

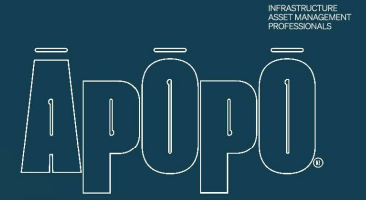


ASM and WTA Alliance Asset Management

David Withers

WSP

24/10/2024





Asset Management

Apōpō Guide:

- Infrastructure asset management is: meeting a required level of service, in the most cost-effective manner, through the management of assets for present and future customers.













Āpōpō

David Withers

Service Line Leader – HSA WSP

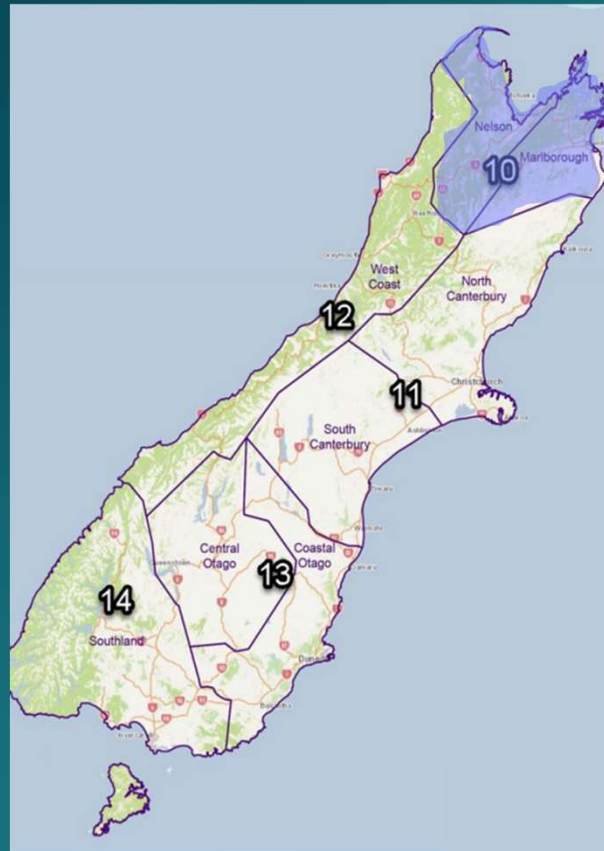
Structural Asset Manager – ASM

Structural Inspection Engineer – NZTA S6

 Bridge	 CCTV Mast	 Dams
 Gantries	 High Mast Towers	 Noise Walls
 Retaining Walls	 Slopes	 Tanks
 Tunnel Structure	 Urban Design Feature	 Buildings



Current Operations and Maintenance Contracts

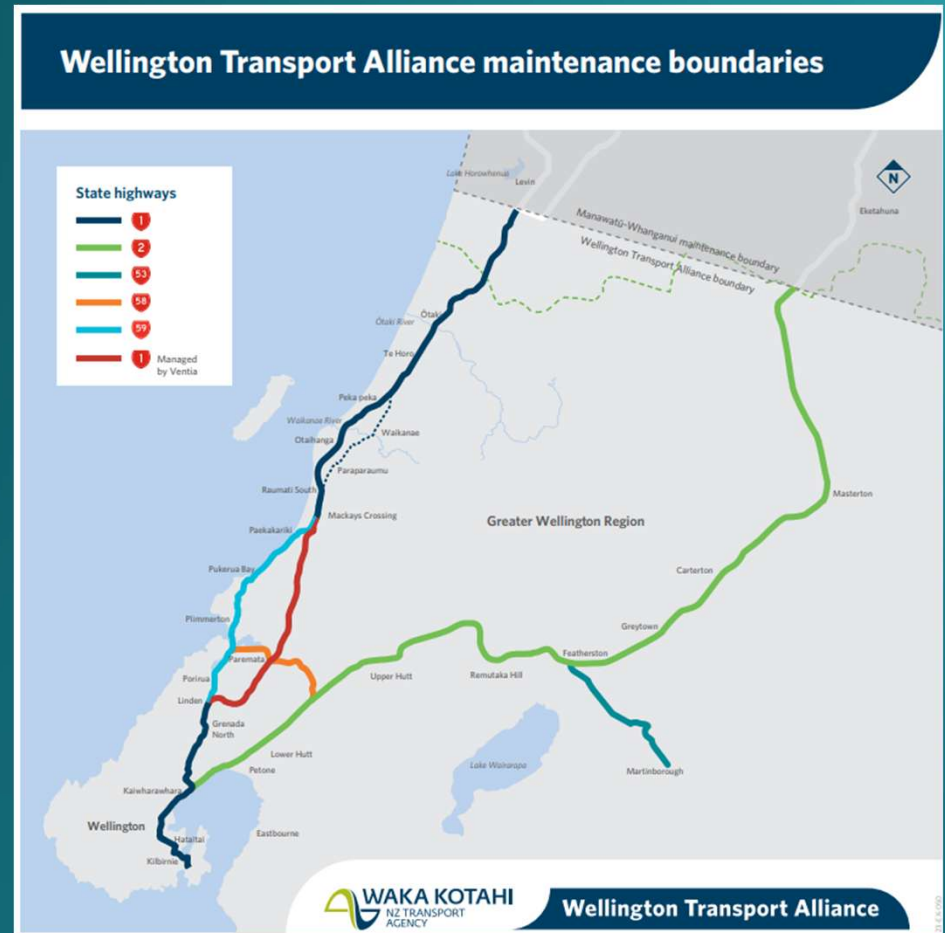


- 2 - Auckland System Management
- 9 - Wellington Transport Alliance
- 10 - Top of the South (NOC some PS through WTA)

Āpōpō

Wellington Transport Alliance

July 2022 – June 2033



Āpōpō

WTA

Challenges



- Diverse range of stakeholders (regional teams and NOCs)
- Urban and Rural Network
 - Aging infrastructure (Top of the South)
- Increasing demands
- Limited space
- Widespread network
- Seismic issues (highest risk urban area)
- Geotechnical issues (Takaka Hills – Remutaka Hills)
- Protestor action – new and evolving issue
- Asset growth – Capital Works Projects
- Funding reprioritisation

1. Emergency Works

- SH53 Wards Line Slope reprofiling completed 4 September.
- SH2 Remutaka Hill bench scaling / bench clearance completed 2-4 September.
- SH2 Remutaka Beech tree wall - quick response – wall construction starting 7 October.

