STATE HIGHWAY EMERGENCY WORKS RECOVERY GUIDE

Waka Kotahi NZ Transport Agency

10 July 2023

Version 1.0

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More information

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Published July 2023

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This document is available on Waka Kotahi NZ Transport Agency's website at www.nzta.govt.nz

Cover photo source: https://www.nzta.govt.nz/media-releases/total-collapse-of-road-at-summit-of-state-highway-25a/

Document management plan

1) Purpose

This management plan outlines the updating procedures and contact points for the document.

2) Document information

Document name	State Highway Emergency Works Recovery Guide
Document number	NA
Document availability	This document is located in electronic form on the Highways Information Portal website www.hip.nzta.govt.nz
Document owner	Nick Cook
Document sponsor	Jack Hansby

3) Amendments and review strategy

All corrective action/improvement requests (CAIRs) suggesting changes will be acknowledged by the document owner.

	Comments	Frequency
Amendments (minor revisions)	Updates incorporated immediately as they occur.	As required.
Review (major revisions)	Amendments fundamentally changing the content or structure of the document will be incorporated as soon as practicable. They may require coordinating with the review team timetable.	At least annually.

4) Other information (at document owner's discretion)

There will be occasions, depending on the subject matter, when amendments will need to be worked through before the amendment is actioned. This may cause some variations to the above noted time frames.

Record of amendment

Amendment number	Description of change	Effective date	Updated by
1.0	Version 1	10 July 2023	Nick Cook

Contents

About this guide

Purpose

The purpose of this guide is to provide clear guidance to Waka Kotahi network teams on how to manage Emergency Works (EW) events on state highways with a specific focus on the recovery phase.

Background

Waka Kotahi spends a considerable amount of money on state highway EW each year with an average spend of $80M over the last four years (2021). Despite this large annual expenditure, process, management and governance across EW projects is inconsistent across the country.

Audience

The primary users of this document are expected to be Waka Kotahi Project Managers, Network Managers, System Managers and Regional Managers. However, there may well be other roles and groups across Waka Kotahi (and externally) who will find this guide useful.

This guide should be viewed in conjunction with the Emergency Works Funding Guide which focuses on the application and approval process for state highway funding as well as Emergency Works management reporting.

How to use this guide

Guide structure

This guide outlines the process that should be used during EW projects. The guide focuses more on the recovery phase, but this can begin at the same time as the response phase.

Finding information

To find specific information in the guide, refer to the Table of Contents.

Hyperlinks

To find these hyperlinks, hover your mouse over a cross-reference or table of contents entry, and use the control button to make the cursor change to the hand icon and then click on the link.

Help

If you need further help or cannot find the information you are looking for, please consult the region's Asset Investment Advisor for advice.

Other websites:

Planning and Investment Knowledge Base

How this guide relates to other documents and processes

Coordinated Incident Management System (CIMS)

Waka Kotahi uses New Zealand's Coordinated Incident Management System (CIMS) to guide its approach to Response and Recovery as it is required as an agency in the emergency response system. CIMS establishes a framework of consistent principles, structures, functions, processes and terminology for Response and the transition to Recovery.

The purpose of CIMS is to enable personnel to respond effectively to incidents through appropriate coordination across functions and organisations, both vertically and horizontally, by:

- Establishing common structures, functions and terminology in a framework that is flexible, modular, and scalable so that the framework can be tailored to specific circumstances; and
- Providing organisations with a framework that they can use to develop their own CIMS-aligned processes and procedures that support both own-organisation responses and multi-organisation interoperability, giving due consideration to each organisation's unique responsibilities, resources and legislative authority.

Waka Kotahi has developed the Highway Emergency Management Framework, which sets out the approach that provides an effective coordinated response to incidents or emergencies that impact the land transport system, which are beyond business-as-usual capacity and capabilities. Business-as-usual incidents are expected to be managed by Transport Operations Centres (TOCs) in conjunction with our network consultants and contractors, supported by people in their normal roles.

The purpose of our emergency response is to provide a fast, flexible, and consistent response to an emergency that impacts the state highway system which is beyond business-as-usual capabilities. This is designed for incidents that have the risk to cause, or have caused, serious disruption or consequences that require a response with a higher level of coordination, collaboration, and liaison and often for a long duration.

An Emergency Response Team includes Waka Kotahi's place within the Officials' Committee for Domestic and External Security Coordination (ODESC – formally the National Security System), as critical infrastructure, the 4Rs, the use of the Coordinated Incident Management System (CIMS), the role of Governance, staff wellbeing and fatigue management, and lessons management and continuous improvement.

Emergency Preparedness and Procedures Plan (EPPP)

The EPPP holds key information for specific sites and sections of highway for each contract area (note this is a Network Outcome Contract (NOC) specific document, however Alliance contracts should have something similar). Detour routes for each contract area which were previously held in the EPPP should now be managed and updated in the detour routes tool. The EPPP will contain key information for both the response and recovery phases and should be consulted as required.

