IAG Focus on drainage

20 August 2024

Te Kawanadanga o Astasaroa WeMilitementetigene desteroroa New Zealand Government



JA KU

| Canal | Na Ownar | | | | | | |
|--|---|--|---|---|--|--|--|
| Capable OwnerCommercial managementPerformance• Develop and execute supply chain contracts.management• Challenge the Integrators in seeking VFM in all commercial dealings.• Own and set the performance metrics, including ongoing performance management. | | Program and sign- achieven custome Set asset | me development off, ensuring nent of network a r outcomes. t management | t • Articulate the "voice of the customer" for all | | | |
| National Integrator | | | | | | | |
| NZTA National leadership | | | | | | | |
| noderation of regional nce measures. sial benchmarking against | eration of regional measures. benchmarking against management • Strategic and tactical planning of the Forward Works Programme (FWP). | | National coordination of regional integrators Convening regional decision-making forums. Maintain consistency of customer and network service level outcomes Driving assurance | | | | |
| Regional Integrator NZTA Regional leadership | | | | | | | |
| of managem Coordinate regional Works Programme and development, i with IDC contractor Promoting work pa allocation to optimi efficiency, commer | ent• FaI Forwardan(FWP) inputsapn collaborationpers.cuckaging and• Cose deliveryancial prudence,an | Network management Facilitate integrated network and corridor management approaches to maximise system performance and optimise customer experience. Coordinate network inventory and condition data collection. | | Surveillance • Monitor and manage deliverable completion, quality and performance. | | | |
| Contract Management IDCs Regional / Cross-Regional Panels Specialist Panels | | | | | | | |
| r al m m is n a | Commercial management • Develop and execute supply chain contracts. • Challenge the Integrators in seeking VFM in all commercial dealings. Statistical dealing dealings. Statistical dealing dealings. Statistical dealing dealing dealings. Statistical dealing dealing dealings. Statistical dealing dealing dealing dealings. Statistical dealing dealing dealing dealing dealings. Statistical dealing dealing dealing dealing dealing. Statistical dealing dealing dealing dealing dealing dealing. Statistical dealing deal | Commercial management • Develop and execute supply chain contracts. • Challenge the Integrators in seeking VFM in all commercial dealings. • Mational Integrators in seeking VFM in all commercial dealings. • Mational Integrators in seeking VFM in all commercial dealings. • Mational Integrators in seeking VFM in all commercial dealings. • Mational Integrators in seeking VFM in all commercial dealings. • Mational Integrators in seeking VFM in all commercial dealings. • Mational Integrators • Strategic and tactical proverse • Onsolidation of Regional Integrators • Consolidation of Regional Integrators • Coordinate regional Forward • Morks Programme (FWP) inputs and development, in collaboration with IDC contractors. • Promoting work packaging and allocation to optimise delivery efficiency, commercial prudence, and network resilience. • Promoting work packaging and allocation to optimise delivery efficiency, commercial prudence, and network resilience. | Commercial management. Performance management. Network & • Develop and execute supply chain contracts. • Own and set the performance metrics, including ongoing performance management. • Program and sign achieven extrement of the performance metrics, including ongoing performance management. • Set asset achieven extrement extrement of the performance metrics, including ongoing performance management. • Set asset achieven extrement extrement of the performance metrics, including ongoing performance management. • Set asset achieven extrement extrement of the performance management. • Set asset achieven extrement extr | Commercial management. Performance management. Network & Asset Management. • Develop and execute supply chain contracts. • Own and set the performance metrics, including ongoing performance management. • Programme development and sign-off, ensuring achievement of network customer outcomes. • Mational Integrators • Set asset management • Set asset management strategies and priorities. • Mational leadership • Programme development and management • Set asset management • Mational leadership • Convening • Convening • Mational leadership • Strategic and tactical planning of the Forward Works Programme (FWP). • Driving asset • Convening • Strategic and tactical planning of the Forward Works Programme (FWP). • Driving ass • Driving asset • Convening • Driving ass • Coordinate regional leadership • Driving ass • Coordinate regional Forward Works Programme (FWP) • Driving ass • Coordinate regional Forward Works Programme (FWP) inputs and development, in collaboration with IDC contractors. • Promoting work packaging and allocation to optimise delivery efficiency, commercial prudence, and network resilience. • Coordinate network inventory and condition data collection. • Matta di dio • Promoting work packaging and allocation to optimise delivery efficiency, commercial prudence, and network resilience. <td< td=""></td<> | | | |

