



mainroads
WESTERN AUSTRALIA

MARBLE BAR ROAD REALIGNMENT – COONGAN GORGE: Annual Project Sustainability Report 2019



About this Report

This report has been prepared by the Coongan Gorge project team on behalf of Main Roads Western Australia. This report forms part of Main Roads' annual sustainability reporting which is integrated into its Annual Report. The report content is prepared in accordance with GRI principals. Main Roads processes determine which aspects are Material and to be reported on by the project.

To guide our development of our sustainable approach we make use of the industry recognised Infrastructure Sustainability Council of Australia (ISCA) Rating Tool framework. Recognising that the value of this project is within the Main Roads WA threshold for seeking a rating, it is important that we overlay the framework to measure our sustainable performance on the project in conjunction with our own Smart Metrics. As the ISCA tool was not specifically developed for this project, there will inevitably be some sustainable performance measurement aspects that can be boosted through the adoption of complimentary smart metrics which enhance the performance reporting on the project.

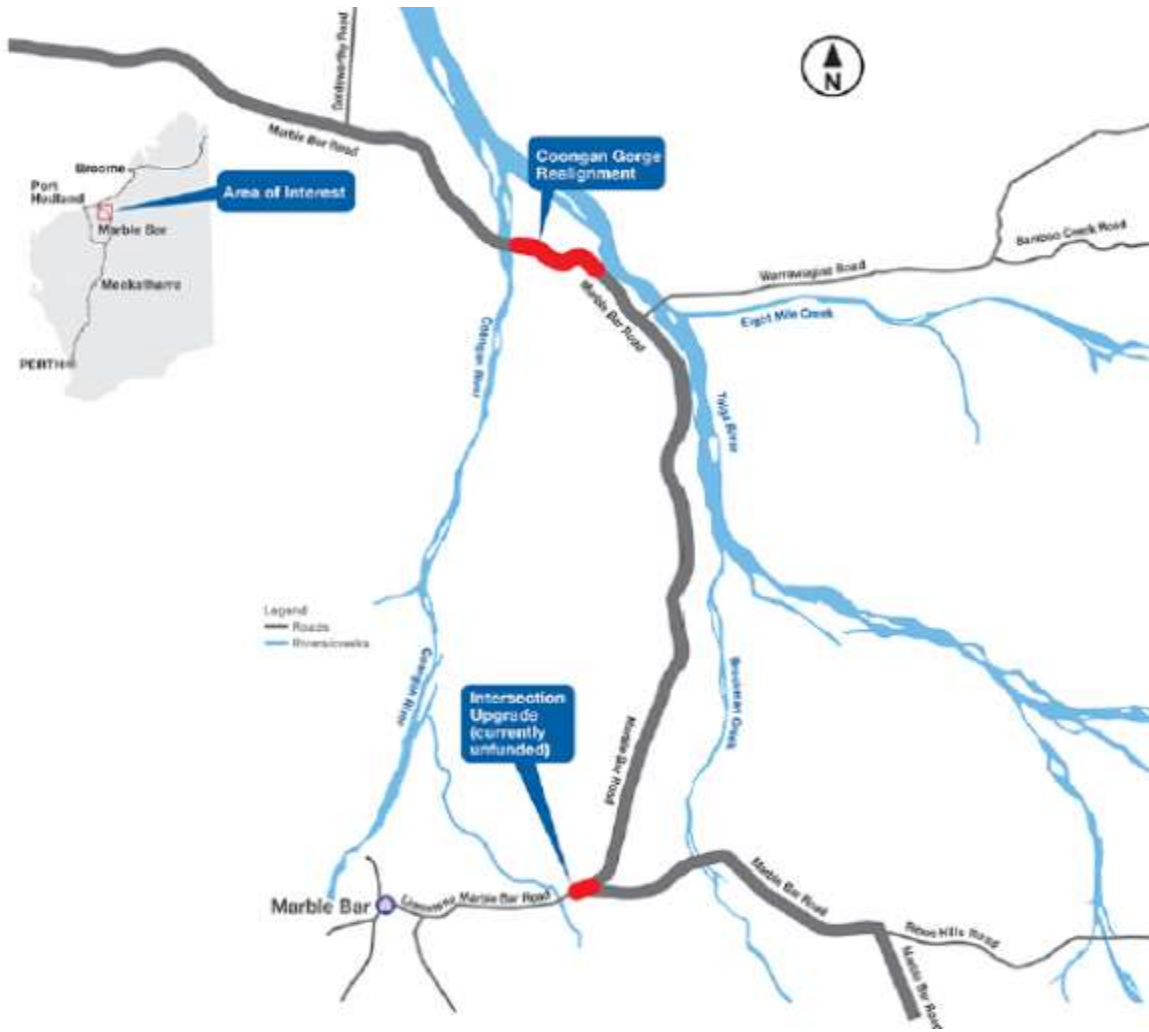
Key to the success of this approach is the reporting function. Often sustainable initiatives carried out by contractors that are considered 'business as usual' are not classed under a sustainability framework because they are not measured and the benefits of those initiatives are not realised from a whole-of-life perspective. Importantly the reporting will provide Main Roads WA and the project team with key information from which a process of continuous improvement can be adopted on this and future projects.

