

REF Addendum Memo

To	Vincent Gillies, Environment & Sustainability Manager
From	Nisal Munaweera, Project Engineer, Southern Bridges
Priority	URGENT
Date	14/01/2025
Subject	Review of environmental factors addendum memo for Thredbo Culvert Rehabilitation REF

Proposed modification

Modification to the approved Thredbo River Culvert Rehabilitation REF to extend the standard working hours (Mon – Fri 7am – 6 pm) to Monday – Sunday (6am – 12 am) for all stages of work.

Background

The Thredbo River Culvert, a bridge sized culvert structure situated within the Thredbo river on the Alpine Way (MR 677), approximately 4km South West of the alpine resort town of Thredbo has been earmarked for rehabilitation. The rehabilitation project aims to prevent further degradation of the culvert and ensure safety for road users travelling along the Alpine Way. The proposal involves the following stages:

- (a) Inlet Works – The excavation of the inlet banks and construction of a concrete apron at the culvert inlet that allows further works to commence
- (b) Culvert Relining – The existing corrugated steel culverts will be relined with a reinforced concrete lining system, and their inlets changed to a tapered entrance to improve flow
- (c) Headwall/Wingwall – The reconstruction of the headwall and wingwalls at the inlet end of the culvert structure.
- (d) Outlet Works – placing of riprap and large rocks at the culvert outlet to prevent scour.

The area is a region of environmental and cultural significance being located within Kosciuszko National Park, working within a sensitive riparian environment and being situated within close proximity to the Bundian Way, a travelling route from the sea to the mountains traversed by Aboriginal people for generations.

Purpose

The purpose of this memo is to:

- Describe the proposed modification.
- Document and assess the likely impacts of the proposed modification on the environment.
- Detail protective measures to be implemented.
- Document the recommendation of the Transport Senior Manager Environment and Sustainability (SMES) and the decision by the Transport delegated manager whether or not to determine the modification to the project.

This memo is an addendum to and is to be read in conjunction with the September 2024 Thredbo River Culvert Rehabilitation REF

Description of proposed modification

Transport for NSW proposes to modify the Thredbo River Culvert Rehabilitation REF by extending the approved work hours to accommodate a double shift system (Morning & Afternoon) for 2 crews to reduce project duration. This is a response to the shortened periods available to undertake construction in Kosciuszko National Park. Key features of the proposed modification would include:

Extending the approved work hours from the default standard working hours (7am to 6pm Monday to Friday; 8am to 1pm Saturdays) to accommodate a morning shift and afternoon shift. **(6am to 12am Monday to Sunday)** with a 10 day on, 4 day off work schedule.

See Appendix D for project site plan.

Need for the proposed modification

The primary features of the proposed modification will have no impact on the design, methodology, or footprint of the project. This modification has been proposed in response to the engineering constraints associated with staged construction. The winter months in Kosciuszko National Park present conditions unsuitable for curing concrete and are suboptimal for construction activities. Additionally, winter coincides with the ski season, which results in increased tourist activity and traffic on the Alpine Way. This creates heightened safety risks for both pedestrians and workers, as well as logistical challenges, with the closure of the dead horse car park and the restriction of traffic to a single lane.

The modification involves altering the default working hours to a staged arrangement, consisting of 10 consecutive working days followed by a 4-day rest period. Each 10-day work period will be divided into morning and afternoon shifts, staffed by separate work crews. This approach is designed to accelerate the construction timeline, enabling the completion of Stage 1 before adverse weather conditions set in. The 4-day break will allow for improved travel conditions and enhanced fatigue recovery for workers commuting to and from Goulburn.

The proposed changes are essential to mitigate the fatigue associated with long-distance travel for the work crews. By reducing the total project duration for the first stage and minimising the frequency of long commutes, the modification will support worker safety and well-being while maintaining project efficiency.

Options considered

Option 1 – Do Nothing (Default Work Hours)

Outcome – Works will take longer to complete and will extend into the late Autumnal months at Thredbo, resulting in disproportionate complications due to increased traffic from the snow season, and worker safety/concrete stability issues due to the lower Winter temperatures.

Option 2 – Night work

Outcome – Night works in addition to the standard working hours will complete the project in the desired timeframe however with potential impacts to worker health and safety, and concrete curing issues due to the far colder night temperatures. The Thredbo region also has much more wildlife on the roads at night, resulting in a higher chance of roadkill or an animal entering site.

Option 3 – Morning/Afternoon Shift (5 on, 2 off shift rotation)

Outcome – By Extending the work hours to accommodate a two-shift system, the works will be completed before it gets too cold, and there would be less impacts to workers and wildlife. Due to the long travel distances for the Goulburn crew, a weekly shift rotation (hypothetically not working on weekends) would have to drive in excess of 3.5 hours each direction. Minimising these long drive times is critical in managing worker fatigue.