Business Continuity Plans (BCP)

BCPs are used where Waka Kotahi business processes are disrupted due to staff being affected by a major event. They provide guidance on what roles delegations and critical business functions may be passed on if certain staff members are not available. During major events, the BCP may need to be consulted in parallel with this guide where certain roles or groups are mentioned at key decision points and those people are not available. For more information visit the BCP OnRamp Page (only available to Waka Kotahi staff) or email RiskAssSharedMail@nzta.govt.nz.

Principles of Emergency Works (EW)

Emergency Works events are funded from Work Category 141, which covers assets, facilities and services eligible for funding from the National Land Transport Fund (NLTF) that require:

- an immediate response for public safety or to provide vital access
- reinstatement of customer levels of transport service.

The qualifying criteria for EW events and exclusions are well defined on the PIKB website. Note that Work category 141 Emergency Works is for events over $100,000 in total cost. Minor events of less than $100,000 total cost are funded from Work category 140: Minor events.

EW events are managed across two distinct phases:

- response phase
- recovery phase.

Response phase:

The response phase describes the work required to keep the highway open (or re-open the highway if closed), during and immediately following an event. This can include clean up and temporary works to maintain community links and to maintain the safe operation of the highway and may require a reduced operating capacity such as single lane operations, controlled convoys and reduced opening times.

Examples of works during the response phase include:

- Initial assessment, inception workshops and safety toolbox sessions
- Initial clean-up and use of slips and debris
- Any temporary works required to make the route safe and restore connectivity
- Any temporary works required to reduce further degradation or damage to the asset
- Cleaning/clearing of drainage assets
- Any small interventions which do not require design
- Temporary traffic management, including reduced speeds near EW sites
- Activating detour routes, including detour signage and any required restrictions e.g. reduced speed limits over structures, High Productivity Motor Vehicles (HPMV) requirements.
- Installing Bailey bridges and associated works
- Communications to road users and key stakeholders
- Condition rating of any detour routes used to assist with claims process (where possible)

Recovery phase:

The recovery phase describes the work required to return the asset to the agreed level of service for the affected roads. For smaller or low impact EW events, a recovery phase may not be required ie once clean-up has been completed there may be no reinstatement or additional work required.

The recovery should provide a permanent, value for money reinstatement option that is fit for purpose and in line with the level of service for the route classification (see section below on determining the right level of service).

Examples of works during the recovery phase include:

- Liaison with consent authority, Māori (Iwi, hapu) and local community
- Benching and shaping of slip sites
- Provision of retaining structures
- Provision of rock protection
- Provision of improved roadside drainage systems and measures e.g. new culverts including upsizing of pre-existing culverts, defusing the drain to different points away from risk areas
- Required bridge re-establishment works
- Drop out repairs
- River training and scour protection to protect the investment made through EW
- Any designs and consents required to support the work

- Permanent structural or pavement repairs
- Replacement of traffic services infrastructure
- Horizontal drains
- Rockfall protection systems
- Vegetation management and re-planting
- Communication to road users and key stakeholders

Note: These works may not be solely funded from WC141. Other funding sources such as WC341 Low Cost Low Risk may be required/utilised.

Figure 1 below highlights the steps and transition between the response and recovery phases.

EW process

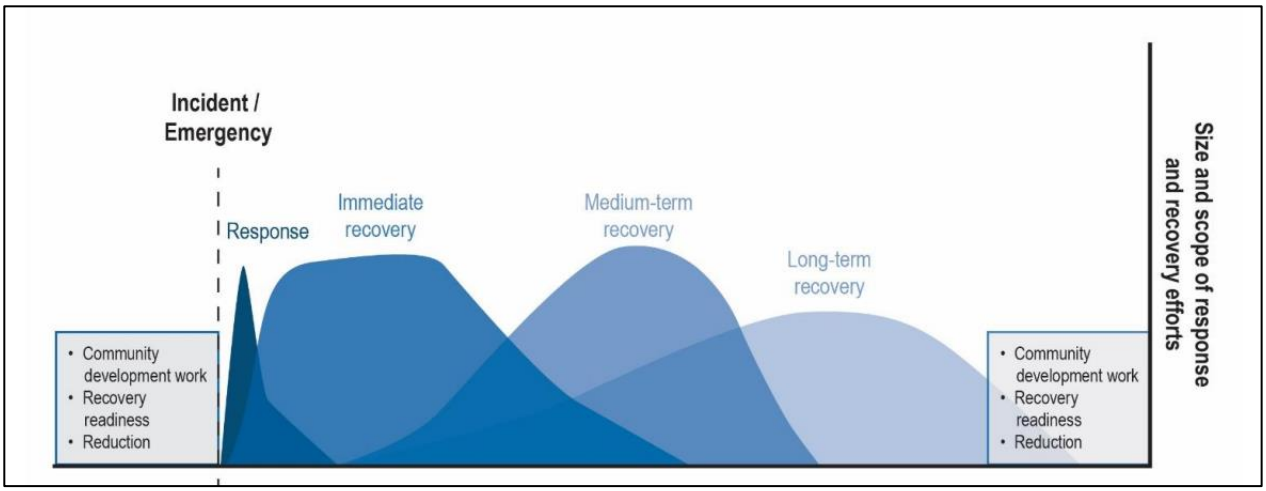

Figure 1: The recovery continuum. Source: Recovery Preparedness and Management. Director's Guideline for Civil Defence Emergency Management Groups (DGL 24/20)

Response phase

The main objective of the response phase is to re-open the road or provide connectivity via a temporary route as quickly and safely as possible.

