

Environmental Management Plan

NORTH WEST COASTAL HIGHWAY 145.6 SLK
STRATEGIC MATERIAL AREAS

December 2009

Contents

1. Introduction	3
1.1 Scope of Works	3
1.2 Clearing Permit	4
1.3 Environmental Clearances	4
1.4 Aboriginal Heritage	5
1.5 Key Environmental Issue	5
1.6 Stakeholders	5
2. Environmental Management and Implementation Strategies	6
2.1 Environmental Commitment	6
2.4.1 Main Roads Environmental Policy	6
2.4.2 Environmental Management Systems	6
2.2 Environmental Aspects and Impacts Risk Register	8
2.3 Statutory Requirements and Environmental Legislation	8
2.4 Roles and Responsibilities	8
2.4.1 Main Roads' Gascoyne Region	8
2.4.2 Project Manager	8
2.4.3 Environment Officer	8
2.4.4 Surveillance Officers	9
2.4.5 All Staff	9
2.5 Environmental Incident Reporting and Investigations	9
2.6 Communication Plan	9
2.7 Monitoring & Inspections	10
2.8 Auditing	10
2.9 Accounting Systems	10
3. Environmental Management Plan	11

Appendices

- A Environmental Aspects and Impacts Risk Register
- B Environmental Incident Category
- C Timing and Notification of Environmental Incidents
- D Environmental Incident and Investigation Report
- E Environmental Checklist

1. INTRODUCTION

This Environmental Management Plan (EMP) has been prepared by Main Roads' Gascoyne Region. The EMP provides specific details with regards to the management actions required for an effective environmental management program for the Strategic Material Area located on North West Coastal Highway at SLK 145.6.

1.1 Scope of Works

Main Roads Gascoyne Region (Main Roads) over a number of years has slowly been exhausting vital raw material stockpiles required for continued road maintenance and construction works. The scheduled maintenance and construction works are required to ensure safe road conditions are maintained for members of the public travelling on Main Roads' road network.

Main Roads is currently in the process of developing a region wide 20-year strategic plan to identify potential future material sites. The identification of material sites will help the region locate required road building material for scheduled road construction and maintenance works, as well as for use during emergency situations that may arise after events such as cyclones.

Main Roads proposes to establish a strategic material site along North West Coastal Highway at SLK 145.6 (Figure 1). This material site has been vested to Main Roads through Section 19 approvals for material extraction, in accordance with the Mining Act 1978.

This potential material area was identified as part of the region wide strategic material plan and is located within Eurardy Station. This material area is the only viable road building material available within a few hundred kilometres. The proposed strategic material sites will therefore be used to supply vital road building material for construction and maintenance works including emergency activities that may arise after heavy rainfall events.

As this proposed material area makes up part of this 20 year strategic plan, the area will be systematically cleared and revegetated in relatively small areas (for example 1 or 2ha per annum) as material is required. In this way, only small proportions of the material site will be cleared at any one time, with revegetation occurring as soon as the cleared areas are no longer required.

This strategic material area will be used for the maintenance of North West Coastal Highway, with the aim of providing safe road conditions for the travelling public. Given the anticipated activities requiring the use of this material area, it is expected that only a minimal amount of the proposed area identified at this each site will need to be cleared for the purpose of material extraction.

This proposed material pit and the immediately surrounding areas are the only location of viable road building material within a few hundred kilometres. This means that the

relocation of the material areas is not practical as other raw materials in the area are not suitable for use in road construction and maintenance.

Main Roads proposes to initially extend a section of the gravel reserve to the south of the existing cleared area (see Figure 2).

The clearing of native vegetation associated with the initial stages of this project will be carried out using Main Roads' State Wide Purpose Permit CPS 818/4.

This permit was issued to Main Roads' WA by the Department of Environment and Conservation and allows Main Roads to undertake clearing for projects that have been assessed as not having a significant impact on the environment. Clearing carried out under the Main Roads' Purpose Permit will be in accordance with conditions set out within the Permit.

The total amount of native vegetation cleared during this project will not exceed the region's annual limit, as stated in the Purpose Permit CPS 818.

1.2 Clearing Permit

All clearing of native vegetation associated with this project will be carried out using Main Roads' State Wide Purpose Permit CPS 818/4.