Introduction

The MACA Project Team (MACA and KBR) holds sustainability as a core value of this project. The value extends wider than the project though to each of our respective businesses and is delivered by every employee across all operations every day. Sustainability has been a key contributor to the growth and success of each of our businesses over the past 15 years, contributing to our respective successes in designing and delivering sustainable infrastructure projects on an international scale.

Overview

Year Funded:	2018
Location:	Marble Bar Road – 35km North of Marble Bar in the Pilbara.
Duration:	1 Year
Main Contractor:	MACA Civil
Project Website:	https://project.mainroads.wa.gov.au/home/current/Pages/marblebarroad.aspx



The four-kilometre section of road through Coongan Gorge was narrow and winding with steep descents, tight curves and restrictive sight distances. This upgrade will significantly improve road safety and reduce transport operating costs and travel times.

Work included:

Coongan Gorge Realignment

- Realignment and upgrade of the four-kilometre section through Coongan Gorge
- Construction of culverts and off-road drainage
- Installation of safety barriers, signs and pavement markings, guide posts and road reserve boundary fencing

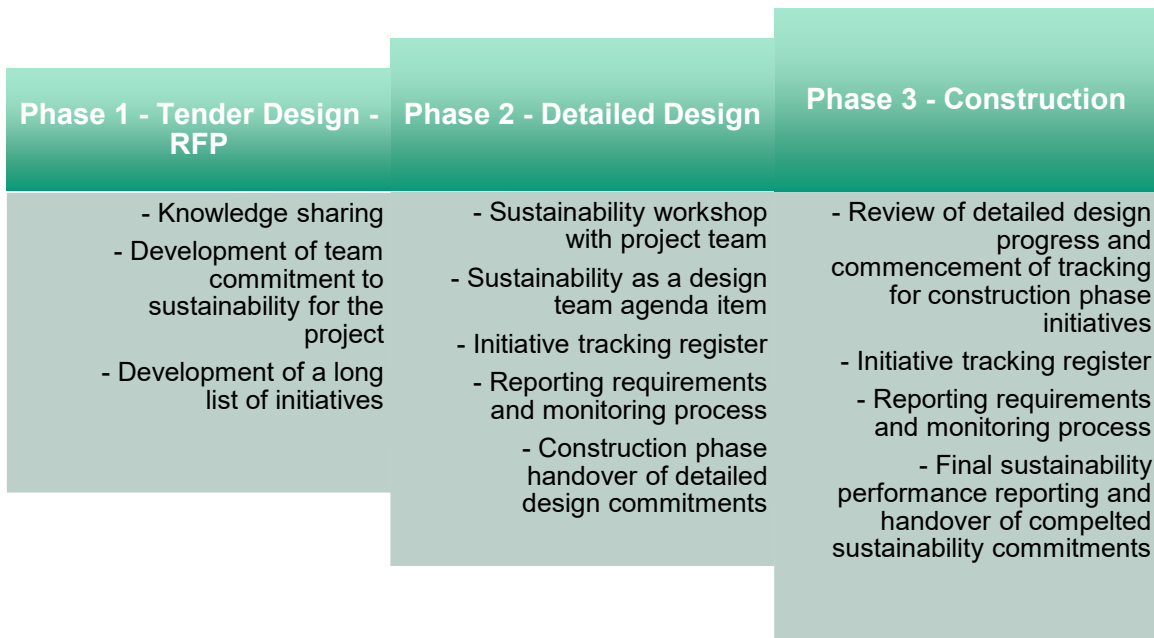
Marble Bar Road and Limestone-Marble Bar Road Intersection

