Roads and Traffic Authority of NSW

Oxley Highway to Kempsey
Upgrading the Pacific Highway

Environmental Assessment

MAIN VOLUME

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Appendix B

Draft Statement of Commitments

Draft Statement of Commitments

The Director General's environmental assessment requirements state the following in relation to the statement of commitments:

"The SoC must incorporate or otherwise capture all measures to avoid minimise, manage, mitigate, offset and/or monitor impacts identified in the impact assessment sections of the EA and ensure that the wording of the SoC clearly articulates the desired environmental outcome of the commitment. The SoC must be achievable, measurable (with respect to compliance), and time-specific, where relevant."

The Proposal's development, including the route selection, preferred route, concept design and environmental assessment phases has considered the Proposal's potential environmental impacts and has identified the desired environmental outcomes. This has enabled the development and refinement of management measures to avoid minimise, manage, mitigate, offset and/or monitor potential impacts.

The draft statement of commitments has been proposed by the RTA to avoid minimise, manage, mitigate, offset and/or monitor potential impacts identified in the Environmental Assessment. Any consortium or contractor involved in the planning approvals, design, construction and/or operation phases of the Proposal would be required to undertake all work in accordance with the commitments.

These commitments have been refined from those presented in the *Oxley Highway to Kempsey Project Application Report* (RTA 2007c) and incorporate measures identified through various investigations undertaken as part of the environmental assessment phase. The RTA has considered the advice of all its specialists and from this has developed the draft Statement of Commitments. Should the Proposal be approved, and the RTA decide to proceed with detailed design and construction, the RTA will implement the environmental management measures outlined in the draft Statement of Commitments.

Table B-1 provides an index of where each of the commitments is discussed in this appendix.

Table B-1 Index of commitments

Environmental outcome	Ref no	Commitment	Timing	Reference document
Environmental management				
Compliance and continual improvement in environmental management.	EM1	The head contractor for the Proposal will have an environmental management system.	Pre-construction and construction.	ISO 14001. *RTA QA Specification G36 Environmental Protection (Management System).* All relevant RTA policies, specifications, guidance notes and environmental directions.
	EM2	Suitable qualified and experienced personnel will develop and implement project-specific environmental management plans and procedures. The environmental management plans and procedures will incorporate management measures identified in the Environmental Assessment.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).* All relevant RTA policies, specifications, guidance notes and environmental directions.
	EM3	A construction resource plan will be developed to ensure there are adequate resources to undertake the proposed works according to programme.	Pre-construction and construction.	All relevant RTA policies, specifications, guidance notes and environmental directions.
	EM4	The head contractor will implement a construction environmental management plan.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).* All relevant RTA policies, specifications, guidance notes and environmental directions.
Communication and consultation				
An informed community.	CC1	The community will be provided with regular project updates, given prior notice of project activities and provided contact details for enquiries. Where required, affected individuals or groups will be consulted directly and provided with targeted notifications (eg watercourse users and noise affected residences).	Pre-construction and construction.	*Community Involvement and Communications, Draft: A resource manual for staff June 2008* AS 4269 *Complaints Handling.*