This permit was issued to Main Roads' WA by the Department of Environment and Conservation and allows Main Roads to undertake clearing for projects that have been assessed as not having a significant impact on the environment. Clearing carried out under the Main Roads' Purpose Permit will be in accordance with conditions set out within the Permit.

The total amount of native vegetation cleared during this project will not exceed the region's annual limit of 150ha, as stated in the Purpose Permit CPS 818/4.

1.3 Environmental Clearances

An Environmental Impact Assessment (EIA) was completed in December 2009 by Crystelle Evangelista (Environment Officer). This EIA describes the environmental aspects relevant to the proposed project and surrounding areas, including impacts to flora and fauna, clearing of native vegetation, proximity to conservation areas and effects on surface and ground water. As a result of the EIA findings, GHD consultants were contracted to undertake a Targeted Flora Survey in July/August 2009.

During the flora survey two priority flora species were identified to occur within the initial project area and the surroundings. The vegetation condition of the survey area has been rated as being 'Very Good', with the main disturbance factors being historical clearing for the purpose of material extraction and with vegetation within the proposed clearing area exhibits signs of fire and drought stress

The two priority flora species that were identified within the project areas were:

- *Thryptomene ninghanensis* (Priority 1)
- *Philotheca kalbarriensis* (Priority 2)

1.4 Aboriginal Heritage

No Aboriginal heritage sites have been identified within the vicinity of the project area; however it may be possible that unregistered sites will be impacted during any proposed works.

Further consultation with the appropriate representatives of the local Aboriginal community and Native Title Claimant Group will be undertaken to determine the level of impact on Aboriginal heritage due to the proposed project.

All personnel working on the proposal will need to be aware of their obligations under the Aboriginal Heritage Act 1972 during any construction works. This Environmental Management Plan includes details regarding the protection and management of Aboriginal heritage issues relating to the proposed project.

1.5 Key Environmental Issue

The proposed North West Coastal Highway SLK 145.6 Strategic Material Areas have the potential to impact on the surrounding environment. Environmental factors relevant to this project include:

- Vegetation and conservation of biodiversity;
- Weed and hygiene control;
- Noise;
- Dust;
- Fire Control;
- Waste management; and
- Rehabilitation.

1.6 Stakeholders

Continued consultation will be undertaken with the following stakeholders to help minimise any impacts that may be caused by the proposed projects:

- The Department of Environment and Conservation (DEC);
- Department of Water (DoW);
- Department of Agriculture and Food (DAF);
- Native Title Claimant Groups;
- Shire of Northampton; and
- Surrounding Land Owners.

2. ENVIRONMENTAL MANAGEMENT AND IMPLEMENTATION STRATEGIES

2.1 Environmental Commitment

2.4.1 Main Roads Environmental Policy

Main Roads is committed to achieving responsible environmental stewardship in developing and maintaining the road network during Main Roads projects and ongoing operations. To attain this goal, Main Roads has implemented a Corporate Environment Policy that seeks to:

- Protect and enhance the environmental values of road reserves;
- Minimise the impact on the natural environment of roads and road uses; and
- Conserve natural resources and minimising energy consumption and waste.

This Environmental Policy is applicable to all Main Roads' employees, contractors and sub contractors.

2.4.2 Environmental Management Systems

Main Roads operates a corporate Environmental Management System (EMS) certified to ISO 14001. The EMS was recently recertified in August 2008. Under this EMS, Main Roads has a number of standard policies and procedures that will be utilised as part of this project.



Figure 1: Main Roads Western Australia Corporate Environment Policy

2.2 Environmental Aspects and Impacts Risk Register

The environmental aspects and impacts risk register was developed to enable the relevant environmental aspects and impacts associated with the North West Coastal Highway SLK 145.6 Strategic Material Areas to be accounted for.

The environmental risk associated with each of the identified aspects and impacts were assessed to determine their significance and potential actions.

The Environmental Aspects and Impacts Risk Register can be found in Appendix A

2.3 Statutory Requirements and Environmental Legislation

Main Roads' key statutory requirements and environmental legislation has been broadly identified and described in the corporate document – 6707/027 Environmental Obligations Register.

2.4 Roles and Responsibilities

All Main Roads employees are responsible for the environmental performance of their activities and for complying with environmental requirements. The following roles and responsibilities have been defined for this project.

2.4.1 Main Roads' Gascoyne Region

Main Roads' Gascoyne Region is responsible for ensuring that works meet regulatory environmental requirements and that environmental objectives are attained.