- Right turn pocket on Limestone-Marble Bar Road eastbound carriageway
- Acceleration lane on Marble Bar Road eastbound
- Northbound and westbound left turn pocket on Marble Bar Road

Overall approach to Sustainability

The MACA Project Team is committed to undertaking a sustainable approach on the Marble Bar Road Realignment, Coongan Gorge Project (the Project) that will seek to provide improved outcomes for the asset owner and end users in the long term. The team recognise the impact that good sustainable decision making can have on the success of the project from design through to construction and operation of the asset. As such it is essential that sustainability considerations are embedded early in project planning and design phases to provide a platform for ongoing carriage of initiatives and performance reporting.

Our approach to sustainability for this project will be undertaken across a number of phases as shown in the diagram below:



Phase 1 – Tender Design

Early workshops through the tender design phase with the project team had provided the ability to share knowledge in this space between parties providing a mutual learning experience highlighting:

- Corporate commitment to sustainability and where our approach on this project needs to directly align
- Information around initiatives previously adopted on projects and lessons learned from those projects
- Identification of initiatives that will address Main Roads WA priority areas and specifically benefit

the project

Phase 2 – Detailed Design

The Detailed Design Phase is where our commitment to sustainability as outlined within Phase 1, has been implemented.

The designer, KBR, managed the sustainability process through this phase and undertook the following tasks as part of their role:

- Convened an initial workshop early in the detailed design phase providing the project team with background information and education on infrastructure sustainability, key focus areas for this project and an outline of the range of initiatives being undertaken as part of the sustainability agenda for the project. This workshop will also set the requirements and expectation for:
 - Ongoing sustainability reporting and management on the project
 - Roles and responsibilities across the project delivery with regards to implementation sustainability initiatives project-wide
 - Reporting and documentation requirements for sustainability
- Developed a detailed initiative register and associated initiative implementation plan, building on that developed in the earlier phase and confirmed:
 - Clear lines of responsibility for each initiative
 - Where that initiative fits within the overall design and construction program for the project
 - Reporting requirements for that initiative and methods of measurement
- Developed an innovation register to capture design and construction innovation ideas for the project as they developed.
- Attended monthly Project Review Meetings with MACA and Main Roads WA to report on initiative progress.
- Attended fortnightly internal design team meetings to report on initiative progress and ensure management of sustainability reporting deliverables.
- Input into monthly reporting by the project team to Main Roads WA with respect to the progress of sustainability initiatives on the project.
- Developed a project wide sustainability report and provide input into design reports for each of the main design packages.

Phase 3 – Construction

Many of the early construction activities commenced prior to the finalisation of the detailed design, the wider project team continued onto the construction phase already engaged with the requirements for sustainability initiatives through regular reporting and project governance arrangements.

Our team worked with the Construction Environmental Manager to hand over responsibility of sustainability monitoring and reporting to this individual.

Tasks required during this phase was aligned with those undertaken in the earlier phase as follows:

- Review of detailed design progress and tracking for construction phase initiatives
- A follow up workshop was presented to the wider construction team, sharing knowledge on the key focus areas for sustainability for the project and providing an opportunity to capture additional initiatives or innovation that might have been developed through the construction phase.
- Initiative register management

- Innovation register management
- Regular attendance at construction management meetings to report on sustainability performance against KPA's and initiative progress, and update requirements for new or ongoing initiatives

Environmental Aspects Performance

At a glance

Aspect	Year to 30 June	Total for Project
Clearing planned (ha)	46.2	46.2
Actual clearing to date (ha)	46.2	46.2
Rehabilitation/revegetation planned (ha)	4.18	4.18
Actual rehabilitation/revegetation to date (ha)	TBC ¹	TBC ¹
Total Water Consumption to date (kL)	125,000	125,000
Total GHG emissions (scope 1 & 2) to date (t CO ₂ e)	10,232	10,232
Total energy consumption to date (mj)	0	0
Total quantity of recycled content used in project (t)	616,000	616,000
Total imported materials used in project (t)	119,018	119,018
Total waste generated by project (t)	11	11

¹Rehab to be completed by 30 June 2019. Measured quantity to follow.

Environmental context

Northern Quoll

There was the potential for both direct and indirect impacts to northern quoll because of activities associated with the project.

