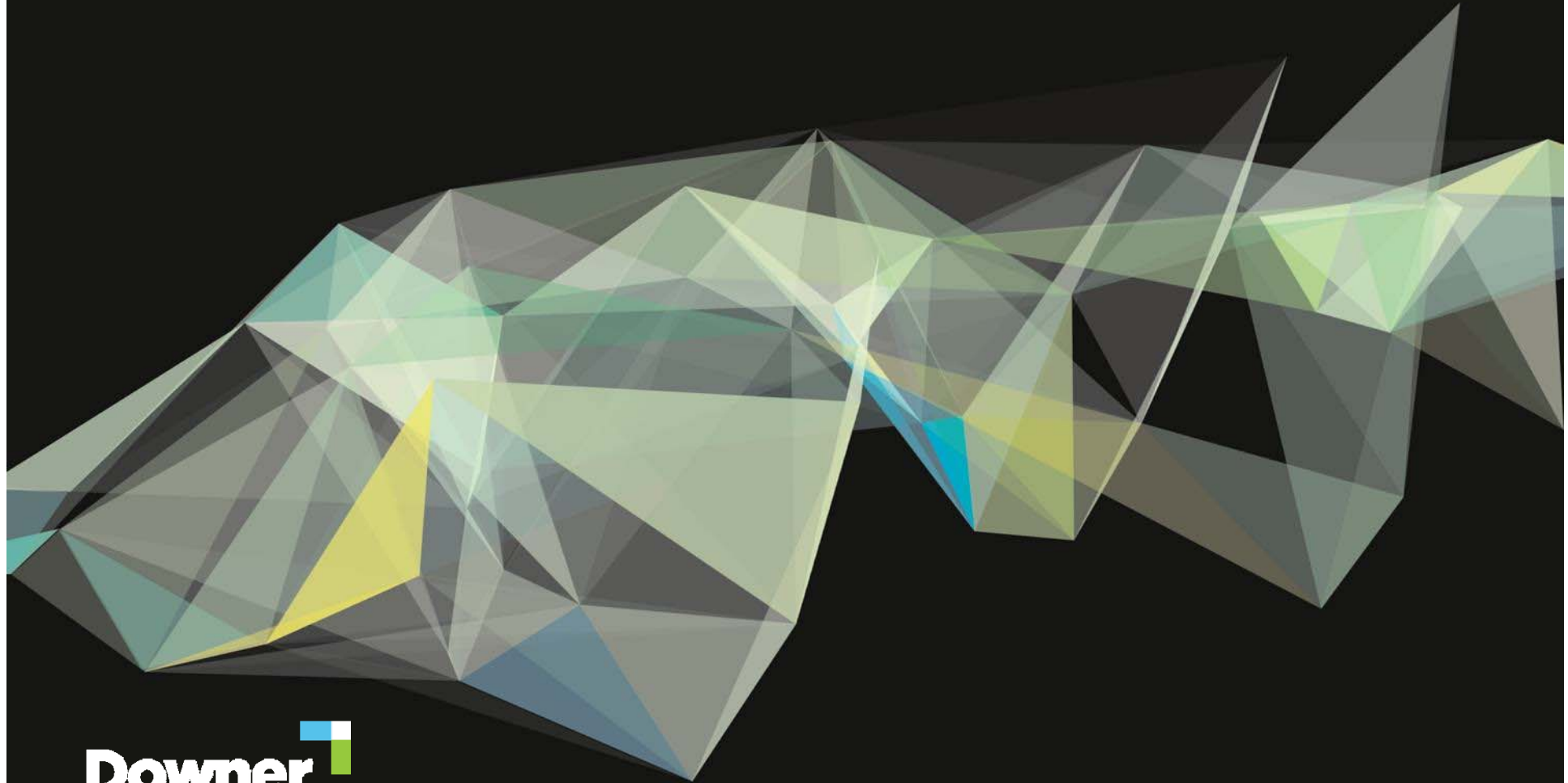


Rising to the Challenge

Peter Mortimer



Network Outcomes Contract Introduction

- Key goal was to lift Asset Management and Maintenance Management Practices across New Zealand.
- 2013 Maintenance Management Plan concept was developed.
- Data-driven, process-driven decision making to provide “line of sight” and evidential decision making, in alignment with the objective of the Government Policy Statement (GPS).