Option 4 – Morning/Afternoon Shift (10 on, 4 off shift rotation)

Outcome – By extending the work hours to accommodate a two-shift system, the works will be completed before it gets too cold, and there would be less impacts to workers and wildlife. Longer shift rotations would also reduce the frequency of long travel times for the crew, assisting in managing worker fatigue. Providing a 4 day respite period within this option, ultimately contributes to better work place health and safety outcomes as both crews are afforded a break in this 4 day period.

Preferred option

Option 4 is the preferred option as it will reduce the project duration enough to prevent the cold winter weather from affecting the concrete and worker's health, but also reduces the fatigue hazards associated with travelling 300 km between Goulburn and Thredbo. Options 1 will not complete the project in time, and Options 2 and 3 are less considerate of worker health thus Option 4 is the preferred option.

Impact assessment

Attachment A addresses the environmental factors specified in section 171 of the Environmental Planning and Assessment Regulation 2021 and matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Noise and vibration

A conservative minimum distance value of 2300 km (to the sparsely used AAWT camping area) was used in conjunction with the TfNSW Construction Noise Estimator Tool to determine that there was no RBL (Rating Background Level) Exceedance and no additional noise mitigation safeguards required for OOHW (Out Of Hours Work). All standard TfNSW noise safeguards, and any valid safeguards from the project REF still apply.

Figure 1: Noise Estimator Results

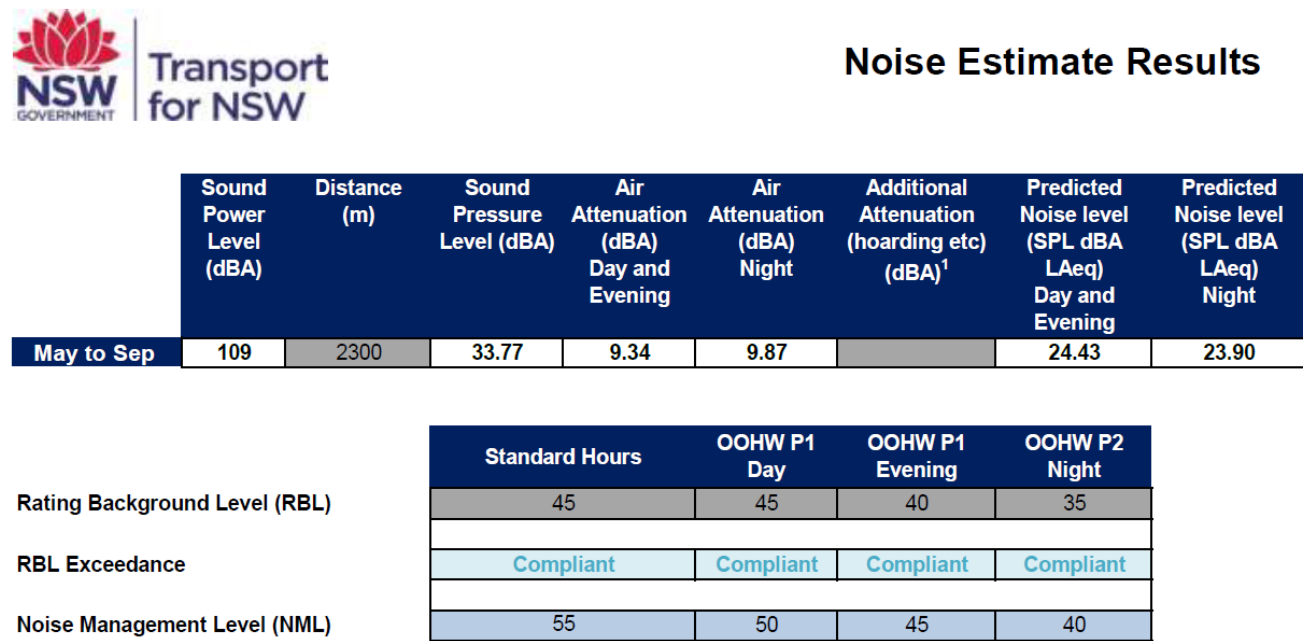
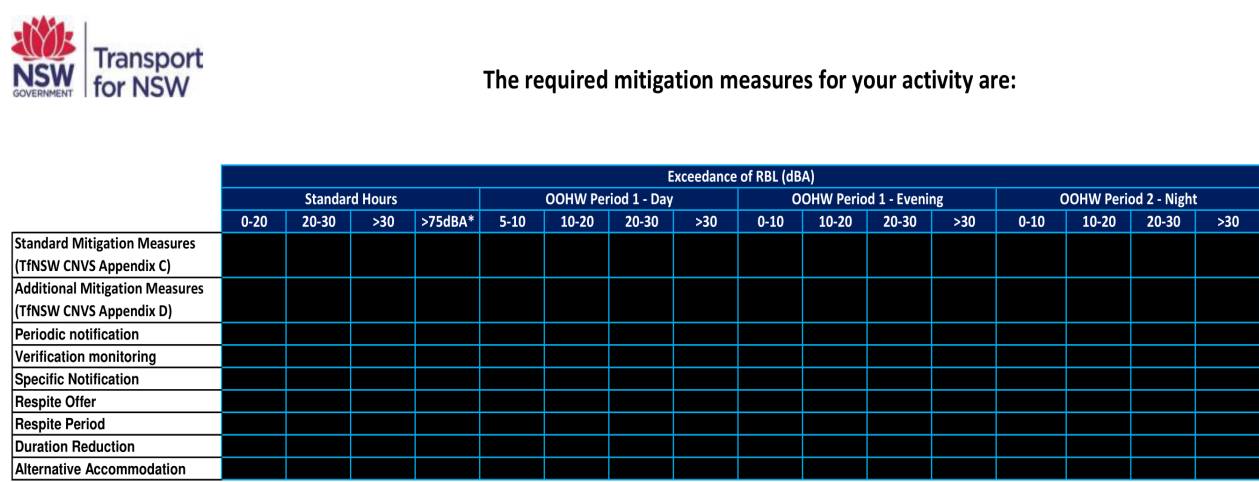