Key activities identified with potential impacts include;

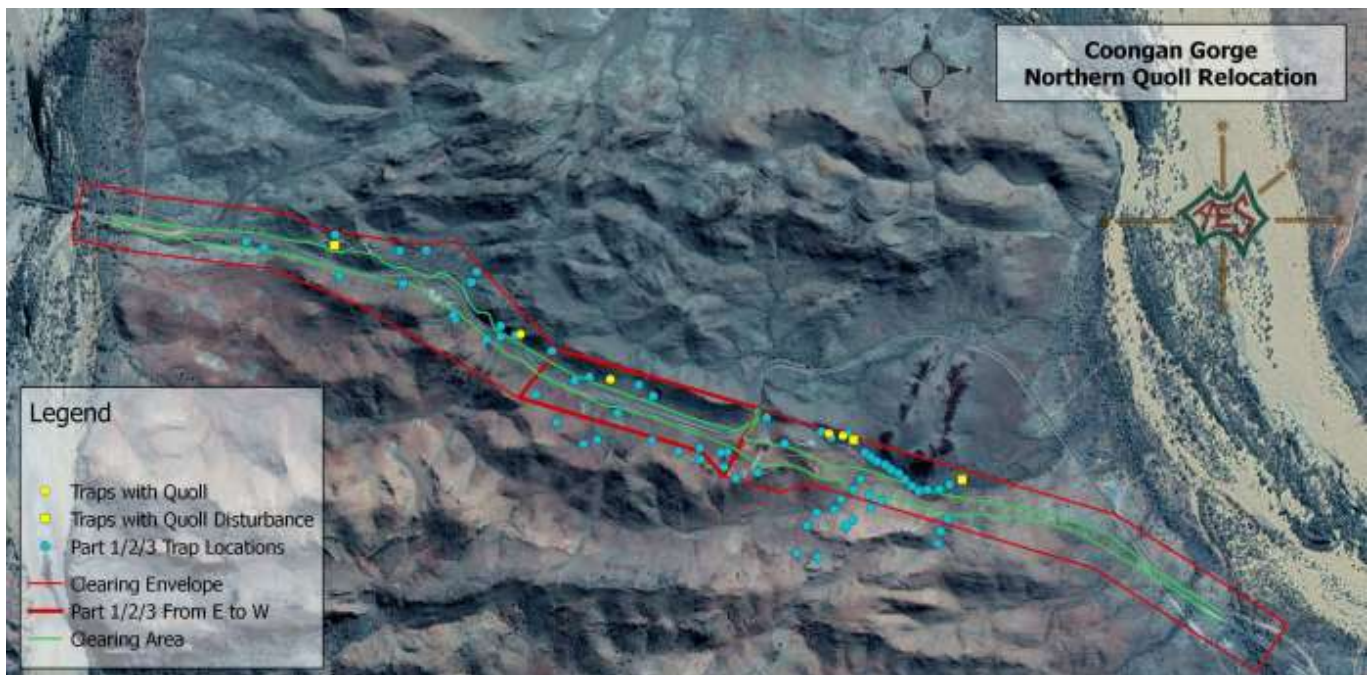
- Vegetation clearing,
- Construction of road,
- Linear infrastructure,
- Rehabilitation of old road and temporary side track,
- Road usage.

To minimise disturbance to the Northern Quolls, where possible, artificial northern quoll habitat was created within areas that may include pits, culverts and the decommissioned road. Artificial habitat was created by utilising earthmoving equipment to gather large rock material (greater than 500 mm), woody debris and previously cleared vegetation to form a mound with multiple cavities and entrance opportunities.

In addition to this, the following actions were followed in accordance with Northern Quoll management plan;

- Pre-clearance Trapping and Relocation in consultation with DWER
- Site inductions for all site staff and contractors will include appropriate procedures and NQ awareness and 'No-Go Areas' ,
- Clearly delineate the extent of the approved disturbance
- footprint (clearing footprint) with pegs.
- All clearing to be complete by the 1st August 2018,
- Any NQ sighting or incident will be reported to the Site Environmental Officer and to DWER.
- Where possible, retain habitat corridors and linkages between areas of impact.
- Installation of culverts designed for use by NQs
- Installation of signage

A northern quoll monitoring program was conducted to monitor the effectiveness of these management actions. The broad objective of the monitoring plan is to monitor and measure the effectiveness of management actions in protecting the local northern quoll population, specifically the use of culverts by northern quolls.