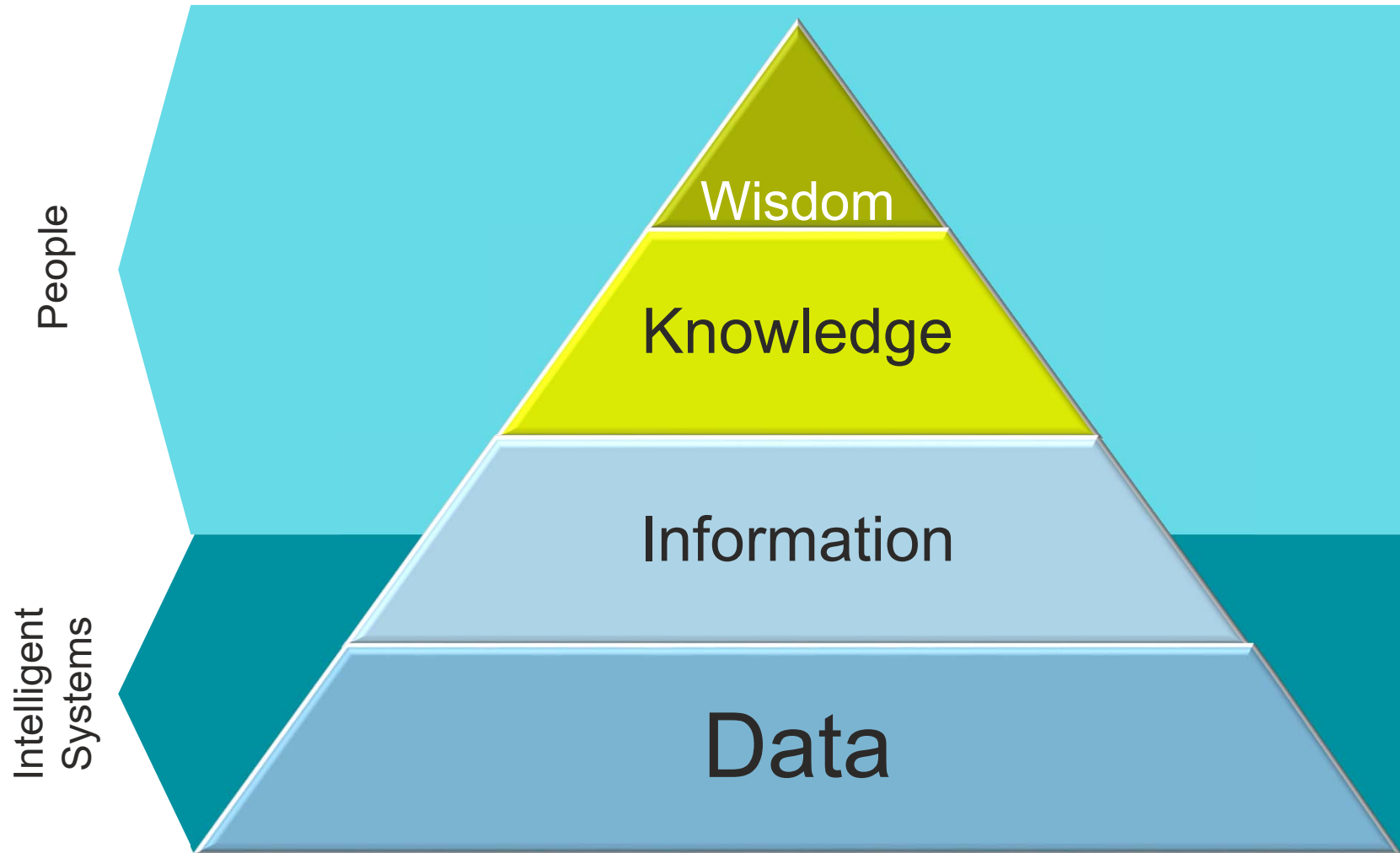
Catalyst for Change with Urgency!

NoC Challenges

Key differences with traditional (asset management context):

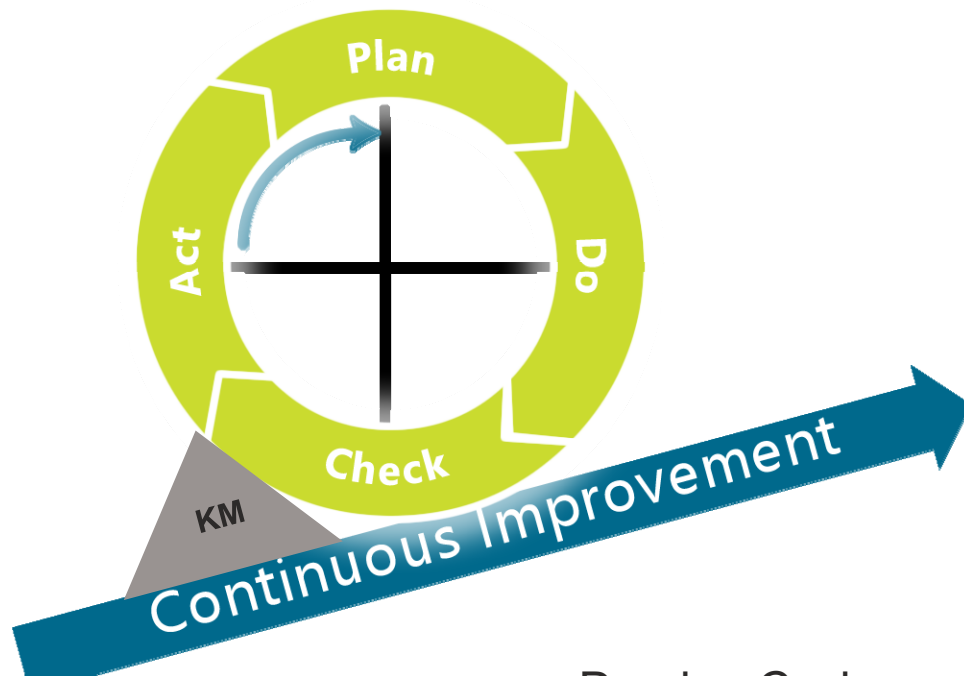
- Lump Sum maintenance
- Responsibility for FWP development of all assets (other than Bridges and major structures)
- Requirement to deliver and implement a Maintenance Management Plan
 - Strategic Objectives
 - FWP development
 - Pavements strategies
 - Surfacing
 - Drainage
 - Maintenance Activities
 - Performance monitoring
 - Base line plans