Figure 2: Noise Estimator Results



* Any work above 75dBA regardless of RBL exceedance

Assessment Summary

Site Locality	Thredbo
Construction Scenario	Inlet Excavation Works
User Name and Company	Caylum Butler
Number of Sources and SWL	1 Sources with overall SWL of 109 dBA
Receiver Distance	2300 m
Barrier/enclosure attenuation	0 dBA
Assessment Date	12 December 2024

Predicted Noise Level	24 dBA	24 dBA	
Period	RBL	NML	+ RBL
Standard Hours	45	55	-21
OOHW Period 1 - Day	45	50	-21
OOHW Period 1 - Evening	40	45	-16
OOHW Period 2 - Night	35	40	-11

Aboriginal cultural heritage

- Planned work
- Location of the proposal
- The construction period and working hours
- Impacts on the community, including visual impacts, noise impacts, changed traffic conditions, and closure of the Cascade Hut Trail car park.

The letter will include an email that the community can use to sign up to the Thredbo River Culverts email list to receive updates on the project directly.

Table 1 : Issues raised through stakeholder consultation

Agency	Issue raised	Response / where addressed in addendum REF
Customer and Network Ops Coordination	Extended hours of work would have a negative impact traffic on traffic flow in the area	Not a concern. Traffic control in place 24/7 regardless and much lower traffic volume in summer months. There will be workers to supervise the Traffic control set up as well as the site on after hours.

Summary of additional or revised safeguards

A summary of additional or revised safeguards are included in the table below. A complete list of safeguards as amended is provided in Attachment B.

Table 2 : Additional/Revise Safeguards

Safeguards	
Social	Community will be sent a letter of notice with updated hours prior to each stage commencing and a letter of notice about the change of working hours
Noise and Vibration	Works to be carried out during work hours stated in this REF Addendum. Those hours being 6am to 12am Monday to Sunday. Works outside of these hours or on public holidays are not approved in this REF Addendum and will require further assessment should they be required.

Licences, permits or approvals

All relevant licenses, permits, notifications and approvals needed for the Thredbo Culvert Rehabilitation and when they need to be obtained are listed in the project REF *table 7-2 Summary of licensing and approval required*.

There are no changes to licences and approvals required as a consequence of the scope specified in this REF Addendum.

Conclusion

All relevant safeguards identified in the September 2024 Thredbo River Culvert Rehabilitation REF would be applied to this work. Additional/Revised safeguards have been identified as set out in this memo.

Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) applies to the proposed modification. The proposed modification has been reviewed in the context of the September 2024 Thredbo River Culvert Rehabilitation REF and considered against the requirements of sections 5.5 and 5.7 of the EP&A Act.

In considering the proposed modification this assessment has examined and taken into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that activity as addressed in this memo, and associated information. This assessment is considered to be in accordance with the factors specified in section 171 of the Environmental Planning and Assessment Regulation 2021.

The Thredbo River Culvert Rehabilitation REF, including the proposed modification described in this Addendum memo, will have some environmental impacts which can be ameliorated satisfactorily. Having regard to the safeguards and management measures proposed, it is considered that the expected environmental impacts are unlikely to be significant and an environmental impact statement is not required under Division 5.2 of the EP&A Act.

The assessment has considered the potential impacts of the activity on the biodiversity values listed under the *Biodiversity Conservation Act 2016* and the *Fisheries Management Act 1994*.

The Thredbo Culverts Relining including the proposed modification described in this memo will not significantly affect biodiversity values listed under the *Biodiversity Conservation Act 2016*. Therefore, the concurrence of the Coordinator General of the Environment and Heritage Group of Department of Planning and Environment and a species impact statement or a Biodiversity Development Assessment Report (BDAR) is not required.