Environmental outcome	Ref no	Commitment	Timing	Reference document
	CC2	The community will be able to make complaints using the project's 24-hour toll free complaints number or the project web page. The number will be publicised and the project-specific web page will include directions on how to register a complaint. All complaints will be acknowledged within a specified timeframe, recorded and tracked until resolved.	Pre-construction and construction.	*Community Involvement and Communications, Draft: A resource manual for staff June 2008*. AS 4269 *Complaints Handling.*
	CC3	A community consultation plan will be implemented.	Pre-construction and construction.	*Community Involvement and Communications, Draft: A resource manual for staff June 2008*.
Agreement between agencies.	CC4	Consultation will take place between the RTA and Forests NSW and all other necessary agencies to agree management principles for Crown land.	Pre-construction, construction and operation.	All relevant RTA policies, specifications, guidance notes and environmental directions.
Land use and property				
Provide appropriate level of compensation in relation to property acquisitions.	LP1	All property acquisitions will be negotiated in accordance with the RTA *Land Acquisitions, Policy Statement* and compensation will be assessed under the provisions of the *Land Acquisition (Just Terms Compensation) Act* 1991.	Pre-construction.	RTA *Land Acquisitions, Policy Statement.* *Land Acquisition (Just Terms Compensation) Act 1991*.
Maintain highway access.	LP2	Where alternative access arrangements are not feasible or practical and a property is left with no access to a public road, negotiations will be undertaken with the relevant property owners for the acquisition of the property in accordance with the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991*.	Pre-construction, construction and operation.	RTA *Land Acquisitions, Policy Statement.* *Land Acquisition (Just Terms Compensation) Act 1991.*
Maximise use of existing forestry resources.	LP3	Forests NSW will have access to areas of state forest land identified for acquisition to remove any harvestable timber within the footprint of the Proposal.	Pre-construction and construction.	
Access to water supply for properties maintained.	LP4	Where a licensed bore, dam or other property water supply is adversely affected the RTA will investigate an alternative source of water or negotiate compensation with the property owner.	Pre-construction, construction and operation.	

Environmental outcome	Ref no	Commitment	Timing	Reference document
Social and economic impacts				
Minimise socio-economic impacts during construction and operation.	SE1	On-going consultation with potentially affected community and businesses will occur prior to and during construction to address concerns and issues and to identify any adaptive management requirements where feasible and reasonable.	Pre-construction.	*Community Involvement and Communications, Draft: A resource manual for staff June 2008.*
	SE2	Adequate signage will be implemented during construction and operation to ensure businesses and their patrons are aware of new access routes and/or potential disruptions.	Construction.	All relevant RTA policies, specifications, guidance notes and environmental directions.
	SE3	Occupation and use of compounds and work sites will minimise disturbance to adjacent residents by managing, and minimising where possible: the movement of vehicles, particularly outside of standard working hours; providing temporary noise attenuation (eg, shielding) if practicable; and providing screening to minimise visual intrusion.	Construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
	SE4	Traffic management procedures to minimise disruption.	Construction.	All relevant RTA policies, specifications, guidance notes and environmental directions.
	SE5	Adopt a construction environmental management plan to minimise amenity impact.	Construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
	SE6	Management of acid sulfate soils to minimise impacts on priority oyster aquaculture areas.	Construction.	*RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan).*

Environmental outcome	Ref no	Commitment	Timing	Reference document
Surface and groundwater				
Minimise water quality impacts.	SGW1	Bunded areas will be used for storage of oils, chemicals, toxic substances and combustible liquids, and for potentially hazardous and contaminating activities (eg washing construction vehicles, plant and equipment, handling and pouring hazardous materials and liquids etc).	Construction.	*RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan).* *AS 1940 The storage and handling of flammable and combustible liquids.* *DECC Bunding and Spill Management Guidelines (in DECC Environment Protection Manual for Authorised Officers).* *RTA Code of Practice for Water Management 1999.* *Managing Urban Stormwater: Soils and Construction, Volume 2D, Main Road Construction*. RTA's *Guidelines for the Control of Erosion and Sedimentation in Roadworks*.

Environmental outcome	Ref no	Commitment	Timing	Reference document
	SGW2	Spills will be contained immediately and will be stored in bunded areas until disposal. Spills will be disposed of at a facility that is licensed to receive the waste, or may be disposed of after appropriate treatment.	Construction.	*RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan).* *AS 1940 The storage and handling of flammable and combustible liquids.* *DECC Bunding and Spill Management Guidelines (in DECC Environment Protection Manual for Authorised Officers).* *RTA Code of Practice for Water Management 1999.* *RTA QA Specification G36 Environmental Protection (Management System).* *Managing Urban Stormwater: Soils and Construction, Volume 2D, Main Road Construction* (DECC, 2008). RTA's *Guidelines for the Control of Erosion and Sedimentation in Roadworks*.
	SGW3	Water quality will be monitored upstream and downstream of the Proposal site during construction to determine the effectiveness of mitigation strategies. The monitoring program will be developed in consultation with DECCW.	Pre-construction and construction.	*Managing Urban Stormwater: Soils and Construction, Volume 2D, Main Road Construction*. *Managing Urban Stormwater: Soils and Construction, Volume 1.* The RTA's *Code of Practice for Water Management – Road Development and Management*. *RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan)*.