Knowledge as an Asset



Business Process Improvement

Systematically managing knowledge as an asset



Managing Knowledge as an Asset



It's about 'How we do it here'.

Codifying Downer Knowledge.

Connecting people that need to know something, with people that do know something.

Available to users in the field with internet access.

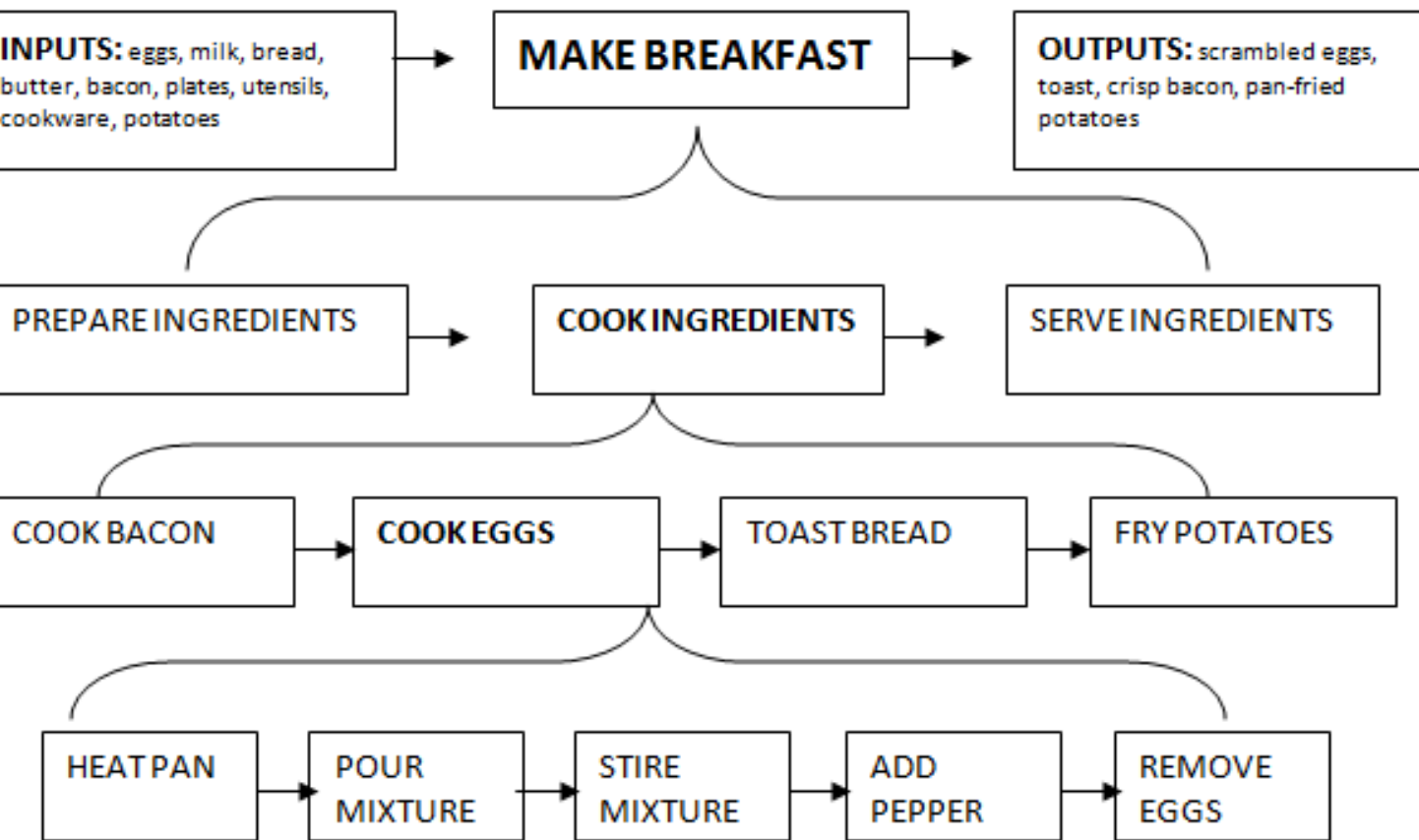
Decentralised Management Model.