In addition to the above, the assessment considered the effect of the activity on:

- Conservation agreements under the *National Parks and Wildlife Act 1974*.
- Plans of management under the *National Parks and Wildlife Act 1974*.
- Biodiversity stewardship sites under the *Biodiversity Conservation Act 2016*.
- Wilderness areas under the *Wilderness Act 1987*.

The assessment has also addressed the potential impacts of the activity on matters of national environmental significance and any impacts on the environment of Commonwealth land and concluded that there will be no significant impacts. Therefore, there is no need for a referral to be made to the Australian Government Department of Climate Change, Energy, the Environment and Water for a decision by the Australian Minister for the Environment on whether assessment and approval is required under the EPBC Act or for application of the EPBC Act strategic assessment for Transport activities assessed under Part 5 of the EPBC Act.

This memo is considered to be of adequate quality and meets all relevant requirements.

The proposed modification has been characterised in the context of the Thredbo River Culvert Rehabilitation and is considered to be consistent with that project's objectives and key features. While the proposed modification would increase the overall environmental impacts of the determined project, it is substantially the same as the activity described and assessed in the determined REF and does not constitute an entirely new activity.

Certification

This memo provides a true and fair description of the scope and potential impacts of the proposal to modify the working hours and shift arrangements for the Thredbo Culvert Rehabilitation REF.

Prepared by:



Caylum Butler

Scholar Engineer 2020

Reviewed by:



John Turville

A/g Manager, Environment and Sustainability, South

Recommendation

It is recommended that the proposal to modify the working hours and shift arrangements for the Thredbo River Culvert Rehabilitation REF as described in this memo proceed subject to the implementation of all safeguards and management measures identified in this memo and the Thredbo River Culvert Rehabilitation REF and compliance with all other relevant statutory approvals, licences, permits and authorisations. Consideration of this proposed modification has examined and taken into account, to the fullest extent possible, all matters likely to affect the environment by reason of the activity in accordance with the EP&A Act, EP&A Regulation and the Guidelines approved under clause 170 of the EP&A Regulation. It is established that the activity is not likely to significantly affect the environment. The memo has concluded that there will be no significant impacts on matters of national environmental significance or the environment of Commonwealth land.

Recommended by:



John Turville

A/g Manager Environment and Sustainability, South

Decision statement

In accordance with the above recommendation, I certify that I have reviewed and endorsed the contents of this addendum memo, and to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under Section 170 of the EP&A Regulation, and the information is neither false nor misleading.

Determined by:



Vincent Gillies

A/g Senior Manager, Environment and Sustainability, South

Date: 14/01/2025

Attachments

Attachment A – Section 171 EP&A Regulation checklists and Matters of National Environmental Significance

Attachment B - Complete list of safeguards

Attachment C – Thredbo River Culvert Rehabilitation REF Certification

Attachment D - Site plan

Attachment A: Consideration of State and Commonwealth environmental factors

Environmental Planning and Assessment Regulation 2021 section 171(2) checklist

The following factors, listed in section 171(2) of the Environmental Planning and Assessment Regulation 2021, have been considered to assess the likely impacts of the proposal on the natural and built environment. This consideration is required to comply with sections 5.5 and 5.7 of the EP&A Act.

Factor	Description of impact	Duration and extent
(e) Environmental impact on a community.	<ul style="list-style-type: none">No further impact as a result of the proposed modification to the approved REF	
(f) The transformation of a locality.	<ul style="list-style-type: none">n/a	
(g) Environmental impact on the ecosystems of a locality.	<ul style="list-style-type: none">n/a	
(h) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality.	<ul style="list-style-type: none">n/a	
(i) Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations.	<ul style="list-style-type: none">n/a	
(j) Any impact on habitat of any protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i>).	<ul style="list-style-type: none">n/a	
(k) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air.	<ul style="list-style-type: none">n/a	

Factor	Description of impact	Duration and extent
(l) Any long-term effects on the environment.	<ul style="list-style-type: none"> n/a 	
(m) Any degradation of the quality of the environment	<ul style="list-style-type: none"> n/a 	
(n) Any risk to the safety of the environment.	<ul style="list-style-type: none"> n/a 	
(o) Any reduction in the range of beneficial uses of the environment.	<ul style="list-style-type: none"> n/a 	
(p) Any pollution of the environment.	<ul style="list-style-type: none"> n/a 	
(q) Any environmental problems associated with the disposal of waste.	<ul style="list-style-type: none"> n/a 	
(r) Any increased demands on resources, natural or otherwise which are, or are likely to become, in short supply.	<ul style="list-style-type: none"> n/a 	
(s) The cumulative environmental effect with other existing or likely future activities.	<ul style="list-style-type: none"> n/a 	
(t) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions.	<ul style="list-style-type: none"> n/a 	
(u) Applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1.	<ul style="list-style-type: none"> n/a 	
(v) Other relevant environmental factors.	n/a	