This may mean:

- clearing slips or debris from the road
- waiting for flood water to dissipate and then clearing debris
- establishing traffic management where the carriageway is constrained e.g. a drop out closing one lane
- reinstating the road surface to allow traffic to resume
- clearing culverts and drainage infrastructure
- establishing a temporary detour route

In parallel with this work, the other key objective of this phase is to conduct an initial assessment of the damage caused by the event to understand the likely level of investment required to return the network to the agreed level of service. This may also need input from Waka Kotahi subject matter experts such as Structural, Geotechnical or Stormwater Engineers and context specific inputs from Planning and Environmental specialists (eg ecology, heritage, contaminated land, landscape etc). For a number of EW events, especially smaller events, the response phase is all that will be required eg where a small slip can be cleared within a few days and there is little or no damage to the road or other assets.

The response phase should be led by the local network team and in conjunction with the local maintenance contractor. The local Asset Investment Advisor (AIA) should also be involved, especially with the assessment of damage and consideration of overall cost impacts.

Expectations of Waka Kotahi network teams during the response phase

Network teams should:

- Complete a decision log (see EW Highway Information Portal page for template) to ensure key decisions are captured
- Work with the local network planning team to document the works being carried out and consider any planning/consenting requirements which may be required
- Engage with the Waka Kotahi Environmental Planning Team and the Environment and Sustainability Team to ensure best practice is being followed during the response phase. This includes the application of accidental discovery protocols related to archaeological discoveries and consideration of worker/public health risk from contaminated sites.
- Have access to and be able to use any Waka Kotahi data capture tools for Emergency Works events eg Survey 123.

Expectations of suppliers (contractors and professional service providers) during the response phase

Maintenance and operations contractors should:

- Be prepared for events by having plant ready to be utilised (especially for forecast storm events)
- Have an up-to-date Emergency Preparedness and Procedures Plan (EPPP)
- Have in place robust traffic management plans for detour routes
- Provide progressive scoping for individual sites:
    - Initial scope put forward for each site shortly after the event with a rough estimate of cost to remedy site for the response phase.
    - Scope updates on a frequent basis eg weekly. This includes updates on costs to date and forecasts for the rest of the response phase.
    - All cost estimates and forecasts should be supported by detailed estimates and include a schedule based on either quantity or resource requirements

Professional Service Providers:

- Provide a one page site assessment for each site which outlines suspected root cause/failure mode and high-level options for the recovery phase. Options should consider a range of risk profiles[1] and investigation requirements.[2]
    - These site assessments will be reviewed by Waka Kotahi subject matter experts (geotechnical and drainage engineers and inputs from Planning and Environmental specialists eg ecology, heritage, contaminated land, landscape etc) once they have reviewed and agreed the approach.
    - Site assessments should be completed within seven days of the event.
    - Site assessments should, where possible, utilise pre-existing knowledge of expected failure modes of the area in question eg geological records, previous events, identified risks
- Ensure that any findings from an event are used to update relevant data sources so that this information can be utilised going forward.
- Clearly outline their professional indemnity concerns when submitting site assessments and how these concerns are influencing recommendations.

Administrative requirements

Accept/decline form

The accept/decline form needs to be submitted to the local AIA within 24 hours of the event to provide the correct approval that the event qualifies as an Emergency Works event. See the Emergency Works Funding Guide for more details.

Response phase set up in SAP/TIO

SAP and Transport Investment Online (TIO) set up is done by the Transport Services Maintenance Portfolio team in TIO once the accept/decline form has been approved. See the Emergency Works Funding Guide for more details.

Emergency Works application form

Application forms are required within four weeks of the event occurring. See the Emergency Works HIP page for the required template.

Emergency Works funding request

The Emergency Works funding request is to support the application form. See the Emergency Works HIP page for the required template.

Emergency Works report

Provides supporting documentation and details to support the funding application. The Emergency Works report should summarise the extent of the event and make it clear the level of funding required for the recovery phase. It should also identify any context specific requirements (including environmental and sustainability items), resilience and betterment opportunities which should be considered. This report must be endorsed by the local AIA and approved by the National Recovery Manager. The content from the Emergency Works report will form the basis for the recovery plan (if required).

See the Emergency Works Funding Guide for more details on the Emergency Works report.

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[1] Should include environmental and public health risk.

[2] Add as noted above. Please consider some examples here e.g. Z19 Taumata Taiao Environmental and sustainability **standard** considerations and Environmental screening should be initiated at this stage (see Waka Kotahi Environmental **Screen**) to inform the planning assessment, design and management measures. Note: Z19 Taumata Taiao implementation is flexible, and the level of effort should be commensurate with the complexity/risk of the activity.