Main Roads' Gascoyne Region is also responsible for the environmental performance of staff and contractors working on this project and maintaining and implementing the EMP.

2.4.2 Project Manager

The Project Manager is responsible for the overall environmental performance of the whole project. The Project Manager will also be responsible for the implementation and compliance of the EMP within all project activities.

2.4.3 Environment Officer

The Environment Officer is responsible for overseeing the implementation of the EMP. The Environment Officer will be responsible for undertaking performance review, audits and co-ordinating successful maintenance of the EMP.

The Environment Officer will also assess the compliance with the EMP and will represent the Main Roads Project Manager on environmental matters with stakeholders.

2.4.4 Surveillance Officers

The Surveillance Officers are responsible for ensure that all works conducted under their supervision will adhere to the EMP and is compliant with relevant environmental legislation. The Surveillance Officers are to pass on relevant environmental information from the Project Manager or Environment Officer to all staff at relevant times throughout the project.

As the Surveillance Officer will be the first point of contact for workers reporting environment incidents, they will be responsible for completing part A of the Environmental Incident Form (Form 6707/042/01).

2.4.5 All Staff

All persons associated with the project have the responsibility of carry out any activities in such a manner that will not cause, or be likely to cause, environmental harm, in accordance with the *Environmental Protection Act 1986* and any other relevant environmental legislation.

2.5 Environmental Incident Reporting and Investigations

Main Roads Corporate Procedure – 6707/042 Environmental Guideline – Environmental Incident Reporting and Investigation shall be used to report, record and investigate environmental incidents.

All of the environmental incidents shall be recorded in File No. 09/29

Main Roads Environmental Incident Reporting and Investigation procedure:

- Environmental incident occurs;
- Immediate Remedial Action: The observer of an incident should undertake any immediate actions to stop, control or contain the incident to prevent further damage;
- Determine Environmental Incident Category (Appendix B)
- Notify Management (Appendix C)
- Assessment and Investigation
- Incident Report (Appendix D)
- Corrective and Preventative Action: The Environment Officer shall track the progress of the agreed corrective and preventative action.

2.6 Communication Plan

A communication plan for North West Coastal Highway SLK 145.6 Strategic Material Areas will be developed separately to this EMP.

2.7 Monitoring & Inspections

All temporary clearing undertaken during the course of this proposal will be revegetated in accordance with Main Roads – Revegetation Plan for Pastoral Regions (see Appendix H of EIA). This revegetation plan has previously been approved by the Department of Environment and Conservation for use in conjunction with Main Roads project areas located within the pastoral/rangelands region north of the agricultural area as described in the Environmental Protection Authority's Position Statement No. 2.

On going maintenance and monitoring of revegetated areas will be undertaken as specified by Main Roads – Revegetation Plan for Pastoral Regions. Post revegetation site inspections will be carried out annually for a minimum of two years to monitor unwanted weeds and measure the effectiveness of revegetation works.

2.8 Auditing

Given the scale and nature of the project, an internal audit of the environmental aspects of the North West Coastal Highway SLK 145.6 Strategic Material Areas will be conducted in accordance with Purpose Permit CPS 818/4, to ensure the EMP was implemented during the course of the project.

Second or third party audits may be ordered by the Manager Environment as part of Main Roads' compliance to ISO 14001. Main Roads is required to audit at least one project from the Gascoyne Region annually. A third party audit may be conducted as part of the ISO 14001 recertification process.

2.9 Accounting Systems

Main Roads Gascoyne Region will set up an electronic accounting system that will be used to accurately record the amount of native vegetation clearing undertaken within the proposed strategic material areas. This system will aim to ensure that clearing of native vegetation will not exceed the total annual clearing limits permitted under any permit issued by either State or Commonwealth agencies. This system will also be used to ensure reporting requirements can be achieved and that accurate information is provided efficiently.