Matters of National Environmental Significance

Environmental factor	Impact
Any impact on a World Heritage property? No	Nil
Any impact on a National Heritage place? Yes - Australian Alpine National Parks and Reserves	Nil / Unchanged from project REF
Any impact on a wetland of international importance (often called 'Ramsar' wetlands)? No	Nil
Any impact on nationally threatened species, ecological communities or migratory species? No	Nil
Any impact on a Commonwealth marine area? No	Nil
Does the proposal involve a nuclear action (including uranium mining)? No	Nil
Additionally, any impact (direct or indirect) on the environment of Commonwealth land? No	Nil

Attachment B: Complete list of safeguards

Environmental safeguards for the Thredbo River Culvert Rehabilitation REF are listed below. Additional safeguards identified in this addendum REF memo are included in bold and italicised font. The safeguards will be incorporated into the CEMP and implemented during construction and operation of the proposed modification, should it proceed. These safeguards will minimise potential adverse impacts arising from the proposed works on the surrounding environment.

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
1	General – minimise environmental impacts during construction	<p>CEMP will be prepared and submitted for review and endorsement of the Transport for NSW Senior Environment and Sustainability Officer before commencement of the activity. As a minimum, the CEMP will address the following:</p> <ul style="list-style-type: none"> • any requirements associated with statutory approvals • details of how the project will implement the identified safeguards outlined in the REF • issue-specific environmental management plans • roles and responsibilities • communication requirements • induction and training requirements • procedures for monitoring and evaluating environmental performance, and for corrective action • reporting requirements and record-keeping • procedures for emergency and incident management • procedures for audit and review. <p>The endorsed CEMP will be implemented during the undertaking of the activity.</p>	Transport Project Manager or Contractor	Pre-construction / detailed design	
2	General - notification	The general community and key stakeholders affected by the lane closures will be notified before the works start. A traffic control plan will be prepared in accordance with the Transport	Transport Project Manager	Pre-construction	Section 4.8 of QA G36 Environment Protection Section

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		for NSW Traffic control at work sites manual (TS 05492), version 6.1 (Transport for NSW, 2022b).			2.2 of QA G10 Traffic Management
3	General – environmental awareness	All contractors and staff on site will receive training to ensure awareness of the environmental protection requirements to be implemented during the proposal. This will include up-front site induction and regular “toolbox” style briefings. A heritage induction will take place before any ground disturbing works start.	Transport Project Manager	Pre-construction	
4	Contaminated land	<p>If contaminated areas are encountered during construction, appropriate control measures will be implemented to manage the immediate risks of contamination.</p> <p>All other works that may impact on the contaminated area will cease until the nature and extent of the contamination has been confirmed and any necessary site-specific controls or further actions identified in consultation with the Transport for NSW Senior Environment and Sustainability Officer.</p>	Transport Project Manager or Contractor	Construction	Section 4.2 of QA G36 Environment Protection
5	Sedimentation of the surrounding environment	<p>Erosion and sediment control measures are to be implemented and maintained to:</p> <ul style="list-style-type: none"> • Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets • Reduce water velocity and capture sediment on site • Minimise the amount of material transported from site to surrounding pavement surfaces • Divert clean water around the site. (in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book)). 	Transport Project Manager or Contractor	Construction	<p>QA G38 Soil and Water Management</p> <p>ESCP</p>

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
6	Sedimentation of the surrounding environment	Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.	Transport Project Manager	Construction	QA G38 Soil and Water Management ESCP
7	Sedimentation of the surrounding environment	The waste generated from the excavation will be transported to an appropriate offsite stockpile facility nearby to be stored and processed before reusing. Large sized rocks removed from the area will be stockpiled on site for reuse as scour protection at the outlet.	Transport Project Manager or Contractor	Construction / Post construction	Section 143 of the POEO Act
8	Waterways and water quality	Water quality control measures are to be used to prevent any materials (e.g. concrete, grout, sediment etc.) entering drain inlets or waterways.	Transport Project Manager	Construction	Section 2.2 and 3.5 of the QA G38 Soil and Water Management
9	Waterways and water quality	Aquatic habitat will be protected in accordance with Guide 10: Aquatic habitats and riparian zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (Transport for NSW, 2024) and Section 3.3.2 Standard precautions and mitigation measures of the Policy and guidelines for fish habitat conservation and management Update 2013 (DPI, 2013).	Transport Project Manager	During construction	
10	Waterways and water quality	A clean water diversion will be established to separate clean from dirty water during the construction phase of the project. The work will be staged in a way that during construction at least one culvert at all times will remain open.	Transport Project Manager	Construction	
11	Waterways and water quality	Visual monitoring of local water quality (ie turbidity, hydrocarbon spills/slicks) is to be undertaken on a regular basis to identify any potential spills or deficient silt curtains or erosion and sediment controls.	Transport Project Manager	Construction	