Environmental outcome	Ref no	Commitment	Timing	Reference document
	SGW4	Specific work method statements for in-stream works will be developed and implemented in consultation with relevant government agencies.	Pre-construction and construction.	*Managing Urban Stormwater: Soils and Construction, Volume 2D, Main Road Construction*. The RTA's *Code of Practice for Water Management – Road Development and Management*. *RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan)*.
	SGW5	Sediment and erosion control measures will be implemented during the construction and the post construction rehabilitation process.	Construction and operation.	*RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan)*. *Managing Urban Stormwater: Soils and Construction, Volume 2D, Main Road Construction* (DECC, 2008).
Minimise groundwater related impacts.	SGW6	The potential for changes in the groundwater table will be further investigated before any major earthworks (defined as a cut or fill with a depth or height exceeding five metres) are undertaken. Where a potential for change is identified, the significance of the change and any resultant impacts will be determined. Where necessary, measures to manage the changes will be designed and implemented.	Pre-construction and construction.	The RTA's *Code of Practice for Water Management – Road Development and Management.* *RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan)*.
	SGW7	Areas of potential acid sulfate soils and actual acid sulfate soils will be confirmed and managed in accordance with standard environmental management measures.	Pre-construction and construction.	*Acid Sulfate Soils Manual*. *RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan).* *Guidelines for the Management of Acid Sulphate materials: Acid Sulphate Soils, Acid Sulphate Rock and Monosulfidic Black Ooze*.
Minimise impacts to waterways.	SGW8	Design to be sensitive to stream morphology, reduce sour and minimise impacts to vegetation.	Pre-construction and construction.	All relevant RTA policies, specifications, guidance notes and environmental directions.

Environmental outcome	Ref no	Commitment	Timing	Reference document
	SGW9	The detailed design of minor waterway crossing structures will be refined during detailed design to maximise hydraulic performance.	Pre-construction	All relevant RTA policies, specifications, guidance notes and environmental directions.
Minimise impacts to geomorphology.	SGW10	Measures to mitigate potential impacts on local geomorphology will be investigated during detailed design.	Pre-construction	All relevant RTA policies, specifications, guidance notes and environmental directions. *RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan)*.
Maximise water efficiency.	SGW11	A water management plan will be developed to ensure water resources are used in the most efficient manner with a focus on achieving water savings and targeting water recycling and re-use.	Pre-construction and construction.	*RTA Specification G38 Soil and Water Management (Soil and Water Management Plan).*
Flora and fauna				
Minimise impacts on native vegetation, fauna and their habitats.	F1	Detailed design will minimise the area of native vegetation and habitat to be cleared wherever reasonable and feasible.	Pre-construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
	F2	The limits of clearing and other native vegetation disturbance will be clearly marked on relevant work plans and on site with temporary fencing installed prior to clearing.	Construction.	*RTA QA Specification G36 Environmental Protection (Management System).* *RTA QA Specification B30 - Clearing, Excavation & Backfill for Bridgeworks.* *RTA QA Specification R178 – Vegetation*.
	F3	Rehabilitation and revegetation will be undertaken in stages and as early as practicable to restore and enhance habitat opportunities.	Construction and operation.	*RTA QA Specification G36 Environmental Protection (Management System).*

