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Department of the Prime Minister and Cabinet  
Level 8 Executive Wing  
Parliament Buildings  
Wellington

### **Strengthening the resilience of Aotearoa New Zealand's critical infrastructure system**

This submission has been prepared in response to the discussion document published by DPMC. Our particular focus is placed on the proposed obligations for critical infrastructure from a supply chain, economic, resiliency and construction perspective.

#### **1. Background**

- 1.1 Stantec is a large professional services firm with global and national expertise across the transportation, energy, infrastructure, climate resiliency, and environmental sectors.
- 1.2 We operate 17 local offices around Aotearoa New Zealand and have significant recent experience in the response and recovery of a range of supply chain disruptions in the form of significant weather events and natural disasters.
- 1.3 Our largest overlap would be with the construction sector. We provide the detailed design and planning work required for a range of infrastructure projects
- 1.4 Stantec has worked across the response and recovery phases of many recent domestic events, including:

2010: Christchurch Earthquake Vero Insurance Program – Recovery

2011: Tasman Floods – Response and Recovery

2018: Central Hawke's Bay Floods – Response and Recovery

2019: Pigeon Valley Fires – Response

2021: Marlborough Floods – Recovery

2022: Gisborne Floods – Recovery

2022: Marlborough Floods – Recovery

2022: Central Hawke's Bay Floods – Response and Recovery

2022: Nelson-Tasman Floods – Response and Recovery

2023: Cyclone Gabrielle (Hawkes Bay) – Response and Recovery

## **2. General comments**

2.1 Before we address the questions posed in the discussion document, Stantec wishes to make comments on two key areas. The first pertains to the country's lack of a recovery framework and the second relates to major constraints in human capital.

2.2 Stantec firmly believes that New Zealand is in dire need of a national recovery framework to ensure that we do not start from scratch every time a natural disaster or significant weather event occurs.

2.3 Such a framework should accommodate for 'betterment' (or additional resilience) in a way that current funding models and procurement processes do not necessarily allow ie Waka Kotahi's like-for-like requirements.

2.4 Developing such a framework would require us to understand what is meant by resilience, an acknowledgement that no infrastructure asset is foolproof and a public conversation about what service levels are acceptable and at what costs/impacts.

2.5 This will require political and central government leadership.

2.6 Currently, there are no fewer than eight agencies with some role in the climate adaptation/resilience/recovery space.

2.7 We strongly encourage DPMC to provide recommendations about how these central government siloes can be better fit-for-purpose, and how the private sector can assist in the development of a nationally adopted recovery framework.

2.8 Stantec's experience in Aotearoa New Zealand has led us to the view that many of the learnings from previous natural disasters or weather events that cause supply chain disruptions have yet to be captured in a national recovery or resilience framework.

2.9 As a nation, we are well equipped in the immediate response to significant events, but there is always a lag time between that phase and the medium-to-long-term recovery.

2.10 This lag time, while understandable, often fails to provide the recovery visibility that communities require in the aftermath of significant events and also negatively affects business sector confidence in reinvestment.

2.11 One other main concern is the labour pipeline, and lack of access to overseas skills so desperately required in Aotearoa New Zealand.

2.12 We note the Government's recent announcement of a fast-track cyclone recovery visa process. While we commend the intent behind the announcement, the six-month duration of the visas is impractical.

2.13 By the time a company has recruited a person, onboarded them and brought them up to speed, the majority of the visa time period would be over.

2.14 Stantec submits in support of such visas as a mechanism that we can enable in the aftermath of significant weather events or natural disasters but believes the duration must be significantly longer – a minimum of two years – to make it worth the time of both the employer and prospective employee.

2.15 New Zealand's economic resiliency is jeopardised in times of crisis by the lack of access to skilled global labour – and this is playing out in multiple sectors in the economy presently in the wake of COVID-19.

### **3. Response to questions**

#### **• Does more need to be done to improve the resilience of New Zealand's critical infrastructure system?**

The simple answer is yes. However, the solution is more nuanced than that. There is no one-size-fits-all approach to resilient infrastructure.

We need to take a flexible approach to defining resilience for different types of infrastructure assets, and we need to be more innovative in the way that definition rolls out in practice ie surgical wards in hospitals may need to be built to withstand a higher level of disaster impact, but other parts of hospitals may not need to meet the same standard.

In some regions, bailey bridges may be the most cost effective and practical solution in lieu of expensive rebuilds that will likely be washed out in future weather events.

#### **• Have you had direct experience of critical infrastructure failures, and if so, how has this affected you?**

Stantec has peer review experience on failed infrastructure, working for insurance companies following the Christchurch and Kaikoura earthquakes.

The impact of failed infrastructure first calls into question the level of service and design loads included within the design. This always highlights the poor definition of expectations from clients, designers and users where a national resilience standard would add value.