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
12	Sedimentation of the waterway	Erosion and sediment controls will be used when diverting the water to ensure no sediment is introduced during the process. They will be erected in a manner consistent with currently accepted Best Management Practice (Blue Book) to prevent the entry of sediment into the waterway. These are to be maintained in good working order for the duration of the works and until the site has been stabilised.	Transport Project Manager	Construction	Section 3.1 of the QA G38 Soil and Water Management Consultation with DPI Fisheries (Appendix I in project REF)
13	Sedimentation of the waterway	Rock for the temporary work platform and rock riprap will be clean and free of dirt or plant material including seeds (no fines) prior to its use within the waterway. Rock is to be of suitable size to not be displaced by high velocity flows.	Transport Project Manager	Construction	Consultation with DPI Fisheries (Appendix I in project REF)
14	Chemical pollution and accidental spill	Machinery will only enter or work from the waterway in accordance with best management practice and an agreed work method statement. Machinery will be appropriately cleaned, degreased, and serviced prior to use at the site and entry into the waterway.	Transport Project Manager	Construction	Consultation with DPI Fisheries (Appendix I in project REF)
15	Chemical pollution and accidental spill	A suitable concrete washout bay will be provided in the site compound or stockpile area well away from the watercourse.	Transport Project Manager	Construction	
16	Impacts to aquatic habitats	To protect riparian and aquatic vegetation, these areas should be identified and appropriately delineated on water land as “no-go” areas. On completion of the works the site will be rehabilitated by: <ul style="list-style-type: none"> removal from the site of construction materials and temporary structures (other than silt fences and other erosion and sediment control devices) installed during the course of the proposal. 	Transport Project Manager or Contractor	Post-Construction	Consultation with DPI Fisheries (Appendix I in project REF)

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		<ul style="list-style-type: none"> Removal of all imported material that formed temporary crossing and side track. Reinstatement of the side track footprint to a stable grade generally consistent with the upstream and downstream bank profile and re-established with native endemic riparian and aquatic vegetation. Appropriate maintenance of erosion and sediment control devices undertaken until the vegetation has successfully established and the site has stabilised. 			
17	Scour of the creeks and banks	Scour protection of the stream bed and embankment at the culvert inlet and outlet will be achieved by using rock riprap. A riprap rock size D50 = 750 mm is proposed.	Transport	During construction	Section 3.1 of the QA G38 Soil and Water Management
18	Biodiversity	Measures to further avoid and minimise the construction footprint and native vegetation or habitat removal will be investigated during detailed design and implemented where practicable and feasible.	Transport Project Manager	Detailed design/Pre-construction	
19	Removal of native vegetation	The limit of works (including compounds and parking areas) must be clearly indicated with flagging/fencing or similar.	Transport Project Manager	Pre-construction/Construction	Section 2.4 of QA G40 Clearing and Grubbing
20	Impacts to fish passage	The proposed design and construction methodology will not impact on fish passage. A clean water diversion to be installed to separate clean water from dirty water and to maintain fish passage at all times during the construction phase.	Transport Project Manager	Construction	Section 3.7.2 of the QA G38 Soil and Water Management
21	Injury to aquatic species	Observations of dead or distressed fish should be immediately reported to DPI Fisheries. If a fish kill occurs, works would cease until the cause of the kill is identified and rectified. Should any fish kills be observed during construction, the Transport Environmental Manager must be notified immediately for urgent action.	Transport Project Manager	Construction	Consultation with DPI Fisheries (Appendix I in project REF)

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
22	Injury to wildlife onsite	Fauna will be managed in accordance with Guide 9: Fauna handling of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (Transport for NSW, 2024).	Transport Project Manager	Construction	
23	Biodiversity	If unexpected, threatened fauna or flora species are discovered, stop works immediately and follow the Transport's Unexpected Threatened Species Find Procedure	Transport Project Manager	Construction	
24	Disturbed vegetation	Disturbed areas must be progressively stabilised with a method appropriate for the location and slope. Riparian zones should be rehabilitated based on recommendations of DPI Policy and guidelines for fish habitat conservation and management (DPI, 2013). Endemic native riparian vegetation or similar should be considered in the design to stabilise the waterway and minimise the re-establishment of weeds.	Transport Project Manager	Construction / Post-construction	QA R178 Vegetation Section 4.16 of QA G36 Environment Protection
25	Disturbed vegetation	All vehicles and equipment used for construction will use the access tracks, existing roads and exclusion areas outlined in the traffic management plan (TMP). Parking will be limited to the existing Cascade Hut Trail car park and the road shoulder to the east of the compound area.	Transport Project Manager	Construction	
26	Aboriginal heritage	The Standard Management Procedure - Unexpected Heritage Items (Transport, 2015) will be followed in the event that an unknown or potential Aboriginal object/s, including skeletal remains, are found during construction. This applies where Transport does not have approval to disturb the object/s or where a specific safeguard for managing the disturbance (apart from the Procedure) is not in place. Work will only re-commence once the requirements of that Procedure have been satisfied.	Transport Project Manager or Contractor	Detailed design/Pre-construction	Section 4.9 of QA G36 Environment Protection
27	Impacts to Aboriginal sites	If suspected human remains are discovered during the proposal, all work will stop immediately. The remains will be left and protected from damage. The Coroner's Office and NSW Police	Transport Project Manager or Contractor	Construction	Section 146 of the Heritage Act