Event scale	Delegation required for funding approval
<$1m	Regional Manager
$1-5M	Senior Manager Maintenance & Operations
$5-15M	National Manager Programme and Standards
$15-50M	Waka Kotahi Chief Financial Officer
>$50M	Waka Kotahi Board

Table 1: Delegation requirements for EW projects

Visit this link (available to Waka Kotahi staff only) for more information on Waka Kotahi delegations.

Trigger Action Response Plans (TARPs)

TARPs may be used by contractors after an event to establish when a site may require closure or other interventions based on an expected change to risk levels eg predicted heavy rainfall event.

Decision Log

It is recommended, that for the response phase, a decision log is maintained by the local network team to capture key decisions and the reasoning behind them. This log can be very useful later on for any subsequent reviews, lessons learnt analysis, Official Information Act requests and in the event of any disputes.

A decision log should include details of decisions on:

- scope and clean up works
- who was consulted with on decisions, including partner and stakeholder engagement
- professional services and engaging contractors to do work
- using local authority detour routes

NOC Supplier Incident Recovery Plan

As part of the expectations of the supplier laid out in the EPPP, an Incident Recovery Plan is required for larger events (those that require a Recovery Phase). This plan should outline the NOCs expectations for the recovery phase and feed into the Waka Kotahi Recovery Plan. In some cases, it may be easier for the NOC to work with the National Recovery Manager to develop the Waka Kotahi Recovery Plan, rather than submit a separate Incident Recovery Plan.

Condition rating assessment of any local authority detour routes used

If during the response phase a local authority detour route is required, it is important that the route is surveyed as early as possible. This survey will be very useful later on for verifying any claim for damage submitted by the local authority.

Ideally, the survey should be captured on video to provide an accurate record of the condition of the route. If a video cannot be used, then a drive over involving both a Waka Kotahi representative and a rep from the relevant local authority is advised. During this drive over, a detailed account of the road condition and existing damage should be well documented and agreed by both parties.

Context and environmental considerations:

The context of the corridor should be understood for any emergency works event in order to protect the health of workers, the general public and to avoid damage. It is important to undertake a high-level assessment of the context and environment of the corridor, for example:

- Potential for contaminated soil to be present within the works area. A plan for managing and storing contaminated soil must be put in place before any work is undertaken at that location.
- Known cultural sites and risks of uncovering koiwi [3] or human remains. P45 Accidental archaeological discovery procedures should be referred to regarding how koiwi should be stored and managed safely. Also refer to Heritage NZ guidance from Cyclone Gabrielle.
- Protected areas, eg special ecological areas.
- Consider what shape the works could take in relation to this context and re-use of site won materials.

Operational risk management

There may be a number of operational risk controls needed following an event to allow for the safe operation of the network through the affected area.

Trigger Action Response Plans, Traffic Management Plans and slope risk assessments (Rockfall Hazard Rating, Assessed Risk Level) may all be required to document and determine the following:

- How the site will be managed, for example:
  - only opening the road during the day
  - only operating one lane with controlled traffic management
  - frequency of site inspections and review of conditions
  - expected action if more extreme weather is forecast
- Traffic management requirements, for example:
  - Manned stop/go signs
  - Traffic lights
  - Road layout
  - Reduced speed requirements
- Slope risks and how they will be managed.

Setting up SAP and TIO

It is important that Transport Investment Online (TIO) and SAP are set up correctly when initiating an EW project. Please refer to the Emergency Works Funding Guide for all guidance on how to do this correctly.

[3] Human bones

Transition – response to recovery

On the ground

The transition from response to recovery phase will be determined by the lead agency eg NEMA and Waka Kotahi will need to be able to transition from response to recovery to align with the expectations of the lead agency. This may mean that there are various sites in different states, some will be clear and fully operational and some may still have stabilising works going on.

Administrative requirements

SAP

When the response phase is complete, the phase should be set as 'technically complete' in SAP. There will likely be some ongoing costs from the response phase that still require payment eg ongoing temporary traffic management costs and any claims from local authorities for detour route use. These ongoing costs will need to be identified in the Emergency Works report and transferred to the recovery phase.

Recovery plan

The recovery plan can be initiated at any point during the response phase. However, it will not be reviewed until the recovery phase begins. The content and purpose of the recovery plan is covered in more detailed below.

Recovery phase

On the ground

Once a site is stable and traffic is able to resume safely (either in full or reduced capacity) work can begin on the recovery. Most recovery work will require investigation, design and consenting. The requirements for consenting need to be discussed and agreed with the Waka Kotahi Planning team[4] and Lead Advisors to ensure compliance with the RMA is followed. This should not hold up the recovery works, as Emergency Works are provided for under S330 of the RMA, however this must be notified within seven days and agreed to by the local council planning team(s). Otherwise, the consenting process can typically be expected to take a number of months.

If public consultation or land purchase[5] is required, this part of the process will take even longer. Funding for land purchase is not provided for under the Emergency Works work category. For this reason, it may be that the site(s) do not change much in the early part of the recovery phase and temporary traffic management is the only activity happening on site.