Western Pebble Mound Mouse

The Western Pebble Mound Mouse was recorded within the footprint of the proposed borrow pit. In total two active and seven unused/inactive mounds were recorded on low stony hills or undulating plains.

Key activities identified with potential impacts include;

- Vegetation clearing
- Borrow pit construction
- Rehabilitation of pit

The Western Pebble Mound Mouse is known to be susceptible to disturbance and will disappear from areas once clearing commences, however, the identified mounds within the surveyed area were clearly highlighted and marked as 'No-Go Zones'.

Management actions intended to reduce potential impacts to the Western Pebble Mound Mouse were:

- Avoid all active Western Pebble Mound Mouse mounds within the material pit area
- In the instances, where mounds can't be avoided relocate Western Pebble Mound Mouse through displacement methods.

Environmental Management

Construction Risk register

A Construction Risk Register was produced for the project and its purpose was to identify the environmental impacts and aspects applicable to the project and assess the significance of their impacts. All hazards identified on site and risks associated with the construction process will be controlled using the Risk Management Process.

Risks associated with the construction process were determined through a review of the Design Risk Assessment, Scope of Works, Works Program and Construction Schedule. All hazards identified from design changes, audits, inspections, hazard and incident reporting were assessed, prioritised and controlled accordingly.

The Project Risk Register was an active document and was reviewed and assessed:

- In the event of any changes to design or site conditions of a project;
- Whenever a report of a significant hazard, near miss, non-conformance or system failure was received;
- Before new plant, equipment, services, processes or substances were used in the organisation;
- Before any other significant changes to the workplace were introduced; and
- Before entering into any contract or new work which may have given rise to new hazards.

Construction Risk register

The environmental performance targets for this project were:

- Zero damage to heritage sites;

- Zero significant spills – over 100lt;
- No clearing outside of permit boundary;
- An Environmental Incident Rate of not more than 0.80 (per financial year) per 1,000,000 man hours worked; and
- Consistent with achieving the above targets it is MACA's objective to ensure safe work systems and practices are in place and all personnel are adequately trained to maintain a safe and healthy work place for people and the environment.

Economic Aspects Performance

At a glance

Economic Aspect	Year to 30 June	Total for Project
<i>Workforce and Supply Chain</i>		
Number of people employed by supply chain at various stages of project	361+	361+
Total number of suppliers engaged	55	55
Total number of Indigenous Enterprise	\$360,000	\$360,000
% Women Employed	9%	9%
Total number of Disability Enterprise	\$0	\$0
Buy Local Spend (to date)	\$3,000,000	\$3,000,000

Economic context

Marble Bar Road is a critical access road for a number of mining operations and local communities between Newman, Nullagine, Marble Bar and several aboriginal communities including Jigalong and Punmu. The road is also important for both the agricultural and tourism industries within the East Pilbara region.

The upgrade will make travel to the Central Pilbara region safer and more accessible and reduce travel times. They will compliment other significant upgrades in the Pilbara region to improve road safety and efficiency

The four-kilometre section of road through Coongan Gorge is narrow and winding with steep descents. The poor geometry along this section results in reduced sight distances and creates a difficult environment for larger commercial vehicles to safely and efficiently operate with other vehicles. The realignment of the Coongan Gorge section of Marble Bar Road will significantly improve the safety of the road train operators using this section of road.

Resource industry growth will see an increase in traffic and movement of freight along this section. This upgrade is required to meet the expected demand on this section of road due to the industry growth.

Reduced speeds currently in place and the poor geometry meant that travel through the section was inefficient. Road trains in particular used significantly more energy to navigate this section which resulted in greater emissions into the environment and additional costs to transport companies

Social Aspects Performance

At a glance

Social Aspect	Year to 30 June	Total for Project
No. of complaints	0	0
No. of traffic safety incidents within project boundary	0	0
% of women in workforce	9%	9%
% indigenous in workforce	5.5%	5.5%
LTIFR		
No. of development employees and apprentices on the project	0	0
No. of employees (FTEs) sourced from local community	20	20