Drainage benefits case study

"More than 50% of the sample sites (aging pavements approaching rehab) had ample scope to improve pavement drainage effectiveness which was not undertaken. There is a clear opportunity for improvement in our management of drainage systems".

| EARLY SIG | NS OF PAVEMEN | NT FAILURE | OPPORTUNITY FOR DRAINAGE INTERVENTION | | | TOO LATE FOR DRAINAGE | | | | |
|-----------|---------------|------------|--|----|----|-----------------------|----|--------------|-------------------------------------|--|
| -10 | -9 | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | REHAB |
| | | | 12/20 sites had average or poor ULSWC rating, of which 7/12 didn't receive any clear ULSWC maintenance and 5/12 had opportunities to install subsoils | | | | | improvements | had ULSWC 1-3 years prior hab | 5/20Sites had evidence of subsoil installation during Rehab |

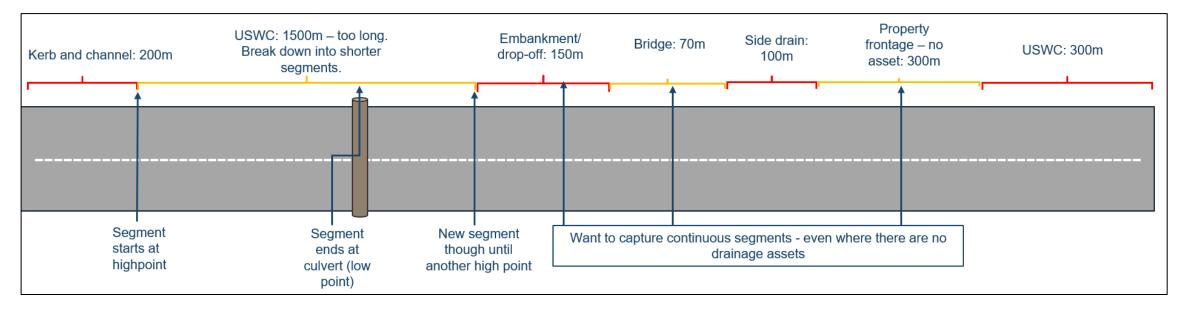
Drainage segmentation

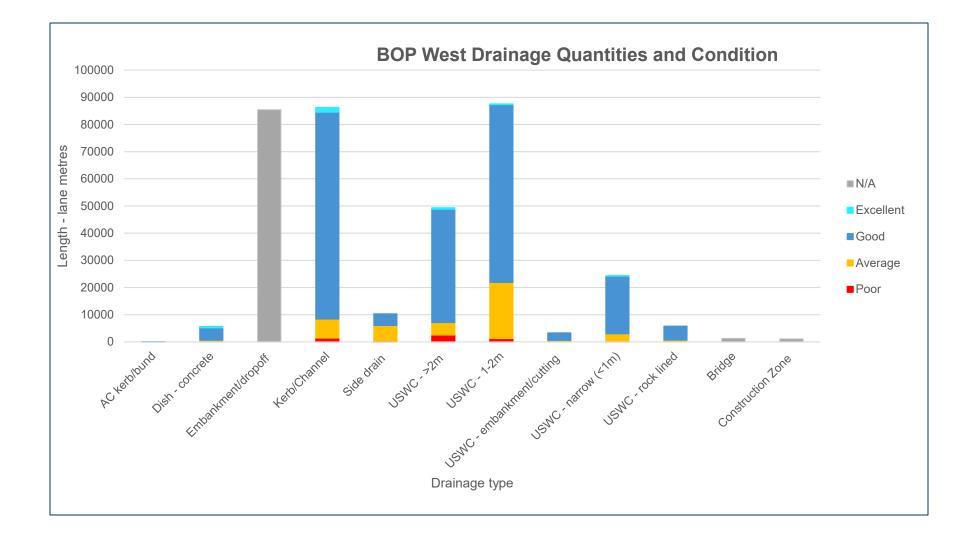
- Segmentation completed for: BOP West, Northland, West Waikato, South Canterbury.
- BOP West also fully condition rated.
- Working through rest of country.
- Benefits of this work:
 - More accurate data on asset (advancing Strategic Investment Model).
 - Creating drainage lengths which are sensible renewal lengths.
 - Consistent assessment of segments allowing for more accurate Forward Works Planning.
 - Condition rating allows for better budget prep (NLTP) and investment justification (condition profile).
 - Data managed using User Defined Tables (UDT) in RAMM.