A sustainable system for the future.



A computer does not substitute for judgment any more than a pencil substitutes for literacy. But writing without a pencil is no particular

Business Processes - Approach



Navigator

portal.downer.co.nz/IMMSProcessRepository/default.aspx

Tools Help

Home - IMMS-Process-Rep... x

Adam Bevins

Integrated Maintenance Management System (IMMS)

Downer

This Site requires web browser Internet Explorer 11 or higher and Citric Receiver installed for tablets or non Downer devices. Please note that other web browsers are not supported.

Site Admin

Linda Jenkins
Content Manager, Technology and Process

Submit a Record

Status List

Show Only Problems

| Indicator | Status |
|---------------|--------------------------------------|
| Review Status | ● |

00 Network Specific MMP

1.0 Strategic Objectives

2.0 Critical Success Factors

Strategies
3.0 Pavements
4.0 Drainage
5.0 Surfacing
6.0 High Value Assets
7.0 Maintenance Activity Management

8.0 Risk Sharing

9.0 Forward Works Programme

Delivery
11.0 Maintenance Activity Delivery
12.0 Periodic Treatments

13.0 Performance Management Framework

14.0 Failure Mode Analysis

15.0 Continual Improvement

advises & informs

advises & informs

Annual Plan Development

Challenge Sessions

Regional Approval

10.0 Annual Plan

Annual Plan Instructions

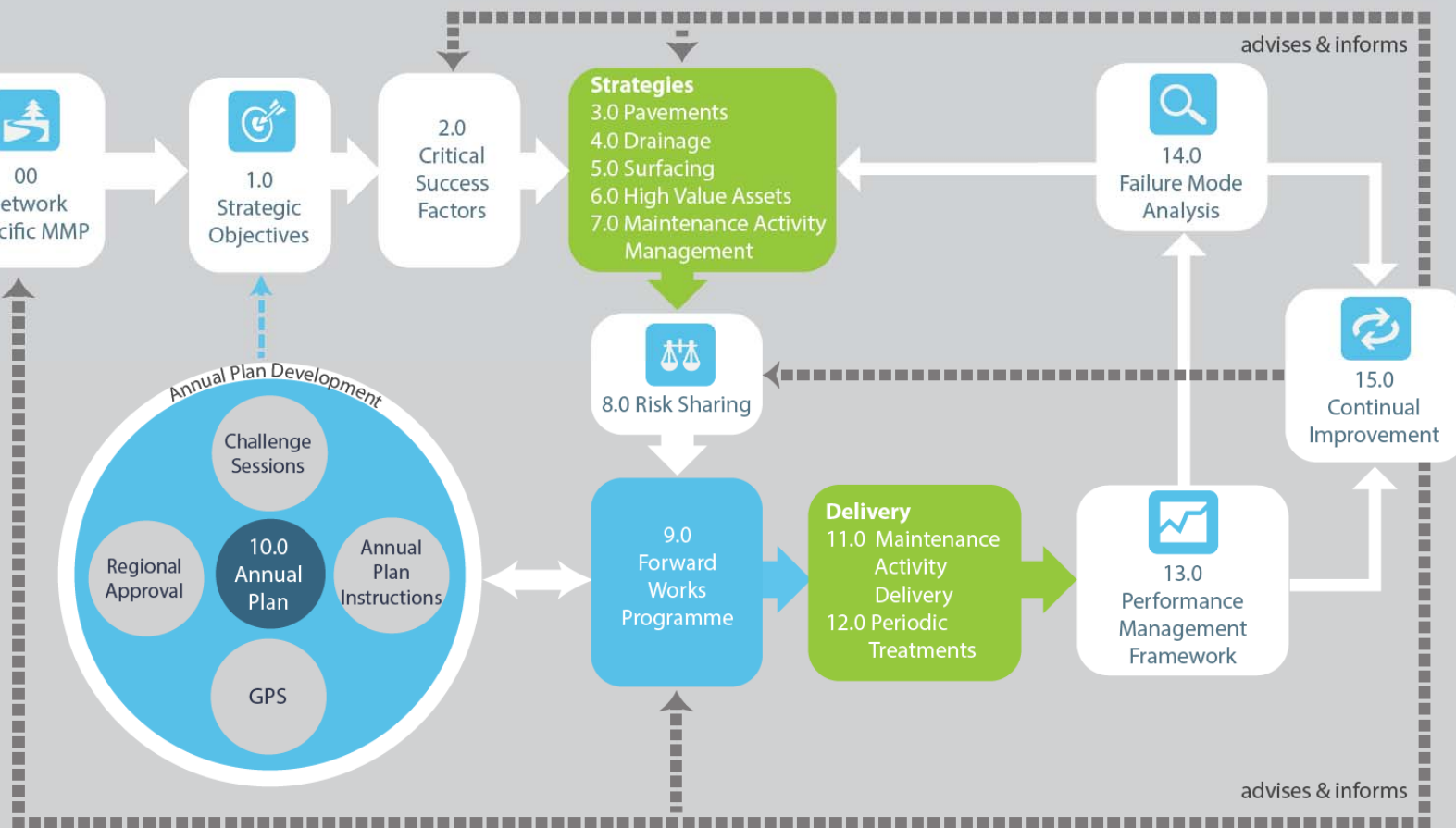
GPS

Quality

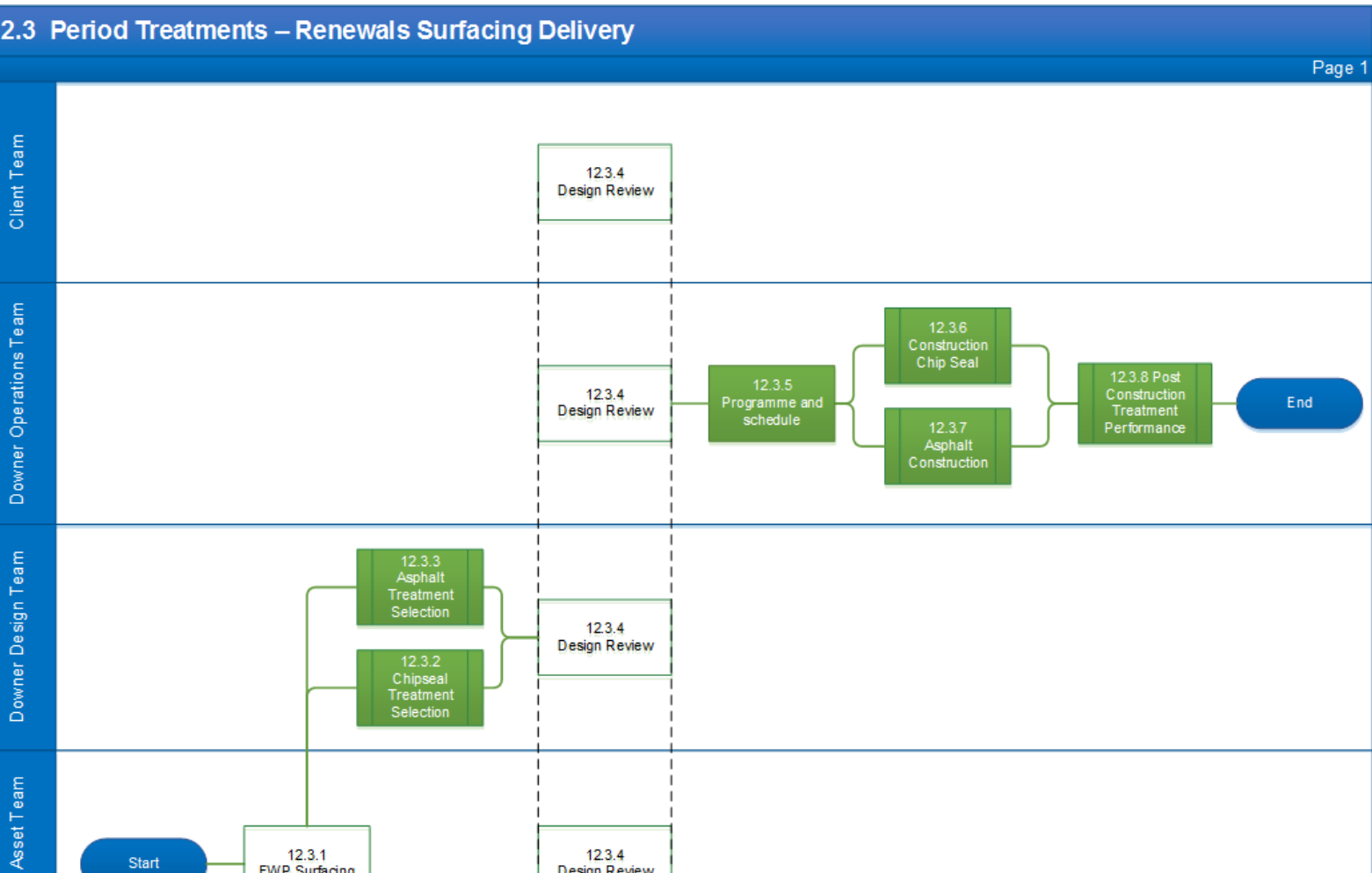
Time

Information

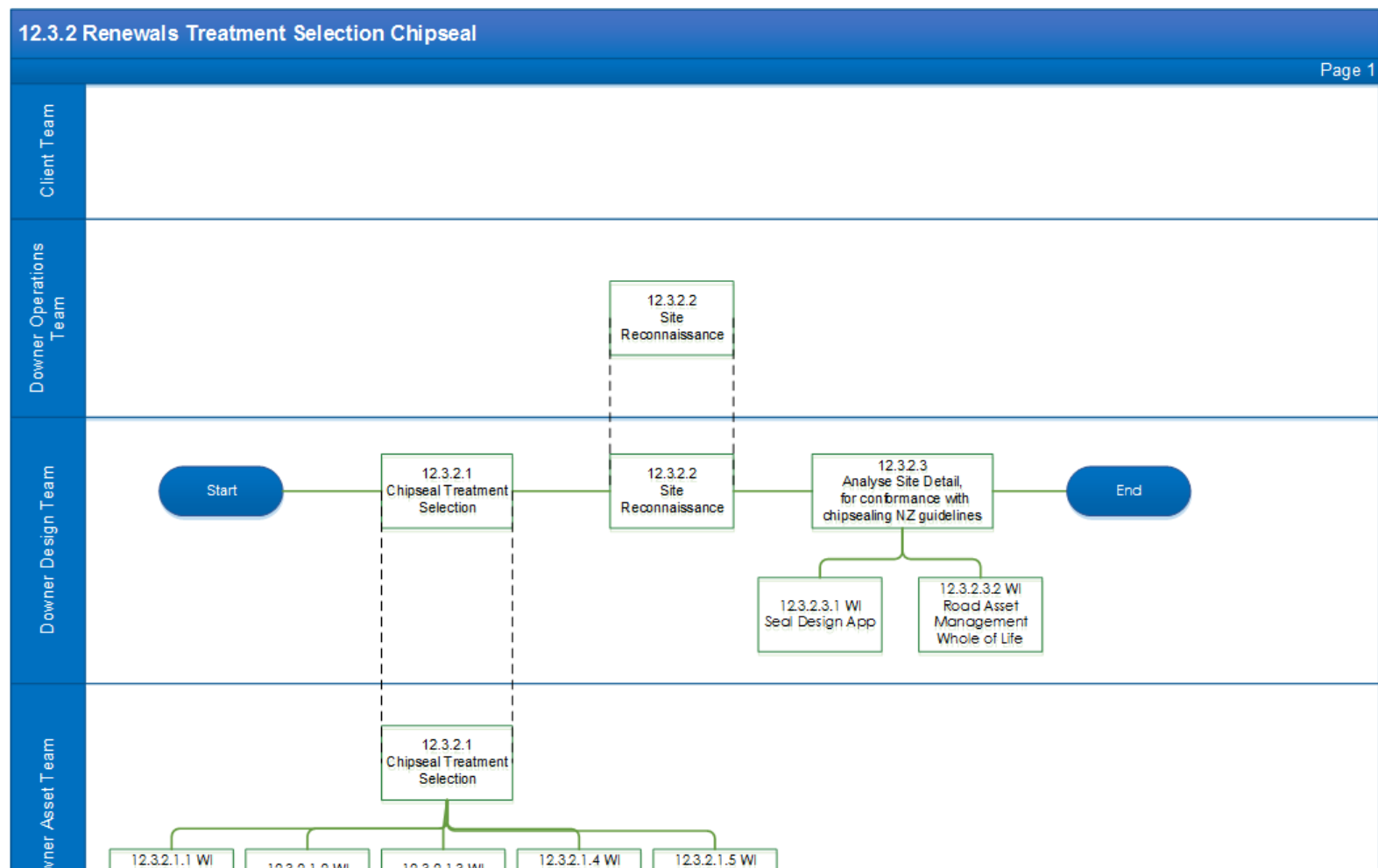
Help



Business Process Map – Level 1



Business Process Map - Level 2



Procedures

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Integrated Maintenance Management System

12.3.2.1 Selecting Surfacing Treatments (Treatment Selection) – Chip Seal

1 Related Process

This procedure is part of 12.3 Renewals Surfacing Delivery.

This procedure also has the following related processes:

- 5.0 Surfacing Strategy
- 9.0 Forward Works Programme

2 Description

This procedure describes how to select the correct surfacing treatment for Chip Seal. Our aim in surfacing Treatment Selection (TS) is to select treatments that will provide longest life and least whole of life cost. That is, treatments that have appropriate engineering and economic justification.

Our treatment selection process for Chip seals, follows the technical selection based around the processes detailed in Figure 6.3 and Figure 6.4 of the 'Chip Sealing in New Zealand' handbook.