Environmental outcome	Ref no	Commitment	Timing	Reference document
	F4	Habitat features and resources for native fauna (such as hollow-bearing trees, hollow logs, nest boxes and bush rocks) impacted by the Proposal will be relocated where feasible and reasonable. Such relocation will be undertaken in a manner to limit damage to existing vegetation and will not occur in high condition remnant vegetation.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
	F5	Native and locally indigenous plants will be used in the landscaping and disturbed areas will be progressively revegetated.	Construction and operation.	*RTA QA Specification G36 Environmental Protection (Management System).*
Minimise adverse impacts on aquatic habitat and fish species.	F6	Watercourse crossings will be designed to facilitate fish passage where appropriate and in consultation with relevant government agencies.	Pre-construction.	*RTA QA Specification G36 Environmental Protection (Management System).* *Fishnote: Policy and Guidelines for Fish Friendly Waterway Crossings*. *Policy and Guidelines for Design and Construction of Bridges, Roads, Causeways, Culverts and Similar Structures*. *Fish Passage Requirements for Waterway Crossings*.
	F7	Water quality control measures will be installed as early as possible in the construction program and will be designed / selected to meet identified receiving water objectives.	Pre-construction.	*RTA QA Specification G36 Environmental Protection (Management System).* *RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan)*.
	F8	A weed management strategy would be developed as part of the construction environmental management plan.	Construction and operation.	All relevant RTA policies, specifications, guidance notes and environmental directions.
Manage impacts on threatened plant species where possible.	F9	Threatened plants in proximity to the Proposal that are to be retained will be identified by pre construction surveys and protected during construction through exclusion fencing and education of construction workers through the site induction process.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).*

Environmental outcome	Ref no	Commitment	Timing	Reference document
	F10	The feasibility of relocating individuals of threatened species to suitable habitat will be investigated.	Pre-construction.	*RTA QA Specification G36 Environmental Protection (Management System).* *Australian Network for Plant Conservation* 2004 guidelines.
	F11	Consideration would be given to constructing artificial frog ponds if appropriate.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
Minimise impacts on native fauna during construction.	F12	A suitably qualified ecologist will undertake pre-clearance surveys. Searches will include nests and large hollow-bearing trees and target habitats of hollow-dwelling species, koalas and frogs. Fauna species found in pre-clearance surveys will be re-located to suitable habitat as close as possible to the area in which they were found.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
	F13	Where feasible and reasonable, removal of frog habitat along drainage lines will not be undertaken during periods of wet weather.	Construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
	F14	The construction contractor will maintain contact details for local DECCW officers, WIRES and/or other relevant local wildlife carer groups.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
	F15	Surveys will be undertaken for threatened bat species by a suitably qualified ecologist to identify any roosting bats prior to the demolition of the existing highway bridges. Any bats will be moved and relocated following consultation with DECCW.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
	F16	Development of a nest box strategy will be undertaken.	Pre-construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
Maintain terrestrial fauna connectivity.	F16	Culverts and bridges identified in the Environmental Assessment as having a potential role in fauna crossing will be designed to facilitate fauna movements where feasible and reasonable.	Pre-construction.	*RTA QA Specification G36 Environmental Protection (Management System).* *RTA QA Specification B30 - Clearing, Excavation & Backfill for Bridgeworks*.

Environmental outcome	Ref no	Commitment	Timing	Reference document
Limit opportunities for animals to access the highway.	F17	Fauna exclusion fencing (eg floppy-top fencing) will be erected along the Proposal at appropriate locations to direct fauna movement towards fauna-crossing structures.	Pre-construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
Offset the residual impacts of the Proposal on key habitat.	F18	An agreement will be developed in negotiation with Department of Planning and in consultation with DECCW for habitat offsets.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).* *RTA Compensatory Habitat Policy and Guideline* (draft).
Determine effectiveness of flora and fauna mitigation measures.	F19	A monitoring program will be developed to allow the effectiveness of mitigation and offset measures to be assessed and allow for their modification if necessary. The program will be for a minimum of 12 months after construction completion.	Pre-construction, construction and operation.	*RTA QA Specification G36 Environmental Protection (Management System).*
Noise and vibration				
Construction noise				
Minimise construction noise and vibration impacts.	CN1	All feasible and reasonable mitigation and management measures to minimise construction noise and vibration at sensitive receivers will be investigated. Noise and vibration will be monitored to measure against predicted levels. Where required, feasible and reasonable mitigation measures will be implemented.	Pre-construction and construction.	*Environmental Noise Management Manual.* *Interim Construction Noise Guideline* (DECC).
	CN2	All reasonable attempts will be made to contact sensitive receivers that will be affected by blasting at least 48 hours prior. Blasting will normally be limited to between 9am and 5pm Monday to Friday and between 9am and 1pm Saturday. No blasting will take place outside these hours without approval from Department of Planning and following consultation with and/or notification of local residents and DECCW.	Construction.	*Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration.* *Community Involvement and Communications, Draft: A resource manual for staff June 2008.*