2. Crown funded / Resilience projects:

- SH2 Remutaka Rockfall mitigation completed 20 September.
- SH59 Japonica Crescent slip treatment – Tender awarded, OOS drafted, Start works expected mid-November
- SH59 Three Sisters rockfall – Tender awarded, OOS accepted, start works expected mid-January.
- SH59 Paekākāriki Debris Fence construction report issued 19 September.

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Āpōpō

WTA



Division

Activity and Planning

Paving & Surfacing

Structures

Traffic Assets & Corridor

Activity Development

Asset Managers

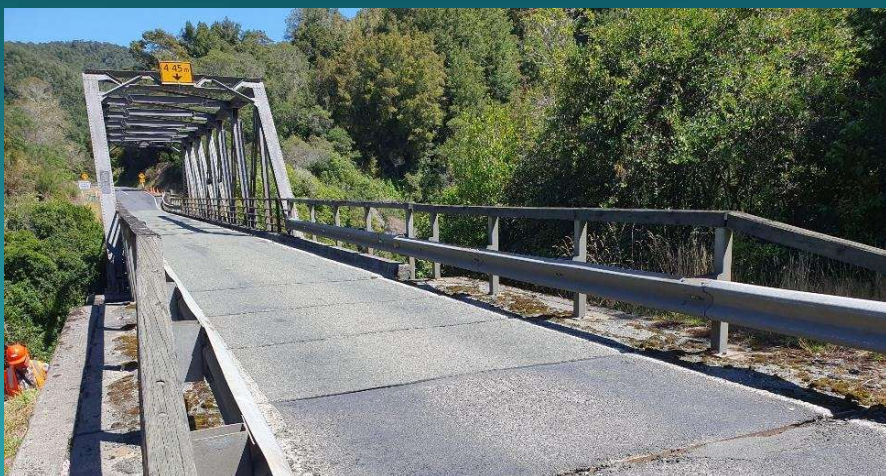
Wellington

ToTS

Corridor

Drainage

Transport Technology & Tunnels



WTA

Asset Management Focus

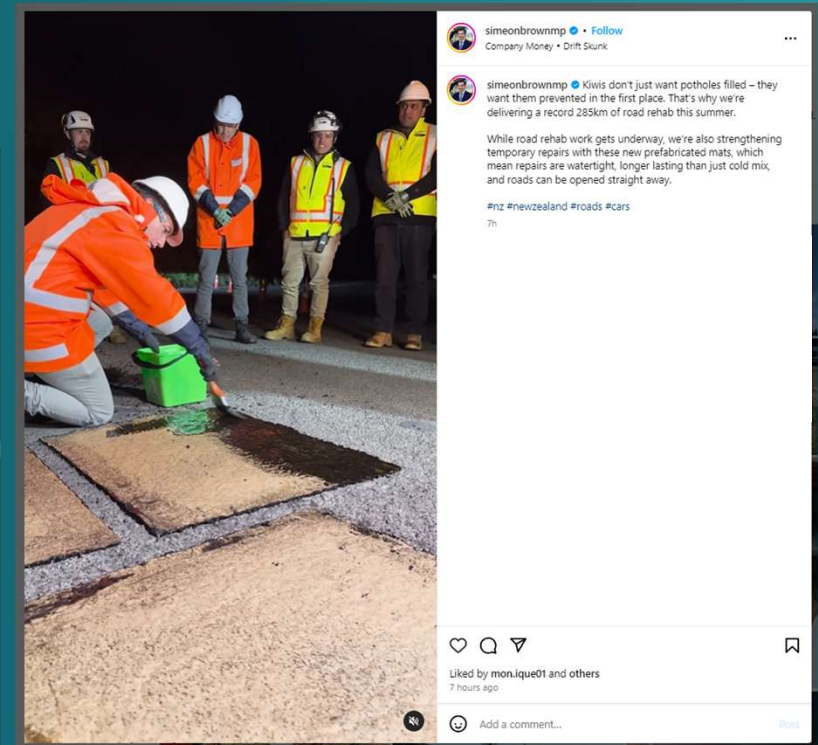
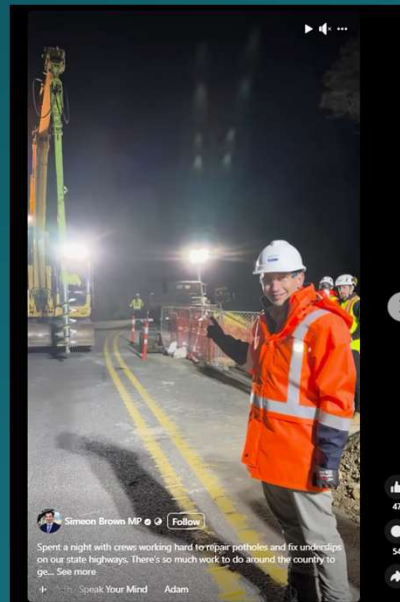
- New Alliance
 - Significant resource change following new GPS
- Emergency response systems
- Seismic response plans
- Asset management plan review
- Common closure works (following ASM)
- Development plans
 - Data improvement

Remutaka Hills

Slip failure – New Retaining Wall 2023 + 2024 \$3.0million

- Quick response recovery works
- Political Interest
- Regular nighttime closures
 - Customer feedback has been mostly positive
- Line marking & barrier repairs