Social context

Stakeholder	Relevance to project	Known position/name
<u>Federal Government</u> <ul style="list-style-type: none"> Minister for Infrastructure, Hon Michael McCormack 	<ul style="list-style-type: none"> Providing 80% funding 	<ul style="list-style-type: none"> Supportive – as principal funder Will leverage key milestones
<u>State Government</u> <ul style="list-style-type: none"> Minister for Transport, Hon Rita Saffioti 	<ul style="list-style-type: none"> Providing 20% funding 	<ul style="list-style-type: none"> Supportive – as project funder and Minister responsible for delivery Will leverage key milestones Keen to ensure Main Roads effectively mitigates community issues before they escalate to the political level
<u>State Government Agencies</u> <ul style="list-style-type: none"> Department of Transport Department of Planning Department of Fire and Emergency Services (FESA) Department of Environment 	<ul style="list-style-type: none"> Responsible for various elements of the project Emergency access changes 	<ul style="list-style-type: none"> Neutral – but will work with Main Roads to ensure their considerations/concerns are reflected in design/construction methodology

Stakeholder	Relevance to project	Known position/name
<ul style="list-style-type: none"> Water Corporation Service providers 		
<u>Federal Local Members</u> <ul style="list-style-type: none"> Member for Durack, Melissa Price MP 	<ul style="list-style-type: none"> Project within Durack electorate 	<ul style="list-style-type: none"> Supportive – project is a significant road improvement in her electorate Will leverage key milestones, but will also serve as a conduit for constituent concerns
<u>State Local Members</u> <ul style="list-style-type: none"> Member for Pilbara, Kevin Michel 	<ul style="list-style-type: none"> Project located in Pilbara electorate 	<ul style="list-style-type: none"> Supportive – project is a significant road improvement in electorate and an ALP significant project
<u>Local Government</u> <ul style="list-style-type: none"> Shire of East Pilbara 	<ul style="list-style-type: none"> Project within region 	<ul style="list-style-type: none">
<u>Local emergency services</u> <ul style="list-style-type: none"> Marble Bar Police Station South Hedland Police Station FESA Nurses Post Local Emergency Management Committee (LEMC) 	<ul style="list-style-type: none"> Project within region 	<ul style="list-style-type: none"> Neutral
<u>Local Businesses</u> <ul style="list-style-type: none"> Travellers Rest Roadhouse and Motel Mini Mart and Post Marble Bar Holiday Park Ironclad Hotel Kalari Transport Pty Ltd QUBE Bulk RIVET Mining Services Atlas Iron Newcrest Mining Ltd - Telfer Limestone Station Carlindie Station 	<ul style="list-style-type: none"> Project within region 	<ul style="list-style-type: none"> Supportive – keen to be involved in the project if possible
<u>Tourist Association and Info Centre</u>	<ul style="list-style-type: none"> Project within region 	<ul style="list-style-type: none">
<u>Aboriginal road construction/traffic management companies</u>	<ul style="list-style-type: none"> Will be sub-contracted to provide employees for the project 	<ul style="list-style-type: none"> Supportive – project provides employment opportunities
<u>Local landowners</u> <ul style="list-style-type: none"> Landowners and residents within prescribed locality 	<ul style="list-style-type: none"> Project within their pastoral lease 	<ul style="list-style-type: none"> Neutral – have minor requests of how rehabilitation etc. is undertaken. Understand the need for the project and will work with Main Roads.

Stakeholder	Relevance to project	Known position/name
Road users	<ul style="list-style-type: none"> • Road traffic impacts and access changes • Traffic delays 	<ul style="list-style-type: none"> • Neutral • Road users expected to support project upon completion • Concerns about delays during blasting specifically for time critical activities (i.e. doctor's appointments and flights)
<u>Community Organisations:</u> <ul style="list-style-type: none"> • Community Resource Centre (CRC) • Housing and Community Care (HACC) • Ashburton Aboriginal Corporation (AAC) • Local area School • Nullagine Community Resource Centre – for further local distribution 	<ul style="list-style-type: none"> • Within project area 	<ul style="list-style-type: none"> • Neutral

Addressing community concerns

The community expressed some concerns at the start of the project. In particular the impact of road closures on their business and lack of communication. These were workshopped and an action plan of what will be communicated, how and when.

Road Safety

A study of the recent crash history was conducted along the length of the audit site for the five-year period to the end of December 2017 and indicated no recorded crashes for Marble Bar Road or the intersection of Marble Bar – Limestone Road.