Environmental outcome	Ref no	Commitment	Timing	Reference document
	CN3	Construction will normally be limited to the following hours: • Between 6am and 6pm Monday to Friday. • Between 7am and 4pm Saturday. There would be no works outside these hours, or on Sundays or public holidays, except: a) For works that do not cause construction noise to be audible at any sensitive receivers. b) For the delivery of materials required outside these hours by the Police or other authorities for safety reasons. c) Where work is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm. d) For any other work as agreed through negotiations between the RTA and potentially affected sensitive receivers. Any such agreement must be recorded in writing and a copy kept on site for the duration of the works. e) Where the work is identified in the construction noise and vibration management plan and approved as part of the construction environmental management plan. f) As otherwise agreed by the DECCW. Local residents and the DECCW will be informed of the timing and duration of work approved under items (d) and (e) at least 48 hours before that work commences. Hours of work will be addressed in the construction noise and vibration management plan, which will be finalised in consultation with the Department of Planning and the DECCW.	Construction.	*Interim Construction Noise Guideline* (DECC). *Community Involvement and Communications, Draft: A resource manual for staff June 2008*.

Environmental outcome	Ref no	Commitment	Timing	Reference document
Operational noise				
Operational noise and vibration managed.	ON1	Where required, reasonable and feasible noise and vibration management measures will be further developed and implemented during detailed design in consultation with relevant property owners.	Pre-construction and construction.	*Environmental Criteria for Road Traffic Noise*. *Environmental Noise Management Manual*.
Determine effectiveness of operational noise control measures.	ON2	Operational noise will be monitored within one year after construction is finished. If monitoring indicates a clear trend that traffic noise levels exceed those predicted, all further feasible and reasonable measure will be investigated. Any additional mitigation measures will be developed in consultation with a suitably qualified and experienced acoustic specialist and the affected property owner.	Operation.	*Environmental Criteria for Road Traffic Noise.* *Environmental Noise Management Manual*.
Visual amenity and design				
Maintained or enhanced landscape character.	VAD1	A detailed urban and landscape design plan would be developed during the detailed design phase. The detailed design and implementation of built elements (such as new carriageways, bridges and roadside furniture) and landscapes, and the mitigation of residual impacts will be undertaken in accordance with the visual and design objectives and principles of the proposal.	Pre-construction and construction.	*Beyond the Pavement RTA Urban Design Policy, Procedures and Design Principles.* *RTA Bridge Aesthetics.* *RTA Landscape Guideline*.
Visual impacts are mitigated over the long-term and on-going maintenance of urban design elements and landscape is minimised.	VAD2	Built elements will be robust, long-lasting, replaceable and easy to maintain materials and designs.	Pre-construction and construction.	*Beyond the Pavement RTA Urban Design Policy, Procedures and Design Principles.* *RTA Bridge Aesthetics.* *RTA Landscape Guideline*.