- Improved process to meet LoS and cost efficiency

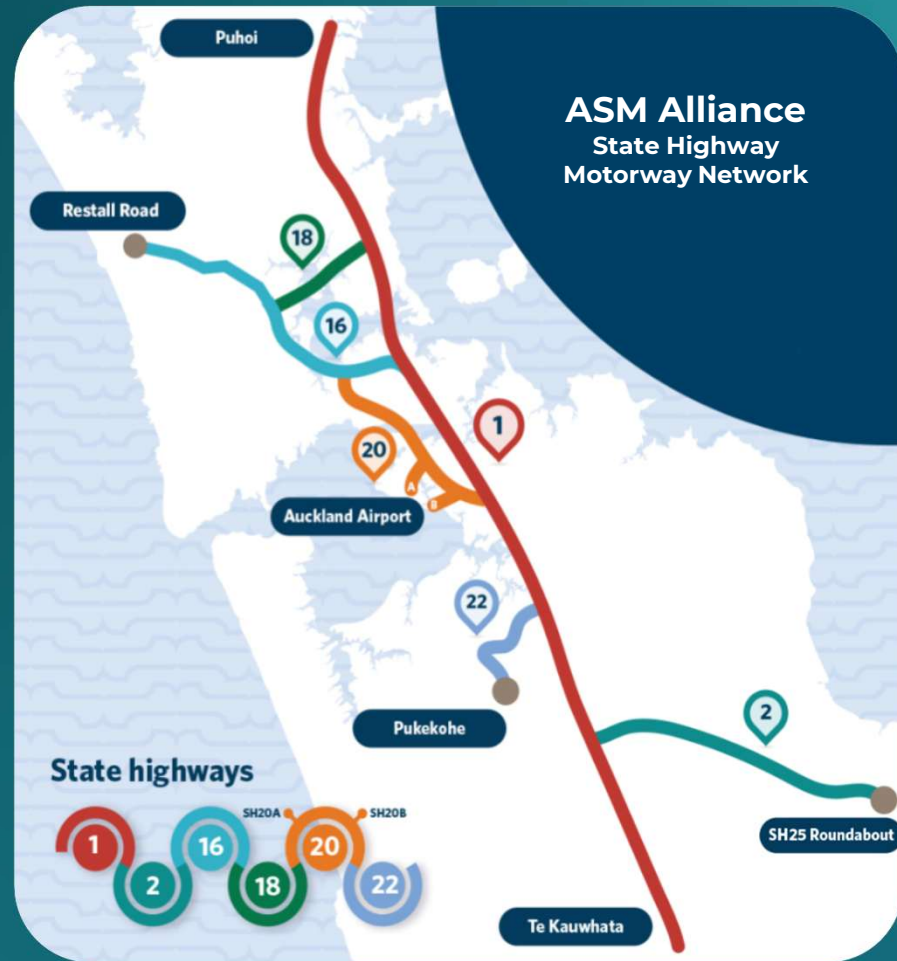


Āpōpō

Auckland System Management Alliance

July 2019 – June 2028

wsp



Āpōpō

ASM



Division

Asset &
Network
Performance

Asset Managers

Paving &
Surfacing

Structures

Traffic &
Corridor

Transportation
Technology

AHB

Stormwater

Tunnels

Āpōpō

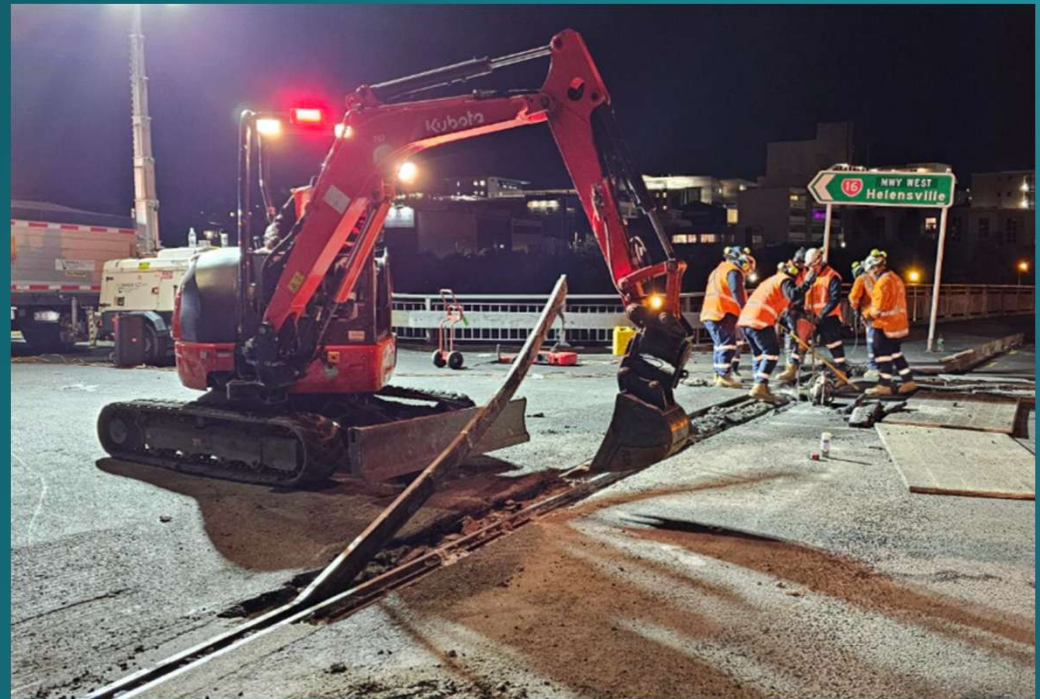
ASM Alliance

Challenges

- Funding reprioritization
- **Network Growth**
- High volume motorway
- Limited closure time
- High closure costs
- Extensive development
- Capital works projects
- Diverse range of stakeholders
- Increasing anti-social behaviour
- Increasing unhoused community
- Growing technical demands
 - Asset specific
 - **Climate**
 - National requirements
 - **International best practice**