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		will be notified immediately. Depending on the discovered origins of the remains, the Aboriginal parties and/ or Heritage NSW will be notified.			
28	Impacts to Aboriginal sites	As direct impacts to Aboriginal sites cannot be avoided, an AHIP covering the proposal footprint will be obtained from Heritage NSW before impacts occur. An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places, or that cause land to be disturbed for the purposes of discovering an Aboriginal object. The AHIP should be for a term of 5 years and cover the entire proposal. The AHIP will also need to allow for community salvage collection so that direct impacts to this site can be mitigated. No further archaeological investigation of these sites is required.	Transport	Pre-construction	Part 6 of the National Parks and Wildlife Act 1974 (NPW Act)
29	Impacts to Alpine Way Culvert PAD 1	The proposal will be fenced off and secured to ensure that Alpine Way Culvert PAD 1 is not harmed by the work. Refer to Figure 6-1. This fencing will remain throughout the construction phase.	Transport Project Manager or Contractor	Pre-construction and Construction	ACHAR (Appendix E of project REF)
30	Impacts to Aboriginal sites	Heritage inductions will occur for all site workers and contractors to prevent any unintentional harm to unexpected Aboriginal objects or sites, or Aboriginal sites or objects located within proximity to the proposal. The heritage induction will include the following items: <ul style="list-style-type: none"> • Relevant legislation. • Location of identified Aboriginal heritage sites, areas of archaeological potential, and areas of archaeological sensitivity. • Basic identification skills for Aboriginal and non-Aboriginal artefacts and human remains. • Procedure to follow in the event of an unexpected heritage item find during construction works. 	Transport Project Manager to delegate	Pre-construction	ACHAR (Appendix E of project REF)

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		<ul style="list-style-type: none"> • Procedure to follow in the event of the discovery of human remains during construction works. • Penalties and non-compliance. 			
31	Impacts to Bundian Way (SHR#01906)	The Bundian Way occurs outside of the proposal area. Avoidance and protection of the Bundian Way will be ensured by delineating the area as a “no-go” zone. The most appropriate delineation will be confirmed with the RAPs, mapped from the SHR geospatial coordinates, and included in the CEMP. The “no-go” zone will be established before any work can commence.	Transport Project Manager, Archaeologist and RAPs	Pre-construction	Heritage Impact Letter of advice (Appendix L of project REF)
32	Non-Aboriginal Heritage	Transport has committed to selecting an appropriate sample of Alpine Way Type 4 and 6 culverts (identified by Biosis in their 2011 report) which represent the best original condition for inclusion on the s170 Heritage and Conservation Register, within 12 months of REF approval. If following review, condition issues associated with their construction mean a smaller sample of these culvert types is identified, this will be documented.	Transport Project Manager	Within 12 months of REF approval	Heritage Impact Letter of advice (Appendix L of project REF)
33	Non-Aboriginal Heritage	A short online brochure outlining the history of Alpine Way including its construction methods seen in these culverts, should be produced within this timeframe to explain the relationship and social significance of Alpine Way to the nationally significant Snowy Hydro scheme.	Transport Project Manager	Within 12 months of REF approval	Heritage Impact Letter of advice (Appendix L of project REF)
34	Traffic and Transport	A traffic control plan will be prepared in accordance with the Transport for NSW Traffic control at work sites manual (TS 05492), version 6.1 (Transport for NSW, 2022b).	Contractor	Pre-construction	
35	Traffic and Transport	<p>Access to the Cascades Fire Trail will be allowed during construction to facilitate:</p> <ul style="list-style-type: none"> • walkers and mountain bike riders • emergency responders 	Transport	Construction	Consultation NPWS (Section 5.4)

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		<ul style="list-style-type: none"> • pest animal control workers • commercial Tour operators • contractors undertaking works on National Park estate 			
36	Noise	<p>All construction plant and equipment used on site must be</p> <ul style="list-style-type: none"> • maintained in an efficient condition and • operated in a proper and efficient manner 	Transport Project Manager or Contractor	Construction	<i>Section 4.6 of QA G36 Environment Protection</i>
37	Noise and Vibration impacts	Works to be carried out during normal work hours (i.e. 7am to 6pm Monday to Friday; 8am to 1pm Saturdays). Any work that is performed outside normal work hours or on Sundays or public holidays must have measures in place to minimise noise impacts.	Transport	Construction	
38	Socio-economic	<p>Transport will inform the community and relevant stakeholders of the proposed works including the following details:</p> <ul style="list-style-type: none"> • planned works • location of the proposal • the construction period and working hours • implications for the community, including visual impacts, noise impacts, changed traffic conditions, and closure of the Cascade Hut Trail car park. <p>The notice will include an email that the community can use to sign up to the Thredbo River Culverts email list.</p>	Transport	Pre-construction	
39	Landscape character – heritage	Transport has committed to selecting an appropriate sample of Alpine Way Type 4 and 6 culverts (identified by Biosis in their 2011 report) which represent the best original condition for inclusion on the s170 Heritage and Conservation Register, within 12 months of REF approval.	Transport Project Manager	Within 12 months of REF approval	Heritage Impact Letter of advice (Appendix L of project REF)