Environmental outcome	Ref no	Commitment	Timing	Reference document
Minimise the visual impact of the Proposal.	VAD3	The schedule of species to be used in the landscaping treatments will include self-sustaining native and locally indigenous plants that will be selected in consultation with a qualified landscape officer.	Pre-construction and construction	*RTA QA Specification R179 - Landscape Planting.* *RTA QA Specification R178 – Vegetation.*
	VAD4	Disturbed areas will be progressively revegetated with consideration to related controls such as erosion and sedimentation controls, drainage and future road user safety requirements.	Construction and operation.	*RTA QA Specification R179 - Landscape Planting.* *RTA QA Specification R178 – Vegetation.*
	VAD5	Design criteria will be applied during detailed design to reduce any potential adverse visual impacts to the existing landscape character and visual amenity.	Pre-construction.	*Beyond the Pavement RTA Urban Design Policy, Procedures and Design Principles.* *RTA Bridge Aesthetics.* *RTA Landscape Guideline*.
Maintenance and management of landscaping.	VAD6	Landscaped or rehabilitated areas will be monitored and maintained for a minimum of two years after opening.	Construction and operation.	RTA *QA Specification R179 – Landscape Planting.* RTA *QA Specification R178 – Vegetation.*
Traffic and transport				
Resolution of damage to roads as a result of construction.	T1	Pre-construction dilapidation reports will be prepared for all non-arterial roads likely to be used by construction traffic. Copies of the reports will be provided to the relevant roads authority.	Pre-construction.	*RTA QA Specification G36 Environmental Protection (Management System).* All relevant RTA policies, specifications, guidance notes and environmental directions.
	T2	Post–construction dilapidation reports will be prepared for the roads assessed in T1 above. Copies of the reports will be provided to the relevant roads authority. Any damage resulting from construction, (not normal wear and tear), will be repaired or an alternative arrangement for road damage will be agreed with the relevant roads authority.	Operation.	*RTA QA Specification G36 Environmental Protection (Management System).* All relevant RTA policies, specifications, guidance notes and environmental directions.

Environmental outcome	Ref no	Commitment	Timing	Reference document
Impacts on traffic minimised.	T3	Construction vehicle movements, work programs and traffic control measures will be planned to avoid or minimise impacts on traffic through the implementation of all feasible and reasonable design, and mitigation and management measures.	Pre-construction construction.	*RTA Traffic Control at Work Sites.* *RTA QA Specification G10 Control of Traffic.*
Impacts to waterway users minimised.	T4	The centre spans of the bridges over the Hastings River and the Wilson River will be no lower in height than the existing bridges to ensure navigational clearance is maintained.	Pre-construction.	
Informed residents.	T5	Consultation with those residents whose access will be affected during construction will be undertaken.	Pre-construction and construction.	*Community Involvement and Communications, Draft: A resource manual for staff June 2008.* AS 4269 *Complaints Handling.*
Safer cycling and pedestrian movement.	T6	Signposting and crossing points will be provided for cyclists at the on and off ramps at interchanges offering a safer cycling and pedestrian environment.	Operation.	All relevant RTA policies, specifications, guidance notes and environmental directions.
Reliable public transport.	T7	Provision will be made to maintain access for the existing bus operation.	Construction.	All relevant RTA policies, specifications, guidance notes and environmental directions.
Aboriginal heritage				
Minimise the impact on Aboriginal heritage.	AH1			
		An Aboriginal heritage management plan will be developed to document procedures, management measures and protocols to minimise impacts.	Pre-construction and construction.	*RTA Procedure for Aboriginal cultural heritage consultation and investigation.* *Aboriginal cultural heritage: standards and guidelines kit* (DECC). *Protecting Aboriginal objects and places - interim guidelines for community consultation* (DECC).