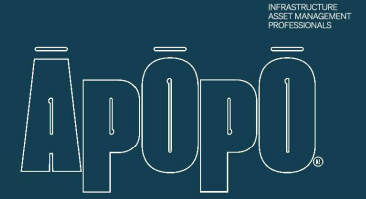


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Āpōpō
ASM Alliance



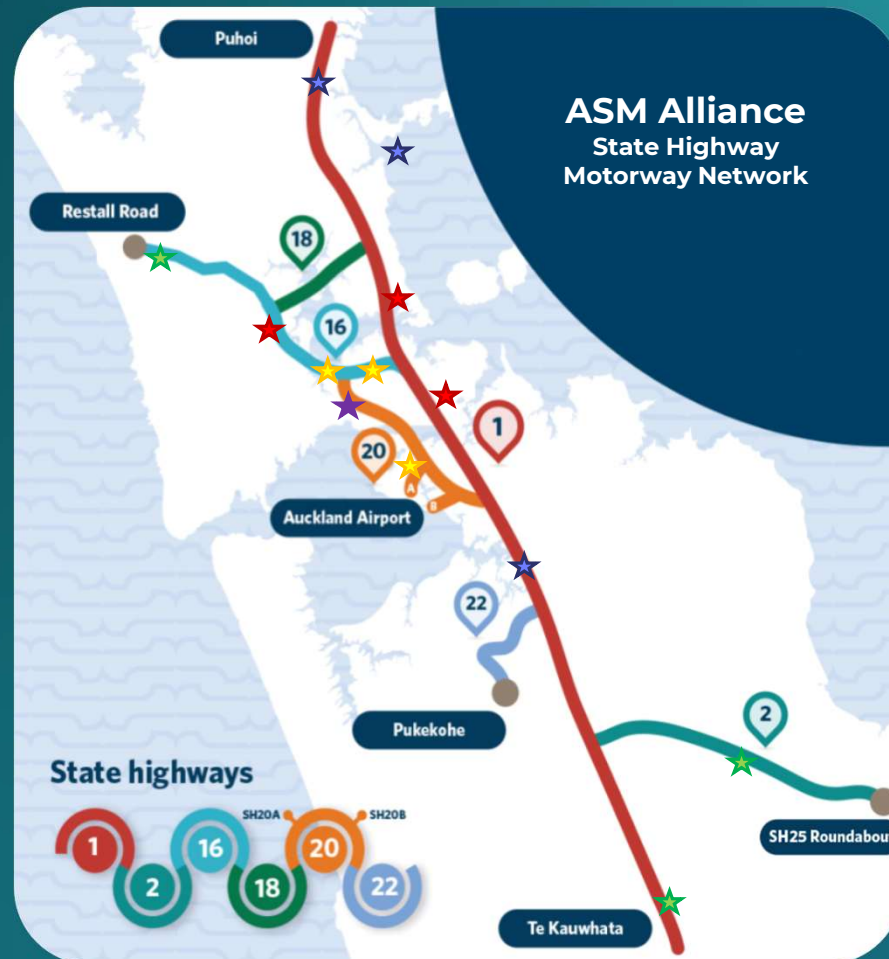


Network Growth



ASM Alliance

- ★ Capital Works Projects Under Development
- ★ Capital Works Projects Under Construction
- ★ Capital Works Recently Completed
- ★ Additional Areas to ASM
- ★ Additional Areas?

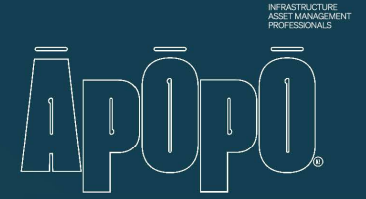




ASM Alliance



Structure type	TOC 3	TOC 4	Change	% increase
Bridges (Inc. footbridges)	292	312	+ 20	7%
Subways	8	10	+ 2	25%
Gantries	295	367	+ 72	24%
High Mast Lights	73	90	+ 17	23%
CCTV poles	132	143	+ 11	8%
Noise Walls	127	162	+ 35	28%
Urban Design Features	6	8	+ 2	33%
Retaining Walls	262	469	+ 207	79%
Geotechnical Assets	0	1500	+ 1500	N/A
Total Assets (excl geotech)	1315	1649	+344	+25%