#### **• How would you expect a resilient critical infrastructure system to perform during adverse events?**

This is where transparency about acceptable service levels is important at a community-level in the hours, days, weeks and months following a shock event.

We do not have a firm view on how resilient infrastructure should perform but would caution against arbitration for determining acceptable levels, given there could potentially be significant cost implications in doing so.

Stantec would welcome the opportunity to have more input into how we arrive at service level expectations for critical infrastructure.

#### **• Would you be willing to pay higher prices for a more resilient and reliable critical infrastructure system?**

Infrastructure that comes with a higher cost is inevitable and we believe consumers would accept this if a clear level of resilience was understood.

- **The work programme’s objective is to enhance the resilience of New Zealand’s critical infrastructure system to all hazards and threats, with the intent of protecting New Zealand’s wellbeing, and supporting sustainable and inclusive growth. Do you agree with these objectives? If not, what changes would you propose?**

Agree.

## **Section 1: Background and context**

- **The paper discussed four mega trends: i) climate change, ii) a more complex geopolitical and national security environment, iii) economic fragmentation, and iv) the advent and rapid uptake of new technologies.**

**Do you think these pose significant threats to infrastructure resilience?**

Yes.

## **Section 2: Potential barriers to infrastructure resilience**

### Building a shared understanding of issues fundamental to system resilience

- **How important do you think it is for the resilience of New Zealand’s infrastructure system to have a greater shared understanding of hazards and threats?**

We believe this is crucial, as is consistency across local authorities regarding their consenting practices.

- **What do you think the government should do to enable greater information sharing with, and between, critical infrastructure owners and operators?**

We believe the best use of government resources would be to establish a centralised recovery agency and centralise all work programmes around climate adaptation, resiliency and recovery as much as is practicable. Information will be easier to share if the systems are fit-for-purpose and allow collaboration.

### Setting proportionate resilience requirements

- **Would you support the government having the ability to set, and enforce, minimum resilience standards across the entire infrastructure system? If so: – what type of standard would you support (eg. requirement to adhere to a specific process or satisfy a set of principles)? – do you have a view on how potential minimum resilience standards could best complement existing approaches to risk management?**

In theory, we support the principle behind setting minimum resilience standards across the entire infrastructure system.

Stantec submits that more national consistency around what type of development can be built in what type of hazard area and to what standard would be a worthwhile exercise. This should form part of the much-needed national standard for resilience.

- **Would you support the government investing in a model to assess the significance of a critical infrastructure asset, and using that as the basis for imposing more stringent resilience requirements?**

**If so: – what options would you like the government to consider for delivering on this objective?**

Defining and assessing critical infrastructure nationally will allow for better funding planning and visibility. Project approval or funding could be tied to an ability to demonstrate how minimum standards would be met.

**• what criteria would you use to determine a critical infrastructure asset's importance??investing in a model to assess a critical infrastructure asset's criticality, and using that as the basis for imposing resilience requirements that are more stringent on particularly sensitive assets? If so: – what options would you like the government to consider for delivering on this objective? – what features do you think provide the best proxies for criticality in the New Zealand context?**

There is some good work done globally on defining critical infrastructure that is directly relevant to the NZ setting and risk profile. Our geo-hazards pose the most significant risk and will heavily influence asset criticality, however there is suite of criteria that will influence vital social and economic sustainability.

We believe this again would form part of a national standard for resilience.

Creating clear accountabilities and accountability mechanisms for critical infrastructure resilience

**• Do you think there is a need for a government agency or agencies to have clear responsibility for the resilience of New Zealand's critical infrastructure system? If so: – do you consider that new regulatory functions should be the responsibility of separate agencies, or a single agency? – do you consider that an existing entity should assume these functions or that they should be vested in a new entity? – how do you see the role of a potential system regulator relative to sectoral regulators?**

Yes, we believe that consolidating the current resilience initiatives across multiple agencies is needed.

NEMA should be considered as the lead recovery agency with the appropriate regulatory functions for critical infrastructure.

**• Do you think there is a need for compliance and enforcement mechanisms (eg. mandatory reporting, penalties, offences) to ensure that critical infrastructure operators are meeting potential minimum standards? If so: – do you consider that these should be applied to the entity, to the entity's directors/executive leadership, or a mix of the two, and why?**

Yes, the entity should be held responsible.

#### 4. Summary

4.1 Stantec is heartened to see both the Emergency Management Amendment Bill and this discussion document from DPMC.

4.2 Central government roles and functions across a variety of agencies should be centralised and there should be regular and meaningful engagement with the private sector about what resilience looks like and the development of a recovery entity and national recovery framework.

4.3 We would be happy to meet with officials discuss this work programme in greater detail.