| Contract Area | NOC Standard Investment Allocation (2019- 2021) | SIM Recommended Annual Renewal % | Estimated Length of SH Shoulder Needing Drainage | Historic Achieved Annual Renewal Length last 5 years (lane km) ¹⁷ | SIM Recommended Annual Renewal Length (lane km) | |
|---|--|-------------------------------------|--|---|--|--|
| West Coast (NOC) | 2% | 8.00% | 1720 | 42 | 138 | |
| Northland (NOC) | 2% | 8.00% | 1680 | 25 | 134.40 | |
| Central Waikato (NOC) | 2% | 8.00% | 1342 | 47 | 107.36 | |
| Southland (NOC) | 2% | 8.00% | | 33 | 103.20 | |
| Otago Central | 2% | 6.00% | 1012 | 20 | 60.72 | |
| Manawatu- Whanganui (NOC) | 2% | 6.00% | 1207 | 2 | 72.42 | |
| Nelson-Tasman (NOC) | 2% | 6.00% | 679 | 9 | 40.74 | |
| Taranaki (NOC) | 2% | 4.00% | 1087 | 42 | 43.48 | |
| Coastal Otago | 2% | 4.00% | 1437 | 39 | 57.48 | |
| North Canterbury | 2% | 4.00% | 1641 | 7 | 65.64 | |
| South Canterbury (NOC) | 2% | 4.00% | 1064 | 25 | 42.56 | |
| East Waikato (NOC) | 2% | 4.00% | 925 | 10 | 37.00 | |
| West Waikato (NOC) | 2% | 4.00% | 938 | 22 | 37.52 | |
| Hawkes Bay (NOC) | 2% | 4.00% | 975 | 4 | 39.00 | |
| BOP East (NOC) | 2% | 2.00% | 985 | 14 | 19.70 | |
| Wellington (NOC) | 2% | 2.00% | 478 | 28 | 9.56 | |
| Auckland Alliance | 2% | 2.00% | 816 | 1 | 16.32 | |
| Tairawhiti Roads Northern & Western (NOC) | 2% | 2.00% | 626 | 27 | 12.52 | |
| Milford | 2% | 2.00% | 206 | 1 | 4.12 | |
| Marlborough (EC) | 2% | 2.00% | 475 | 8 | 9.50 | |
| Tairawhiti Roads Western (NOC) | | | | | | |
| BOP West (NOC) | 2% | 2.00% | 391 | 3 | 7.82 | |
| | | TOTAL | 20974 | 0 | 1059 | |

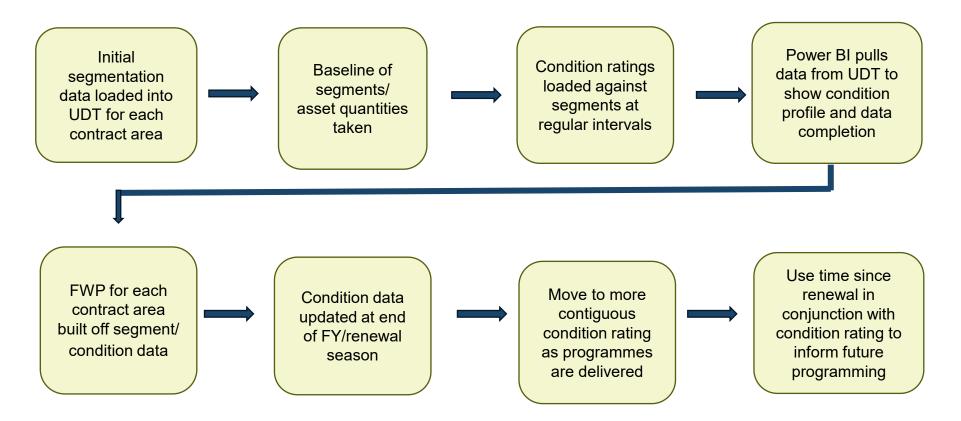
Drainage segmentation- methodology

- Initial segmentation conducted using high speed video. Field verification required get 100% certainty.
- Basic approach:
 - Classify asset e.g. Kerb and channel, USWC, Side drain, Bridge, Property frontage no asset.
 - Segments must be specific to side of road (or centre of road in some cases).
 - Segmentation should be continuous i.e. no gaps in data
 - Then segment asset into logical lengths for renewal e.g. high points to low points, culverts, intersections, where segments are getting too long i.e. needs to be a sensible length for a digger/grader driver to renew around 500m is ideal.