Environmental outcome	Ref no	Commitment	Timing	Reference document
	AH2	Items and areas of archaeological significance not directly affected will be protected during construction.	Pre-construction and construction.	*RTA Procedure for Aboriginal cultural heritage consultation and investigation.* *Aboriginal cultural heritage: standards and guidelines kit* (DECC). *Protecting Aboriginal objects and places - interim guidelines for community consultation* (DECC). *National Parks and Wildlife Act 1974*.
	AH3	Protocols will be established and implemented should any previously unidentified Aboriginal objects or human skeletal remains be encountered during construction works on the project. All works in the vicinity of the find will cease until Police and Aboriginal heritage specialist advice is obtained and the DECCW.	Construction.	*RTA Procedure for Aboriginal cultural heritage consultation and investigation.* *National Parks and Wildlife Act 1974*. *Protecting Aboriginal objects and places - interim guidelines for community consultation* (DECC).
	AH4	Any Aboriginal heritage items directly affected will be managed in consultation with Aboriginal stakeholders and the DECCW.	Pre-construction and construction.	*RTA Procedure for Aboriginal cultural heritage consultation and investigation.* *National Parks and Wildlife Act 1974*. *Protecting Aboriginal objects and places - interim guidelines for community consultation* (DECC).
	AH5	All construction personnel will receive Aboriginal heritage awareness training on their obligations for protection of Aboriginal cultural materials, including information on site locations, conservation management requirements and legal obligations in regard to Aboriginal cultural materials.	Pre-construction.	*RTA Procedure for Aboriginal cultural heritage consultation and investigation.* *National Parks and Wildlife Act 1974*.
Ensuring on-going Aboriginal participation.	AH6	The RTA will comply with the NSW Government's *Aboriginal Participation in Construction Guidelines.*	Pre-Construction and construction.	*RTA Procedure for Aboriginal cultural heritage consultation and investigation.* NSW Government's *Aboriginal Participation in Construction Guidelines* (2007).

Environmental outcome	Ref no	Commitment	Timing	Reference document
	AH7	The RTA will consult with the Birpai Local Aboriginal Land Council regarding management of any potential adverse impacts on the identified sensitive site in accordance with the aboriginal heritage management plan.	Pre-construction and construction.	*RTA Procedure for Aboriginal cultural heritage consultation and investigation.* NSW Government's *Aboriginal Participation in Construction Guidelines* (2007).
Air quality				
Impacts on air quality minimised.	AQ1	Feasible and reasonable mitigation measures will be adopted to minimise windblown, traffic-generated or equipment-generated dust and emissions.	Construction.	*Protection of the Environment Operations Act 1997.* *RTA QA Specification G36 Environmental Protection (Management System).*
	AQ2	Dust generating activities will stop where visible dust is being emitted outside the construction corridor and when dust suppression methods are ineffective.	Construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
Climate change and greenhouse gas emissions				
Energy consumption and greenhouse gasses emissions minimised.	CG1	Energy efficient work practices will be adopted to limit energy use. Where reasonable and feasible, equipment and management measures will be adopted to minimise energy use and greenhouse gas production. Minimise vegetation clearance where possible.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).*
	CG2	A lighting scheme will be developed during detailed design. The aim of the design will be to minimise the use of lighting.	Pre-construction.	RTA *Pacific Highway Design Guidelines*.
Non-Aboriginal heritage				
Minimise impacts on non-Aboriginal heritage items.	NAH1	The detailed design will minimise impacts to the identified non-Aboriginal heritage items where feasible and reasonable.	Pre-construction.	*Heritage Act 1977*. *RTA QA Specification G36 Environmental Protection (Management System).*

Environmental outcome	Ref no	Commitment	Timing	Reference document
	NAH2	If any material of potential archaeological significance is unearthed, work will cease until specialist heritage advice has been obtained.	Pre-construction and construction.	*Heritage Act 1977*. *RTA QA Specification G36 Environmental Protection (Management System).*
	NAH3	Staff will receive training with respect to identifying items of non-Aboriginal heritage during construction and the correct methods of communication on the worksite.	Construction.	*Heritage Act 1977*. *RTA QA Specification G36 Environmental Protection (Management System).*
	NAH4	A non-Aboriginal heritage management plan will be developed.	Pre-construction.	*Heritage Act 1977*. *RTA QA Specification G36 Environmental Protection (Management System).*
Waste minimisation and management				
Reduce creation of waste and maximise re-use and recycling.	WMM1	The 'waste hierarchy' (avoid/reuse/recycle/ resource recovery/disposal) will be maximised during construction; incorporated into work programs, purchase strategies and site inductions; and will be assessed quarterly to identify opportunities for improvement. Recycled materials will be used where feasible.	Construction and operation.	NSW Government's Waste Reduction and Purchasing Policy. *Protection of the Environment Operations Act* 1997.
	WMM2	Staff to be trained in waste reduction.	Construction.	NSW Government's Waste Reduction and Purchasing Policy. *Waste Avoidance and Resource Recovery Act 2001* Relevant DECCW Waste management and classification guidelines.
	WMM3	A waste register to be developed during construction.	Construction.	NSW Government's Waste Reduction and Purchasing Policy. *Waste Avoidance and Resource Recovery Act 2001* Relevant DECCW Waste management and classification guidelines.