During this period between the completion of the response phase, and before recovery works commence, consideration should be given to the following:

- Continued site monitoring and the risk of another event causing more damage eg slip sites, increased river or coastal erosion, drop-outs. Provision for temporary work to protect the asset should also be considered before the response phase is completed/closed.
- Preparedness for further site deterioration eg additional traffic management, additional material requirements (large rocks, other fill), having heavy equipment on standby.
- Advanced procurement of any materials.
- Communications: Keeping the local community up to date on progress and ensuring they are aware of the process and understand why there may be a prolonged period of what will look like

[4] If you aren't sure who to contact, please email environmentalplanning@nzta.govt.nz or EnvironmentalPlanningLeadershipTeam@nzta.govt.nz

[5] Note any land purchase needs to involve Waka Kotahi Property teams

inactivity from their viewpoint. Frequent dialogue with the local road controlling authorities should also continue.

National Recovery Manager

The National Recovery Manager (NRM) is a national role and is separate from the Project Manager role for EW projects. The role of the NRM is to ensure consistency in recovery and to guide the procurement approach for EW projects. The NRM will have oversight of all EW projects and will work with the local AIA and Network Team to ensure projects are managed consistently and in line with required process.

The NRM will work with the local AIA and Network Team to identify all opportunities to improve or increase the level of service and present these to the Value, Outcomes and Scope (VOS) Committee for approval and/or further guidance.

Project governance

The governance requirements for each EW project will vary depending on the size and complexity of the event. For large events where an Alliance is established, there will likely be a discrete governance structure put in place. For other events, a special governance structure may also be required. The NRM will work with the local network team and make a recommendation to the VOS Committee if they think an event warrants any unique governance arrangements.

Recovery plan

A recovery plan will be developed by the network team (or recovery team) and should include input from the local AIA and lay out the key elements for the recovery phase. This does not have to go into great detail to begin with as all details will not yet be available.

For large events, the NOC Supplier is expected to provide an Incident Recovery Plan. The network team (or the recovery team) should incorporate the relevant content from the NOC incident recovery plan and the Emergency Works report into the Waka Kotahi recovery plan. This will be a dynamic document which can be updated as the project progresses.

The recovery plan must use the available template (see EW HIP page) and cover:

- Key considerations of the recovery:
    - site details
    - environmental impacts and opportunities based on outcomes of any Waka Kotahi environmental screen
    - cultural factors
    - economic factors
    - what has already been accounted for in the Trigger Action Response Plan (TARP) that needs to be transferred across to the recovery phase (if a TARP was completed for any sites as part of the response phase).
- Key stakeholders and other agencies that need to be consulted with and/or involved
- Communication plan
- Project team members (internal and externals)
- Resource requirements and availability
- Level of service discussion
- Required consents and other statutory approvals
- Optioneering for each site (high level options to begin with before detailed optioneering can be carried out)
- Budget management and reporting requirements
- Procurement requirements
- Agreed detour routes

Note: Some of the above content will not be available in any great detail at the beginning of the recovery phase eg level of service discussion, design frameworks and detailed options. This content can be included in later phases of the plan (or have more detail added) once it is known.

There are templates available for the recovery plan and recovery options to help network teams meet the requirements and provide the necessary detail for each stage. These templates are available on the EW HIP page.

Recovery team

For large EW events, a dedicated recovery team may be established to manage the project. This team may be made up of Waka Kotahi staff (typically seconded from their regular roles), maintenance contract suppliers and professional service providers. As the recovery team is established, the reporting and governance structure which sits across the team will also need to be determined. Regardless of the governance structure, the recovery team will still need to liaise with the NRM and complete the same process requirements eg recovery plan, SAP set up, as outlined in this guide.

Agreeing the level of service

For all EW projects, the recovery plan should consider the desired level of service for the road or roads affected, and for all transport modes. The assessment of any change to the level of service can then be carried out during the high-level assessment process. In the majority of cases the level of service will be unchanged, and any works required to re-establish the route will simply need to meet the level of service that existed before the event. However, there may be some cases where an improved or increased level of service is justified (see Table 2). [6]

Where there are opportunities for a change in level of service to a route, these should be presented to the VOS and be accompanied by clear justification as to why they are warranted. Justification for an increased level of service may include safety benefits, increase in traffic volumes (including predicted increases) and resilience benefits. If the VOS agrees with the justification for a change in level of service, they will need to consult with other parties and make a recommendation to the person with the required delegation to change the level of service (eg GGM Transport Services).

Although much less likely, in some cases a decrease in level of service may be warranted e.g. not resealing a road surface where there is a high chance of continued movement or disruption from flooding or reverting to single lane priority give ways as a permanent solution. Again, this should be included in the recovery plan and submitted to the VOS for consideration.