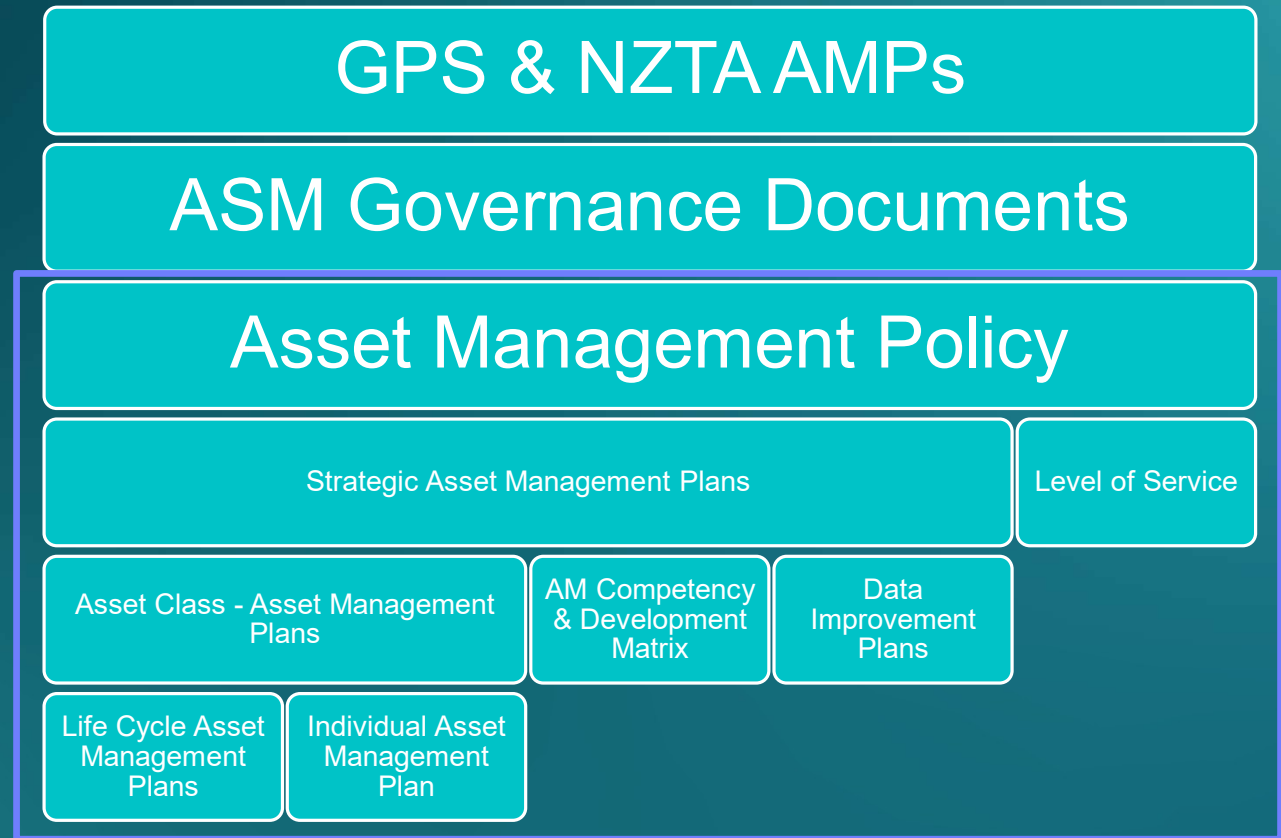


ISO Alignment



ISO 55001 - Certification

NZTA – ASM
- KRAs and KPIs



ISO 55001 - Certification

NZTA – ASM

Asset Management Policy

Strategic Asset Management Plans

Level of Service

Asset Class - Asset Management Plans

AM
Competency &
Development
Matrix

Data
Improvement
Plans

Life Cycle
Asset
Management
Plans

Individual
Asset
Management
Plan

ISO requirements

- Line of sight to governing policies
- Signed dated and review process

Wide range of approaches

- 1 Page
- 20 Web pages

Recent changes:

- Needs to be updated with GPS and ASM policy changes
- Level of Service follow on implications from TOC funding changes

ISO 55001 - Certification

NZTA – ASM

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Consistency across Assets

- National requirements
- NZTA process
- Embedded systems
- Terminology updates
- Fit for purpose


ISO 55001 - Alignment

NZTA – ASM



Consistency across Asset Classes

- Ensuring all required aspects are covered
- NZTA process
- Embedded systems
- Terminology updates
- Fit for purpose

AMPs

Attributes:
ASM Logo On Cover
Author indicated
Date indicated
Revision Number
Next Annual Review Date
Owner Indicated
Quality Review & Sign-Off
Chapters per SAMP:
1. Introduction
1.1 Purpose
1.2 Scope
1.3 Management Strategy and Management
2. Structure
2.1 Work Breakdown Structure
2.2 Asset Breakdown Structure
3. Asset Inventory
4. Levels of Service
5. Risk Management
6. Codes of Maintenance
7. Funding and Financial
8. Performance Management
9. Monitoring and Reporting
10. Programme Delivery

ISO 55001 - Alignment

NZTA – ASM

Asset Management Policy

Strategic Asset Management Plans

Level of Service

Asset Class - Asset Management Plans

AM
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Data
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Plans

Life Cycle
Asset
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Plan

Consistency across Asset Classes

- NZTA requirements for LAMP reporting
- Individual asset plans to be updated in line with AMPs and SAMP
- Outcomes to flow into the local and national risk registers and inform financial decisions.

ASM



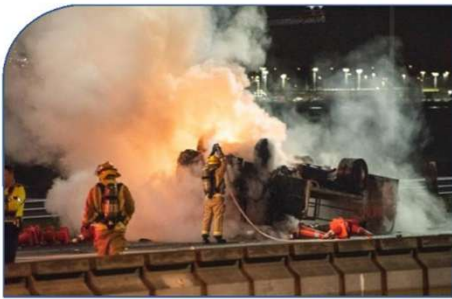
INFRASTRUCTURE
ASSET MANAGEMENT
PROFESSIONALS

ĀPŌPŌ[®]

Emergency Works & Resilience



Emergency Works



ASM EMERGENCY MANAGEMENT PLAN

APPROVED BY: JIM BERNHARD
 APPROVED DATE: 11/05/2023
 REVISION: 3.0
 DOCUMENT OWNER: ZANE DAVIDSON
 NEXT REVIEW WITHIN 24 MONTHS: 10/05/2025

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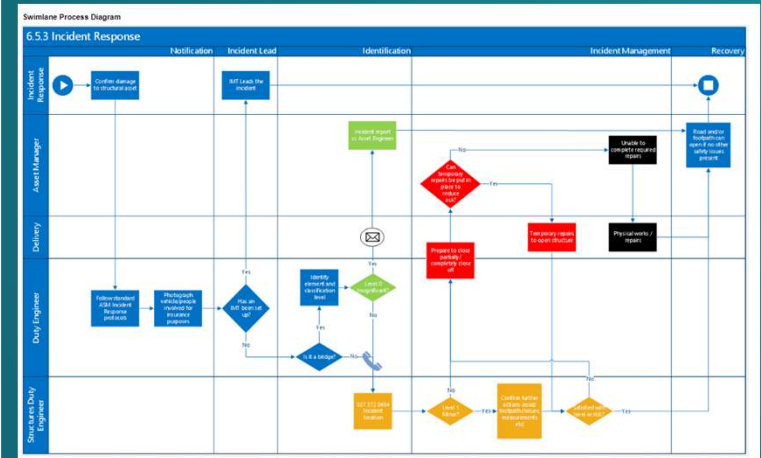
Auckland System Management Alliance

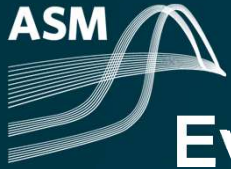


ELLERSLIE EMERGENCY PROCESS

Auckland System Management

APPROVED BY: STEVE SAUNDERS
 APPROVED DATE: 18/05/2023
 REVISION: 1.0
 DOCUMENT OWNER: DAVE ALLEN
 NEXT REVIEW WITHIN 24 MONTHS: 30/01/2025