Appendix 1 - List of Protected Areas Project interfaces with:

Appendix 2 - Protected fauna and flora species and habitat

Appendix 3 – List of Stakeholders to the project

Stakeholder Group	Stakeholder Name	Phone	Address
Federal Government <i>(Federal and State Ministers and Members to be advised separately and prior to advice being provided to other stakeholders)</i>	Federal Minister for Infrastructure, Hon Darren Chester		
State Government <i>(Federal and State Ministers and Members to be advised separately and prior to advice being provided to other stakeholders)</i>	Minister for Transport, Hon Rita Saffioti		
Federal Local Member <i>(Federal and State Ministers and Members to be advised separately and prior to advice being provided to other stakeholders)</i>	Member for Durack, Melissa Price MP		
State Local Member	Member for Pilbara, Kevin Michael		
Local Government	Shire of East Pilbara • Rick Miller	9175 8000 0409 278 661	
Local Police	Marble Bar Police Station • Sergeant Nicholas Hamer South Hedland Police Station	0418 946 638	
Local Business	Mini Mart and Post	9176 1041	1 Francis Street, Marble Bar 6760
	Ironclad Hotel • Thomas Fox (owner) • Kristie Crawford (manager) • Cheryl Manurung	9176 1066 0476 557 655	15 Francis Street, Marble Bar 6760
	Travellers Rest • Lang Coppin	9176 1166 0429 956 692	232 Halse Road (PO Box 118) Marble Bar 6760
	Marble Bar Holiday Park • Lang Coppin	9176 1569	Contest Street (PO Box 54) Marble Bar 6760
Industry/Transport Organisation/Business	Kalari Transport Pty Ltd • Kelly Christensen	0408 401 577	
	QUBE Bulk • Adam Brough	0428 111 732	
	RIVET Mining Services • Andrew Peters	0409 105 922	
	Atlas Iron • John Smith	6228 8992 0437 344 291	
	Newcrest Mining Limited – Telfer • Leonard Lever	9158 6477 0407 599 603	
	Corunna Downs		

Stakeholder Group	Stakeholder Name	Phone	Address
	Caltex Woolworths		150 Anderson Street, Port Hedland
	Coles Express	08 9172 3239	Lot 5553, North West Coastal Highway, Port Hedland 6721
	Coles Express	08 9173 1146	Wilson Street, Port Hedland
	BP	08 9140 1233	945 Great Northern Highway, Port Hedland
Aboriginal Company	George Brown	0475 563 754	13 Ravens Street, South Hedland
	MIB Traffic • Robert Haslam	0488 925 406	PO Box 581, Port Hedland
	WA Traffic Solutions		
	Ngarda Ngarli Yarndu Foundation • Barry Taylor	9172 5488	Unit 4/18 Tonkin Street P.O. Box 2188 South Hedland WA 6722
Local Landowner	Limestone Station • Wendy McWhiryer-Brooks • Grant Brooks • Cameron Brooks	0428 528 005 0438 528 025	Limestone Station, Marble Bar
	Carlindie Station • Kellie Jackman	9176 4935	Carlindie Station, Marble Bar
Road users	All road users within the project area		
Local Media	The Mirage (published by Marble Bar Community Resource Centre; Ed: Amy Pfitzner)	08 9176 1375	
Community Organisations	<ul style="list-style-type: none"> • Community Resource Centre (CRC) • Housing and Community Care (HACC) • Ashburton Aboriginal Corporation (AAC) • Local area School • Nullagine Community Resource Centre – for further local distribution 		
Stakeholders identified at the Community / Industry Information Session held 12 December 2017	Tash Johns Pippa Johns Molly Johns	0417 951 705	63 Rippon Hills Road, Marble Bar
	Olga Potter	0438 917 610	2 Nichols Street, Marble Bar
	Annmarie Kiernan	0407 221 514	50 Augusta Street, Marble Bar
	Fiona Dann	0439 810 029	9/34 Wise Terrace, South Hedland

Stakeholder Group	Stakeholder Name	Phone	Address
	Julie Coffin	0459 573 922	38 Bohemia Street, Marble Bar
	Brooke Patterson	0400 699 752	Station Street, Marble Bar
	Brenda Lockyer	0476 557 701	Lot 1 Francis Street, Marble Bar
	Lang Coppin	0429 956 692	Box 118, Marble Bar
	Dean Halwel	0439 568 18	
	Cemone Hedges	0476 806 914	Shire of East Pilbara, Marble Bar