3 Responsibility

- Surfacing Manager is responsible for executing the actions identified in this procedure.
- Asset Manager/Engineer provides data and reviews Treatment Selection and NPV analysis assumptions and outcomes from Road Asset Management – Whole of Life spreadsheet.

4 Before You Begin

Familiarise yourself with the content of the 'Pavement and Surfacing Preservation Strategies (Maximising Life).

5 When to Use

Treatment Selection will occur as part of the annual planning cycle but may also happen on an ad-hoc basis as operational drivers create demand.

6 Referenced Documents


- [NZTA Chip Seal Surface Treatment Selection Guide](#)
- Chip Sealing in New Zealand, Transit New Zealand 2005, ISBN 0-478-10562-2
- NOC Contract Appendices
- WI 1203.02.03.02 [Road Asset Management – Whole of Life](#)

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7 Steps

| Step | Action |
|------|--|
| 1. | Receive programme from Asset Team, including coarse Treatment Selection and additional site details such as: start, end, sealed area from RAMM, traffic data, site stress factor, design ESC required, surfacing cores, test pit logs, deflection data, specific site details for example gradients, frost/ice prone, and urban or noise issues. |
| 2. | Review Failure Mode Analysis (FMA) and confirm Primary Treatment reason for example, Waterproofing (asset preservation) or Safety, as per the 'Sideways Co-Efficient Routine Investigation Machine' (SCRIM). Review the existing seal and pavement history – identify what has been successful and what has not met expectations in the past. Refer to ' Chipsealing in New Zealand ' Chapter 6 – Chip Seal selection. |
| 3. | • Investigate initial Treatment Selection (TS) Options: Refer Work Instruction 1203.02.1.1 How to Investigate the Initial Treatment selection Options for Surfacing  Note: If Chip sealing with a design life is not possible refer back to the Asset Engineer. |
| 4. | Assess Site stress factor's (NOC contract appendix 6.4) and re assess initial TS options from step 3. Consider sub sectioning site based on stress factor to optimise areas. |
| 5. | ** Assess site SCRIM 'Equivalent SCRIM Co-efficient' (ESC). Consider sub sectioning site based on ESC to optimise areas for higher performing chip if needed. |
| 6. | Validate alignment of the initial TS to the Pavement Strategy and the Safety Intervention Strategy (SIS) for the treatment section |
| 7. | Execute Binder Selection: Refer WI 1203.02.01. How to undertake Binder Selection for Chipsealing . |
| 8. | Consider environmental and consenting factors e.g. road noise, and sensitive environments. |
| 9. | ** If more than one option has engineering justification, then complete a basic NPV (Refer WI 1203.02.03.02 , ' Road Asset Management – Whole of Life ' based on ' Chipsealing in New Zealand ' - Chapter 5, Road Asset Management). |
| 10. | Select option that meets or exceeds the minimum Level of Service (LOS) engineering justification at the least whole of life cost, to take forward to detailed design. |
| 11. | Collaboratively agree treatments with NZTA. |

8 What Happens Next?

See 12.3.2.2 Site Reconnaissance.

Work Instructions

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Integratd Maintenance Management System

12.3.6.3.1 How to Use the "Should I Seal" (SIS) Online forecasting tool

1 Use this instruction to...

Use the innovative new online product-specific forecasting tool, Should I Seal (SIS) designed to give jobbers on when and where to spray & burn sealant. The use of this tool will contribute to reduce the risk of wash, off from a site event.

2 When to Use

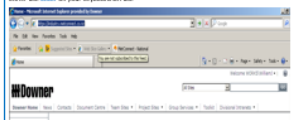
Every time when planning all sealing works and to monitor weather forecasts before and during works.

3 Instructions

Step Action

Logging In:

Open the Internet (either using Internet Explorer, Firefox or Chrome)
Enter the address: <http://www.downer.com.au>
Either use filter on your keyboard OR use



The first time you go to this webpage, Add this webpage to your Favorites, Favorites Bar or Bookmarks.
Enter your login Email address (as supplied)
Enter your login Password (as supplied)
Click Log In

[[Document]] Last Updated: 28-Jun-15 Section 1234 - 1

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Step Action

Login Required

Please enter your Username and Password details to log in.

View the DAILY Forecasts

Click on the SIS Daily Tab



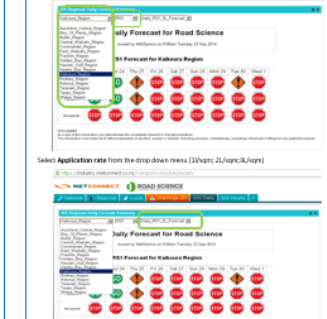
Select Region, Product from the drop down menus

[[Document]] Last Updated: 28-Jun-15 Section 1234 - 2

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Step Action

Select Application rate from the drop down menu (1 Litre/20sqm/30sqm)




Note: If an icon doesn't appear it means the MetService doesn't have forecast data available for that time, or they don't have enough forecast data to calculate the icon correctly.