Events Happen

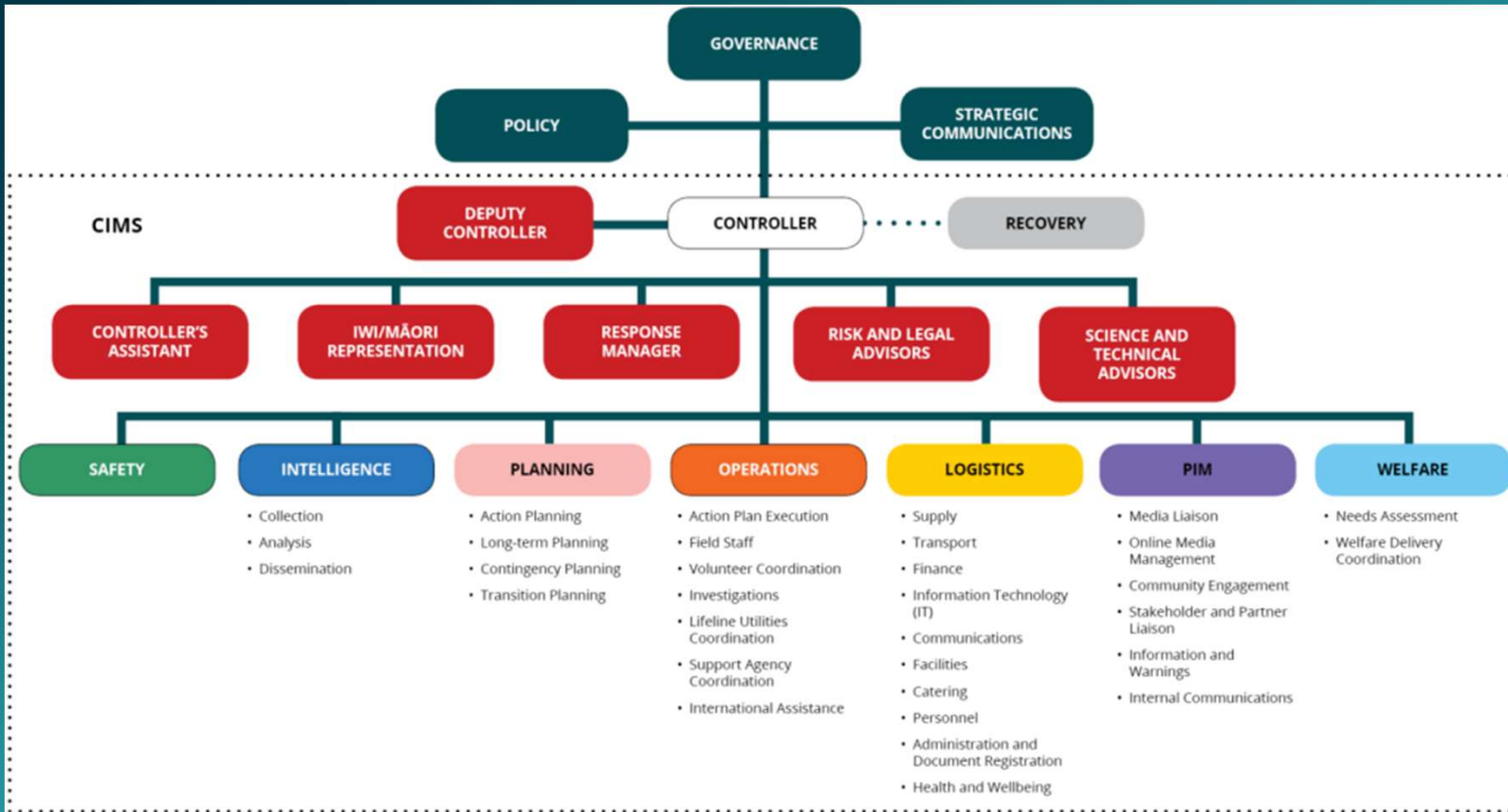


The Events

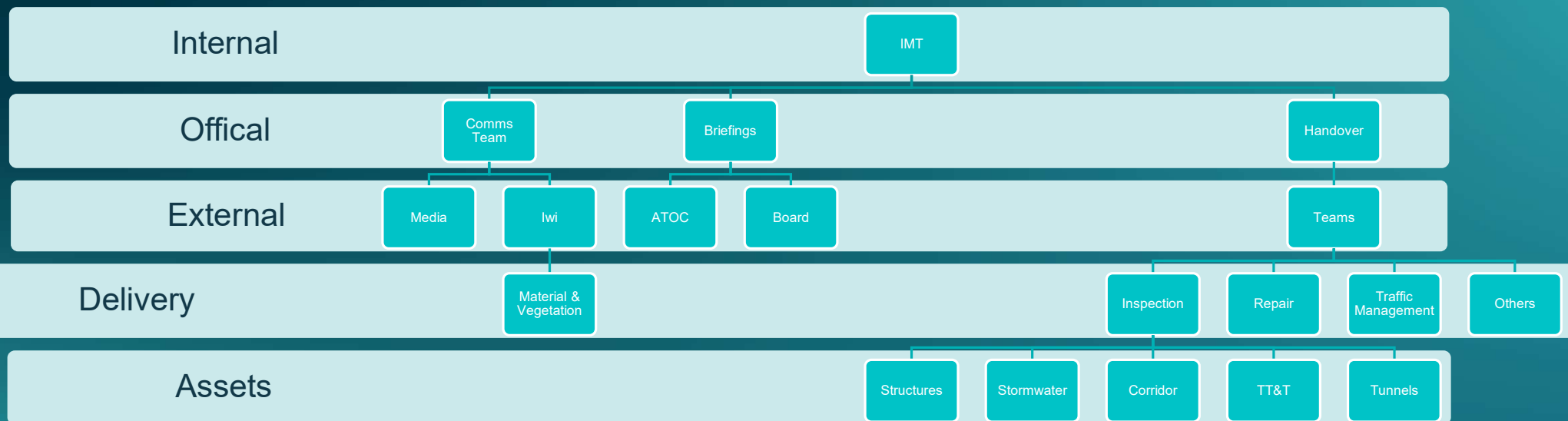


- 1: Lonely Track Failure northeast slope failure
- 2: Lonely Track Pond slope failures
- 3: Greville Road flooding
- 4: Tristram flooding
- 5: Upper harbour abutment slope failure
- 6: Takapuna Golf Course slope failure
- 7: Hillcrest Creek Flooding
- 8: St Mary's bay slope failure
- 9: SH16 port flooding
- 10: Penrose – Mt Wellington flooding
- 11: Onehunga flooding
- 12: SH22 Paerata Road flooding
- 13: Pioneer Road slope failure
- 14: Whangamarino slope failure