Optioneering

High level assessment process

Optioneering is an important requirement for each EW project. This may be done for each site or include a group of sites where they are in close proximity. The aim of this high-level assessment is to agree a preferred way forward regarding the level of service and overall direction for each site. The high-level assessment should identify any opportunities for an improved and/or increased level of service (see table 3 below). These improvements should be considered based on current conditions and requirements but also in the context of being able to tolerate future events and network demands.[7]

The high-level assessment should be conducted by the local network team and AIA (or the Recovery Team if one has been appointed). The NRM may also participate in the high-level assessment process, and will endorse the final preferred option. Where a reduced, improved or increased level of service is

[6] A Strategic Recovery Framework is being developed by the Policy and System Planning Team (July 2023). Once completed, this will provide important guidance for assessing desired Level of Service.

[7] Useful resources to reference include:

- Tiro Rangi (Waka Kotahi Climate Adaptation Plan)
- Arataki

selected as the preferred way forward from this assessment, the outcome should be reviewed and agreed by the VOS before developing any detailed options. For complex sites, the VOS may even choose to partake in the assessment process.

An excel template for assessing the high-level options will be made available with the response plan template on HIP. The range of high-level options and assessment criteria should at least include the below.

Option 1	Option 2	Option 3	Option 4
Reduced level of service (incudes closure of route/retreat)	**Return to the same level of service**	**Improved level of service**	**Increased level of service**

Table 2: Level of service options

The high-level assessment should, at a minimum, be assessed against the below criteria:

- **Safety:** does the option provide a safe corridor for all road users?
- **Environment:** does the option account for any environmental factors unique to the site?
- **Community outcomes**: does the option meet the requirements of the local community and Māori partners? Are there alternate routes available?
- **Future proofing:** does the option account for the impacts of climate change and other environmental factors? Will new and existing assets make it through to the end of their life – especially when taking into account climate change?
- **Traffic demand**: does the option account for significant increases in traffic where this is deemed likely? Are all traffic modes considered?
- **Value for money**: is the option a good investment?
- **Buildability:** is the option able to be constructed?

Improved level of service vs. increased level of service

Whilst increases to the level of service may be difficult to justify, there may be opportunities for an improved level of service for the site(s). These may be resilience or safety improvements which improve the performance of the road without necessarily changing the level of service. The table below provides some examples of an improved level of service and increased level of service.

Improved level of service	Increased level of service
• New or enlarged culverts • New drainage assets and provision for fish passages • New guardrail • New ATP • New additional landscape or planted areas	• Widening of the road/major change in alignment for improved safety and/or efficiency • Major increase in drainage capacity e.g. provision of secondary flow paths • Bridge widening or changes to bridge construction e.g. timber to concrete. • New geotechnical structures beyond what is required to stabilise the site e.g. river groynes, rock chutes. • Addition of new stopping, passing or rest areas. • Addition of cycle paths

Table 3: Level of service changes

Any improvement that is required to achieve compliance to the current standard can be funded from the Emergency Works Work Category (WC141). If some form of improvement to the level of service is identified and agreed in the preferred option, or an increase to the level of service, the funding for this will not be available from Emergency Works but could be funded from other work streams eg low cost low risk (resilience, safety, efficiency). It is important that funding for any improvement work is secured **before** the work is carried out.

Detailed Assessment

Once a preferred option has been agreed from the high-level assessment, a more detailed assessment can be developed for each site and any associated works . This assessment will focus more on the different engineering options to deliver the preferred option. The detailed assessment should be done in conjunction with the local AIA and the NRM for projects >$5M. Representative(s) from the local network team as well as appropriate subject matter experts (SMEs) eg geotechnical engineers, structural engineers, planning and environment SMEs (where required) should also be involved.

The detailed assessment should align with the preferred way forward from the high-level assessment. If the preferred way forward includes improvement opportunities, then the local AIA and NRM will need to agree with the final proposal (if they were not already involved in the detailed assessment exercise).

Planning and RMA requirements

Emergency Works projects will often require resource consent and/or other statutory approvals in order to progress the works. Attaining the required consents can take a long time and cause long delays to the completion of the project. Whilst the need for consents and the delays caused by this process are typically unavoidable, there may be an opportunity to use the Emergency Works Provision (Section 330) within the Resource Management Act (RMA) which allows for urgent works to progress and then an application made for a retrospective consent.

These works have to be agreed in principle with the regional council prior to commencement and then the consent applied for within seven working days of the event. Further information on this process can be found here. The Waka Kotahi Environmental Planning team have also produced a Quick Guide on Section 330 which provides useful information on requirements.

Where this provision cannot be used, the network team or recovery team should try and get the required consents for the project identified as early as possible so that applications can be made. The Recovery Plan will need to cover what consents and approvals may be needed, and the expected timeline for having them granted.

Environmental considerations

Once environmental screening and planning assessments have been identified, technical assessments may need to be commissioned to support statutory processes. Teams should use the following resources:

- Environment and sustainability in our operations (webpage)
- Quick links to environmental operational policy, standards, specifications, guidance and tools.

Heritage considerations

During any EW event, the network team and NRM need to be aware of the Waka Kotahi requirements regarding heritage and what to do in the event of an accidental archaeological discovery.[8] See below links for more information:

- Waka Kotahi heritage web page
- P45 Accidental archaeological discovery specification
- P47 Specification for environmental, social and cultural management

Procurement

The early part of the recovery plan is unlikely to have a lot of detail about the exact procurement approach to be taken, but it should at least outline what the available options are within the area/region eg number of contractors big enough to undertake the works, options for packaging of works etc.