Environmental outcome	Ref no	Commitment	Timing	Reference document
Disposal of wastes.	WMM4	Any waste material that is unable to be re-used, re-processed or recycled will be disposed at a facility approved to receive that type of waste. Waste will be disposed at a facility licensed to accept that classification of waste.	Construction and operation.	NSW Government's *Waste Reduction and Purchasing Policy.* *Waste Avoidance and Resource Recovery Act 2001* Relevant DECCW Waste management and classification guidelines.
Contamination				
Manage potential areas of contaminated material.	C1	Areas of potential contamination identified during preconstruction and construction activities will be further investigated and appropriately managed.	Pre-construction and construction.	Relevant DECCW Waste management and classification guidelines. RTA *Contaminated Land Management Guideline*. DECCW *Guidelines for NSW Site Auditor Scheme*. *Contaminated Land Management Act 1997*.
Geology and soils				
Erosion and sedimentation minimised.	GS1	Erosion and sedimentation management and control measures will be designed and installed with the advice of a soil conservationist. Controls will be inspected regularly, maintained and managed to maximise their effectiveness.	Pre-construction and construction.	*RTA Erosion and Sedimentation Risk Assessment Procedure 2004*. *RTA QA Specification G38 Soil and Water Management (Soil and Water Management Plan).* *Managing Urban Stormwater: Soils and Construction, Volume 2D, Main Road Construction* (DECC, 2008). *RTA QA Specification 40 Clearing and Grubbing.* *RTA QA Specification R178 Vegetation.* *RTA Stockpile Management Procedures 2001.*

Environmental outcome	Ref no	Commitment	Timing	Reference document
	GS2	Acid Sulphate Soil Management Plan will be developed to outline strategies that will be implemented to manage potential impacts of development works that are likely to disturb acid sulfate soils.	Construction.	*Acid Sulfate Soils Manual*. RTA *Guidelines for the Management of Acid Sulphate materials: Acid Sulphate Soils, Acid Sulphate Rock and Monosulfidic Black Ooze*.
Confirm ground conditions.	GS3	Geotechnical investigations will be undertaken as part of the detailed design phase to confirm preliminary geotechnical investigative works.	Pre-construction.	All relevant RTA policies, specifications, guidance notes and environmental directions.
	GS4	Geomorphologic investigations will be undertaken during the detailed design phase to determine bank and riverbed stability.	Pre-construction.	All relevant RTA policies, specifications, guidance notes and environmental directions.
Manage construction spoil.	GS5	A spoil management strategy will be identifying opportunities for re-using the material onsite and locations outside the Proposal for re-use or disposal. Re-use onsite will be the priority.	Pre-construction.	All relevant RTA policies, specifications, guidance notes and environmental directions.
Minimise potential adverse impacts to banks.	GS6	Detailed design of cut slopes and embankments will be undertaken to ensure there will be minimal long term adverse impacts to banks.	Pre-construction.	*RTA guidelines R44 Earthworks*.
Utilities and services				
Minimise disruption to utilities and services.	US1	Utilities and services potentially affected by construction will be identified and requirements for their diversion, protection and / or support identified. Alterations to services will be determined in negotiation with the service providers and will ensure that disruption to services resulting from the project are limited and advised to customers.	Pre-construction and construction.	*RTA QA Specification G36 Environmental Protection (Management System).* *RTA QA Specification G35 Environmental Protection (Management Plan).*