Communication Plans



Recovery

Criticality Definition	
Low	LIFELINE UTILITY 1 - Failure would cause loss of supply to more than 2,000 customers or reduction in services to part of the region And/or Is the main route to 1-2 lower band essential services And/or Has an appropriate NZTA designated detour route (less than 60min detour equal to or greater ONRC)
Medium	LIFELINE UTILITY 2 - Failure would cause loss of supply to more than 20,000 customers or reduction in services across the region And/or Is the main route for 3-5 lower band essential services And/or is the NZTA designated detour route for a regional or State Highway And/or Is the main route to 1 upper band essential service (without appropriate detour)
High	LIFELINE UTILITY 3 or 4 - Failure would have national significance or cause loss of supply to another nationally significant site that depends on this service OR is a nominated evacuation route AND Is the main route to 2 or more upper band essential services (without appropriate detour) And/or Is the only NZTA designated detour route for a national or high-volume highway



Recovery

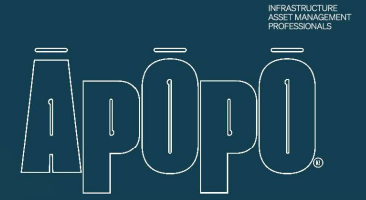


Resilience



Resilience





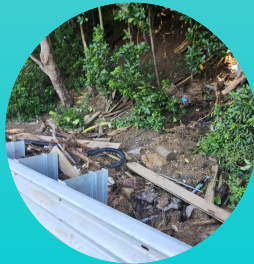
Future Focus



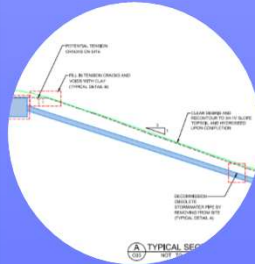
Resilience



Hillcrest
barrier