As the required engineering works become clear, a procurement approach should be developed and approved by the NRM and/or VOS and in accordance with SM031. Unlike other capital works, there is no financial limit for direct appointing a supplier for Emergency Works. This includes direct appointment to the local NOC. However, before direct appointing any supplier, especially the local NOC, the Network Team need to ensure that the supplier is in a position to be able to deliver the work. For example:

- Do they have enough plant in the region? Or can they bring plant in from outside the region in the time required?
- Do they have sufficient staff with the required skillsets to deliver the work?
- If they are the local NOC, can they deliver the EW project without impacting the delivery of maintenance and operations?
- How much of the work is to be subcontracted out? Are the Network Team comfortable that the sub-contractors have the required skill set?

For projects with a value of more than $5M, a procurement plan will be required. Procurement plans can be tricky to develop, so the local network team should work with the local AIA and the NRM to develop one that is fit for purpose. The national procurement team can also provide support.

For larger projects eg >$10M, the national procurement team may step in to lead the process or provide guidance to the local network team.

When procuring an EW project, careful consideration should be given to the payment mechanism used. Whilst a cost-plus model is typical and often the most practical approach for EW, certain checks and balances can still be used to ensure value for money. These include:

- Site diaries, updated daily to track quantities used on site or removed from site
- Standard unit rates for certain works (outside those in the NOC)
- Regular reporting requirements and stage gates
- Advanced procurement of materials

EW panel

As an alternative to only using the NOC for EW projects, a panel of suppliers can be developed to enable easier procurement within a region. An established panel would allow for the direct appointment of other contractors to repair EW sites utilising previously agreed rates for certain works.

Unit rates for EW

A database of unit rate information for EW is being developed to help network teams and recovery teams and project managers to sense check the prices submitted. This information will be requested from project managers for certain works (eg retaining walls, rock netting) in the close out report. As this data set is built

[8] Note delegations associated with this work sit with the Environmental Planning team within Waka Kotahi

up over time it will become an invaluable resource to help network teams, recovery teams and project managers to sense check prices and ensure value for money.

Designs and departures

In general, designs for structures on the state highway network are required to adhere to the standard set out in the Bridge Manual or other Waka Kotahi standards for other asset types. Standards also apply to environmental assets and environmental management. In some cases, these standards may be more than is required. If this is the case, then a departure can be requested to allow the works to be built to a lesser standard than that set out in the Waka Kotahi standard.

Departures are formal requests to depart from Waka Kotahi standards and may be required at any time during the design process. The designer, in conjunction with the local network team and with support from the appropriate Waka Kotahi SME, likely from the Engineering Standards Team, are responsible for identifying any required departures from standards and applying for approval.

A standard format is available for the departure request, once it has been agreed with the relevant SME, it is then passed to the relevant Technical Lead Advisor for approval under the office of the Chief Engineer. Early engagement with SMEs will reduce the departure process time considerably.

Retrospective departures will not be permitted.

For all project designs, the local network team should accept and approve the designs (the local AIA and NRM can also be consulted on designs).

Communications

Regardless of scale, all EW projects will need to have clear communication with partners and stakeholders as well as the local community. The level and frequency of communication will likely need to increase with the level of disruption for road users.

For small events where disruption is minimal and standard restoration works are required, direct communication with the public may be limited to communication by the contractor with directly affected stakeholders and residents, including updates to Journey Planner.

The local Journey Manager will potentially lead the communications approach for small-scale EW events, with input from the local network team. As the magnitude of the event and the associated level of disruption increases, the Journey Manager (in conjunction with the network or recovery team) will need to engage specialist communications resource to assist. The below points outline when communications expertise will likely be required:

- When there is a road closure for a significant period for the classification of highway e.g. more than two days for a low classification route. This may also be based on the incident level for the event.
- When the road has restricted access for a significant period e.g. not available to HPMVs, lane closures, restricted or closed during rain events.
- When scheduled road closures are required to administer repairs.
- When the road is the only route available into a region/community.
- When any form of public consultation is required.

It will be the Journey Manager or network team's role to bring in any required communications resource as and when required. The need for communications expertise should be identified in the recovery plan, and discussed with the regional Communication & Engagement Regional Manager and/or Regional Team Lead. If an event warrants bringing in specialist communications expertise, then a communications plan will also be required. The communications plan will be unique to the situation, and should consider a range of mediums and required frequency for communicating key content and messages. For example:

- Website updates (a dedicated web page could be set up for large events)
- Newspaper adverts
- Radio adverts
- Variable message signs
- Published notices in local businesses, libraries, cafes

- Social media updates (via Waka Kotahi social media pages and adverts on social media platforms)
- E-newsletters

When engagement and consultation are required, it is important that all relevant parties have the chance to be involved. These parties will vary depending on the region; however the below list provides a general list of groups which should be considered when preparing for consultation.