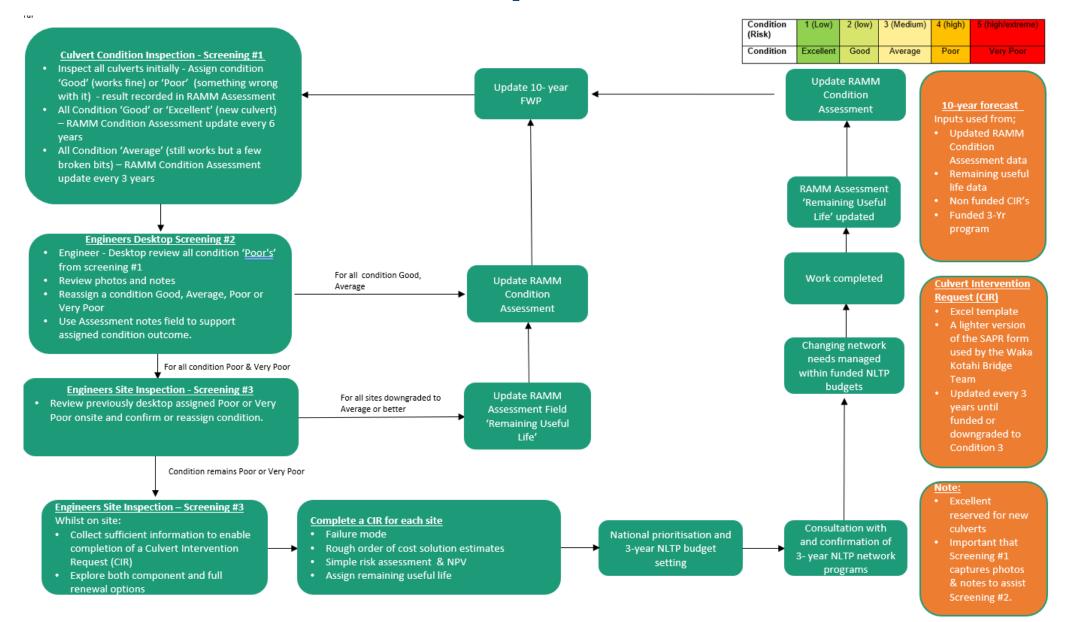




Outline process for drainage User Defined Tables:



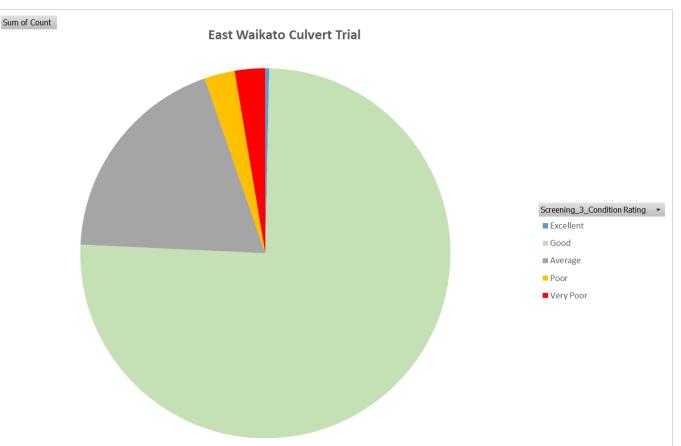
Culvert assessment process



Culvert trial – East Waikato

- East Waikato trial complete
- Keen to have a few other suppliers test the screening method – especially the use of pocket RAMM/tablets
- 3 step screening process:
 - Step 1: Cursory inspection/photos as part of routine inspection. Condition rate Good or Poor.
 - Step 2: All Poor condition culverts go through desktop review by asset engineer, condition revised.
 - Step 3: All those that remain as condition poor require on-site inspection and detailed assessment by asset engineer.

| Row Labels 🗾 Sun | n of Count |
|------------------|------------|
| Excellent | 1 |
| Good | 227 |
| Average | 57 |
| Poor | 8 |
| Very Poor | 8 |
| Grand Total | 301 |



Report last refreshed: 01 August 2024

Asset Condition - Barriers

Next refresh scheduled: September 2024