flooding



Onewa
geotechnical
failure



SH18
embankment
and drainage
failure



Flood
Mapping
&
K2G
Investigation



Nature Based
Solutions

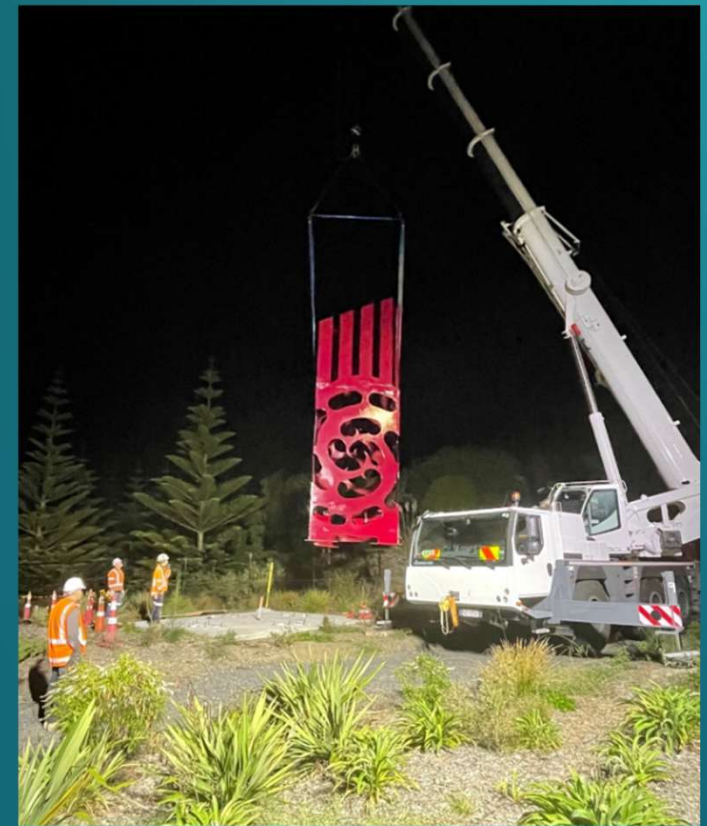


Detour Route
Resilience

Te Ao Maori – Mokopuna Design Thinking – Kaupapa Maori Lens



Auckland Iwi Integration Group



A Shared Future



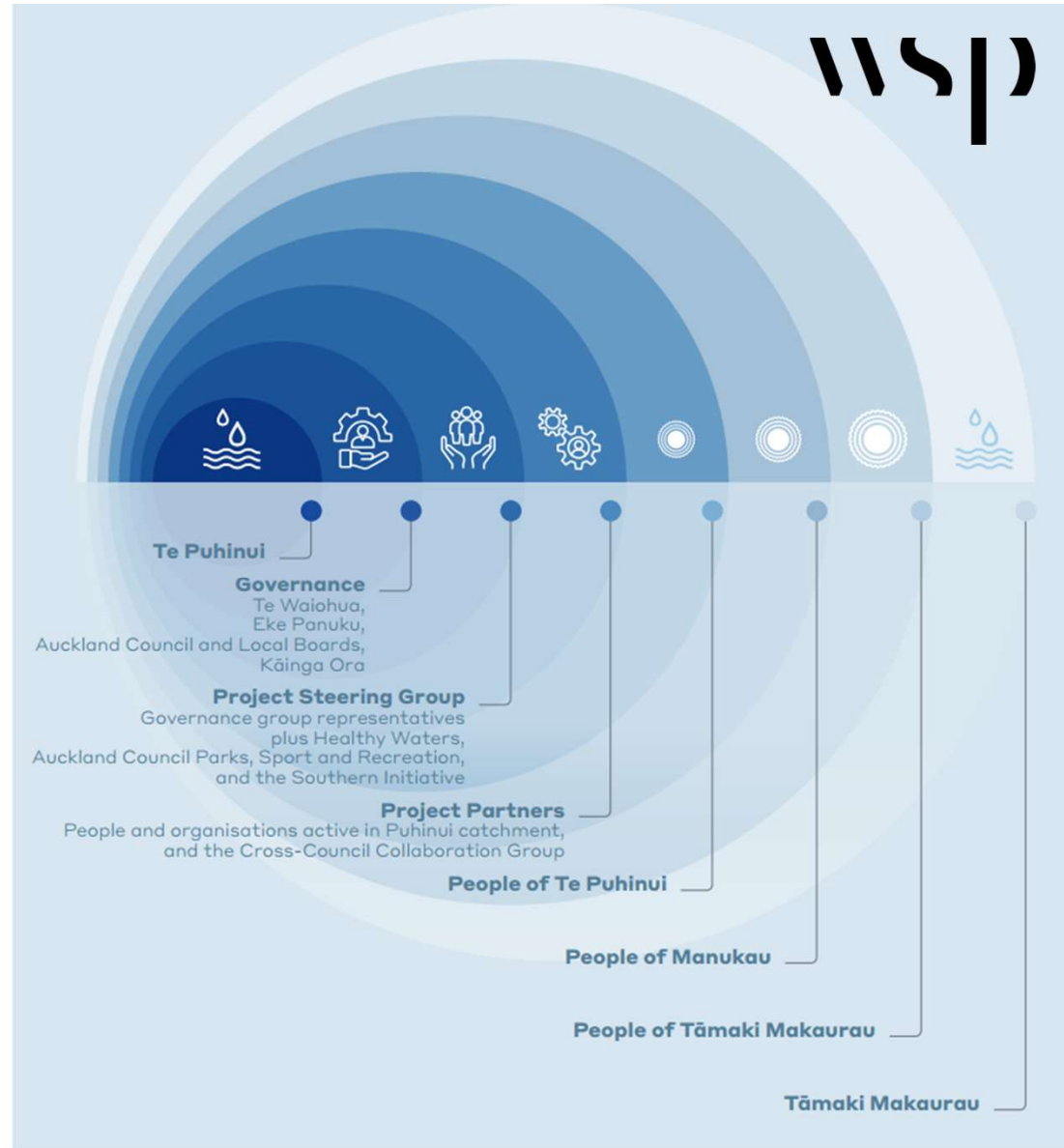
+
Climate adaptation is urgent

+
Diverse approaches needed

+
Engagement is key

INCREASING IMPACT ON THE DECISION

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place the final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.



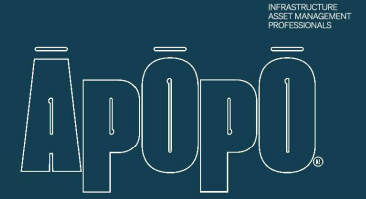
Nature based solutions

	Slope Risk		
Solution Term	Low	Medium	High
Short	N/A	Regrading	Engineered Solution
Medium	Regrading	Engineered Solution	Engineered Solution
Long	Natural Solution	Natural Solution	Natural Solution+ engineered solution



wsp

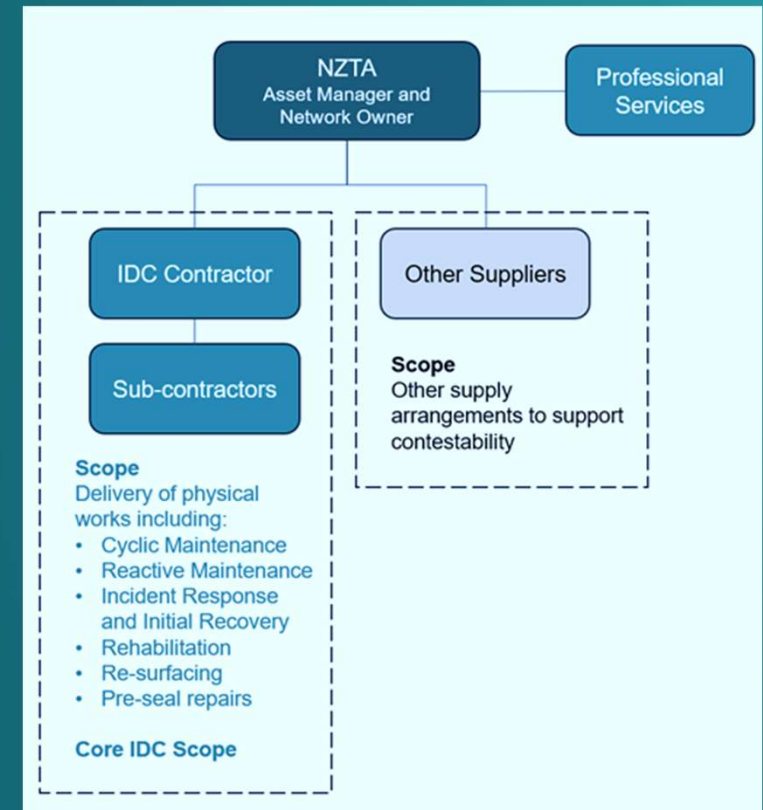
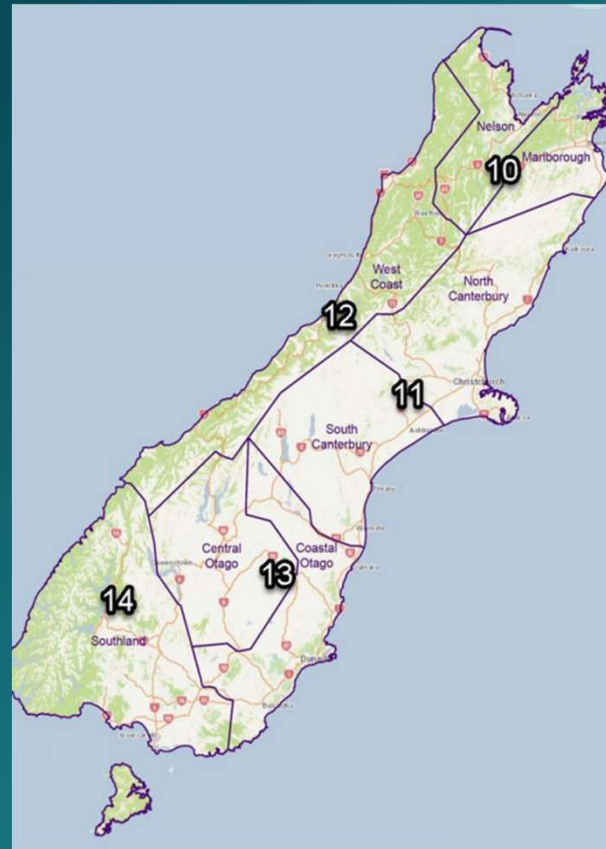
ASM

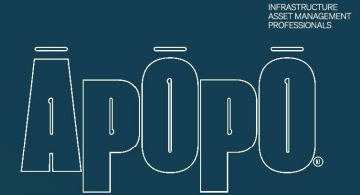


Future of Alliancing?



Future of Operations and Maintenance Contracts





Thanks, Questions

Āpōpō Guide:

- Infrastructure asset management is: meeting a required level of service, in the most cost-effective manner, through the management of assets for present and future customers.