[[Document]] Last Updated: 28-Jun-15 Section 1234 - 3

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Step Action

Click on the SIS Daily Forecast



View the HOURLY Forecasts

Click on the SIS Hourly Tab




Select region, sub region and product from the drop down menus

[[Document]] Last Updated: 28-Jun-15 Section 1234 - 4

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Step Action

Click on the SIS Hourly Forecast



View the HOURLY Forecasts

Click on the SIS Hourly Tab



Select region, sub region and product from the drop down menus

[[Document]] Last Updated: 28-Jun-15 Section 1234 - 5

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Step Action

Click Logout

Note: It is VERY important to log out of the software.
If you click the "X" to close Internet Explorer the software doesn't recognise you haven't logged out and you will be unable to log back in for 30 minutes.

4 What Happens Next?

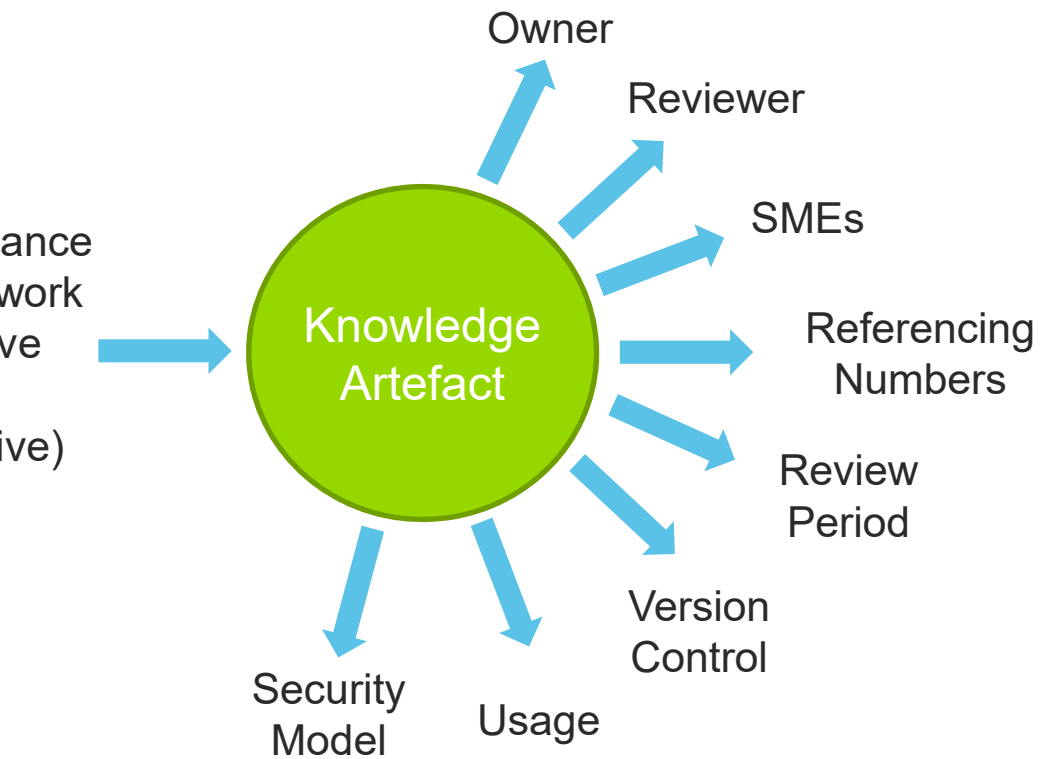
Users can use the tool on their PCs, smartphones and tablets. Once logged in they are taken to an interface with simple icons showing whether or not it is safe to seal on a particular day and location. Factors taken into account include product type, hardness, temperature and rain forecasts.

By selecting the location (sub region and region), the sealing date (day and hour), the product and its application rate the tool will provide assistance in the decision making process and in the planning of the sealing jobs.

See 12.3.6.3 Contract Checklist.

[[Document]] Last Updated: 28-Jun-15 Section 1234 - 6

Metadata of Knowledge Assets



- 400+ Artefacts
- 1800+Pages (excluding SOPs)



| feature | benefit |
|-------------------|---|
| Asset Agnostic | Able to store and manage any client asset |
| Contract Agnostic | Used for any contract type for any asset M&O anywhere |
| Temporal | Nothing is deleted, changes captured, see changes over time and roll back in time |
| Hierarchical | Linking of parent child assets, any work done linked to the asset |
| Spatial | Fully spatial, not dependant on linear referencing but can link to one or more |
| Reporting | Can link to GIS with development of real time |

Other tools being utilised

MS
se
MM SQL



noViewer Web

 JunoViewer Web

IMS

 delghton

wner Maps (Arc GIS)

Downer Maps

Questions?