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
40	Land use	<p>The Cascade Hut Trail car park will be closed to vehicles throughout the construction period.</p> <p>Arrangements will be made with the NSW National Parks and Wildlife Service (NPWS) to accommodate visitors to this part of Kosciuszko NP wishing to access the Cascades Hut Trail and nearby walking trails. Parking will be provided at the nearby Dead Horse Gap car park (approximately 100 metres uphill from the Cascades Trail car park) and pedestrian movement facilitated from this alternate parking area to the entrance to the Cascades trail, which is adjacent to the Cascades Trail car park.</p>	Transport	Construction	Consultation NPWS (Section 5.4)
41	Air quality	Vehicles and vessels transporting waste or other materials that may produce odours or dust are to be covered during transportation.	Transport Project Manager	Construction	Section 3.5 of QA G38 Soil and Water Management
42	Air quality	Stockpiles or areas that may generate dust are to be managed to suppress dust emissions in accordance with the Roads and Maritime Services Stockpile Site Management Guideline (EMS-TG-10).	Transport Project Manager	Construction	
43	Waste	The site will be inspected post-construction to ensure all waste, construction equipment, and materials are removed.	Transport Project Manager	Construction / Post-construction	
44	Hazards and risk management	<p>All fuels, chemicals and liquids are to be stored in an impervious bunded area a minimum of 50 metres away from:</p> <ul style="list-style-type: none"> • Rivers, creeks or any areas of concentrated water flow • Flooded or poorly drained areas • Slopes above 10%. 	Transport Project Manager	Pre-construction / Construction	Section 4.3 of QA G36 Environment Protection
45	Hazards and risk management	Refuelling of plant and equipment is to occur in impervious bunded areas located a minimum of 50 metres from drainage lines or waterways.	Transport Project Manager	Pre-construction / Construction	Section 4.3 of QA G36 Environment Protection

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
46	Hazards and risk management	<p>An emergency spill kit must be always kept on site and maintained throughout the construction work. The spill kit must be appropriately sized for the volume of substances at the work site.</p> <p>All workers will be advised of the location of the spill kit and trained in its use.</p>	Transport Project Manager	Pre-construction / Construction	Section 4.3 of QA G36 Environment Protection
47	Hazards and risk management	Vehicles and plant must be properly maintained and regularly inspected for fluid leaks.	Transport Project Manager	Pre-construction / Construction	Section 4.3 of QA G36 Environment Protection
48	Cumulative traffic impacts	Advanced warning of changes to traffic will be provided to the community and relevant stakeholders.	Transport	Pre-construction	Section 4.3 of QA G36 Environment Protection
49	Traffic	Community will be sent a letter of notice with updated hours prior to each stage commencing and a letter of notice about the change of working hours	Project Engineer Comms Team	Pre-construction	
50	Noise and Vibration	Works to be carried out during approved REF work hours (6am to 12am Monday to Sunday). Works outside of these hours or on public holidays are not approved in this REF Addendum and will require further assessment should they be required.	Transport	Construction	

Attachment C: Determined REF

Transport for NSW



Quality of the REF

The REF is considered to be of adequate quality and meets all relevant requirements.

Where the REF is required to be published online for public information in accordance with section 171(4) of the Environmental Planning and Assessment Regulation 2021, the REF is of a suitable quality for publishing online.

Recommendation

It is recommended that the proposal to rehabilitate the Thredbo River Culverts as described in the **Thredbo River Culvert Rehabilitation Review of Environmental Factors** dated **20th September, 2024** proceed subject to the implementation of all safeguards identified in the REF and compliance with all other relevant statutory approvals, licences, permits and authorisations.

This project determination will remain current for five years until **20th September, 2029** at which time it shall lapse if works have not been physically commenced.

Recommended by:

Vincent Gillies

21/10/2024

Environment and Sustainability Manager

Supported / ~~not supported by:~~

Daniel Francis

21/10/24

Senior Manager Environment and Sustainability

Supported / ~~not supported by:~~

Neil Glastonbury

22/10/2024

Acting Director, Environment and Sustainability, Regions Date

Decision

Determined in accordance with the above recommendation under delegated authority and in accordance with sections 5.5 and 5.7 of the EP&A Act:

Jonathan Tasker

Director, Project Services

22/10/2024

Date

Attachment D: Site plan