- Local Iwi
- Local RCA(s)
- Local Regional Council
- Landowners close to the site(s)
- Local businesses – especially those which rely on the roads in question
- Schools
- Other utility companies/agencies
- Police and other Emergency Services (eg Fire & Emergency, Ambulance service provider)
- Department of Conservation
- Department of Conservation
- Heritage NZ Pouhere Taonga

Project controls, reporting and change process

Emergency Works projects should follow the same project controls and structure set out in the Waka Kotahi Project Management Manual SM011. As with all projects, expenditure for EW projects needs to be carefully managed. For EW projects, the initial required budget outlined in the recovery plan (and agreed with the VOS) are what the Project Manager will need to report against. If these costs are expected to increase at any point in the project (by a margin of more than 10%) then this will need to be agreed with the VOS and approved by the appropriate delegation.

The National Recovery Manager, in conjunction with the AIAs and Portfolio and Performance teams will monitor project expenditure and forecast against overall budget and will expect early indications from the Project Manager if costs are going to increase. Likewise, any major changes to scope for the project, including significant changes to design and approach need to be brought to the VOS for approval.

The urgent nature of Emergency Works projects mean that scope and cost changes are expected. The National Recovery Manager is there to assist with these changes as they arise and to provide guidance to the Project Manager and network team/recovery team on how best to proceed. The National Recovery Manager will consider any major scope changes or costs increases and make a recommendation to the VOS to approve or decline them as required.

Project close out

The recovery plan template includes a section for closing out the project. The main components of the project close out are:

- Capturing lessons learnt from the project (the decision log document will help with this process)
- Ensuring relevant unit rate data is captured from the project
- Ensuring all as built and design data is captured and filed correctly
- Ensuring required asset data is entered into Road Assessment and Maintenance Management (RAMM) and the Highways Structure Information System (HSIMS), the geotechnical asset GIS system and any other required asset data is updated correctly.
- Ensuring correct financial close out procedures are followed in SAP and TIO.
- Details of any Asset Owner's Manual (AOM) required for the project.
- Ensuring any ongoing maintenance or monitoring requirements are included in the relevant annual plan(s).
- Ensuring communication with the public is closed out, including any outstanding customer requests (via CRMS or relevant email inboxes).

The Project Manager and or/the Senior Network Manager should complete the close out section of the recovery plan template. The local AIA will then review the close out section and ensure all requirements have been met before approving the project close.

Preparedness

Each network should have an up-to-date Emergency Preparedness and Procedures Plan (EPPP) or Emergency Management Plan under their maintenance contract (NOC or Alliance). These should be the reference documents for network preparedness and hold information on key risk sites and mitigations. Contract risk registers should also account for high-risk sites. When updating EPPPs, networks should consider a range of information sources to ensure EPPPs and risk registers are up to date. For example:

- Resilience platform – this platform holds up to date information on:
    - risk sites eg slips, dropouts, river scour, rockfall, flooding
    - highway closure information from TREIS
    - detour viability information for select detour sites
- The Detour routes tool. This should be referenced in EPPPs and hold all up to date detour route information
- Recent emergency events which may have triggered any new risk sites.

To ensure the network is as prepared as it can be for emergency events, the following factors should be considered when updating EPPPs and planning for forecasted big weather events:

- Detour route availability and viability.
    - Are there alternative routes available for high-risk sites?
    - Can HPMV use these alternate routes? If not, what are the likely diversions for these vehicles or where will they wait if the route is closed?
    - What Overweight Permits (O-Permits) exist for the area. Are there alternatives available for these vehicles and if not, are permit holders aware of possible restrictions and is there a plan to make sure they are informed?
    - Do alternate routes need to have any speed limit postings adjusted?
    - Is the Detour Route safe and appropriate? See detour route tool.
- What heavy machinery is available across various parts of the network? E.g. maintenance contractor depots, other contractors with excavation equipment.
- What traffic management might be required?
- Are any variable messaging signs required? Are they accessible for high-risk sites?
- What sites might need culverts checked and cleared?
- What rockfall sites might be activated in the event and require traffic management?

EW RASCI

	Responsible	Accountable	Support	Consulted	Informed
	Who needs to make sure the project reaches completion?	**Who has ultimate control over the project and its resources?**	**Who will provide support to the project?**	**Who will provide advice to the project?**	**Who needs to be informed as the project progresses?**
Response Phase	Network team or if a big event – Civil Defence	Regional Manager/System Manager or if a big event – Civil Defence	Maintenance contract suppliers Asset Investment Advisor Programme and Standards - Activity Class Manager NRM Journey Manager Communication & Engagement team	All relevant SMEs	Waka Kotahi Senior Manager(s), GM and Board (as required) Local RCA Local Partners Stakeholders General public
Recovery Phase	Network team (includes project manager) or recovery team (includes project manager)	Regional Manager	Maintenance contract suppliers or the successful tenderer if project goes to market. Asset Investment Advisor Programme and Standards - Activity Class Manager NRM Journey Manager Communication & Engagement team	VOS All relevant SMEs System Design team	Waka Kotahi Senior Manager(s) GM and Board (as required) Local RCA Local Partners and Stakeholders General public