3. ENVIRONMENTAL MANAGEMENT PLAN

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
1.	Induction	Pre-Construction	Inform all personnel of the management actions required of them	Develop and implement a communication plan including response to complaints, liaising/reporting to government agencies, engagement with the community and others when work is performed. Ensure all personnel are aware of relevant environmental and heritage requirements specific to this project	Project Manager Contractor	MRWA	
	Monitoring/ Inspection	Checks to be made during monthly environment monitoring	To ensure all personnel are aware of relevant environmental and heritage requirements	All personnel involved with project works shall attend a site induction that will outline environment and heritage requirement. All induction sheets shall be kept on file for future reference and auditing requirements.			
2.	Environmental Incidents	Construction	Ensure all related records of environmental incidents are maintained	Main Roads Corporate Procedure – 6707/042 Environmental Guideline – Environmental Incident Reporting and Investigation shall be used to report, record and investigate environmental incidents. All of the environmental incidents shall be recorded in File No. 09/29 See Section 2.5 for more information	Project Manager Environment Officer		Main Roads environmental guideline: <i>Environmental Incident Reporting and Investigation 6707/042</i>
3.	Traffic Risk Management	Pre-construction/ Construction	Minimise public risk to as low as reasonably achievable to comply with relevant standards.	A Traffic Management Plan will be developed and implemented for the period of this proposal.	Project Manager Contractor	MRWA	

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
4.	Site Management	Pre-construction/ Construction	Ensure that the site is managed to ensure that construction of the proposal will have minimal impact upon the public and surrounding environment.	<p>Hard stand areas will be located on designated area in discussion with a Main Roads' Environment Officer. Storage areas and hard stand area will not be relocated during project time frame without consulting a Main Roads' Environment Officer. The dumping of materials anywhere outside of the hardstand areas will be registered as an environmental incident.</p> <p>Specific areas shall be designated for the storage, maintenance and refuelling of machinery/vehicles in discussion with a Main Roads' Environment Officer. These areas are to be situated on an impermeable surface layer (gravel sheeted as a minimum) not in close proximity to any watercourse/drainage.</p> <p>Maintain good housekeeping practices during construction to prevent litter.</p> <p>Rehabilitate temporary cleared areas as soon as practical in accordance with Main Roads' Revegetation Plan for Pastoral Areas which has been approved by DEC.</p>	<p>Project Manager</p> <p>Contractor</p> <p>Environment Officer</p>	MRWA	

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
	Monitoring/ Inspection	Construction	Ensure the management of site is continued throughout the course of the project.	<p>Location of hard stand areas will be identified prior to the commencement of onsite activities in consultation between Project Manager and a Main Roads' Environment Officer. Further discussions of hard stand area locations will be conducted as required throughout the project time frame.</p> <p>Site inspections will occur throughout the duration of works to ensure environmental or heritage aspects are not impacted.</p> <p>All environmental incidents will be investigated by a Main Roads' Environmental Officer or Project Manager, who will ensure that all remedial actions are completed.</p>			
5.	Dust Management	Construction	Minimise the impact of dust on surrounding environments	<p>A complaints handling system shall be set up in order to rapidly handle any complaints received.</p> <p>Avoid earthmoving activities in high winds.</p> <p>Appropriate dust suppression actions will be used to prevent dust lift.</p> <p>Areas of temporary clearing or disturbance are to be rehabilitated as soon as practical.</p> <p>Where it is found that trucks leaving the site are carrying excessive material onto sealed surfaces, these areas will be swept to reduce dust generation and maintain traffic safety.</p>	<p>Project Manager</p> <p>Contractor</p>	MRWA	

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
	Monitoring/ Inspection	Construction	Ensure the impact of dust on surrounding environments is kept to a minimum.	Site inspections shall be conducted at regular intervals throughout the project time frame to ensure dust management practices are maintained and minimise impacts to surrounding environmental aspects.			
6.	Visual Impact	Pre-construction/ Construction	Help to minimise impacts to the visual amenities of the area	Visual impacts from the proposed works shall be minimised by limiting clearing of native vegetation, utilising existing borrow pits where practical, retaining buffers of vegetation between the strategic material areas and North West Coastal Highway and by rehabilitating temporary cleared areas as soon as possible.	MRWA Project Manager Contractor	DEC	
7.	Fire Control and Response	Construction	Reduce the risk of fire ignition from construction activities	<p>Note: this plan covers the risk of impacts of fire from project activities on the environment. Fire fighting procedures and evacuation will be covered in the Emergency Response Plan.</p> <p>In case of fire call 000. Kalbarri or Northampton Volunteer Fire Service contact:</p> <p style="text-align: center;"><u>Kalbarri</u> (08) 9686 1092</p> <p style="text-align: center;"><u>Northampton</u> (08) 9934 1152</p> <p>If a wildfire occurs inform adjacent landholders and Department of Environment and Conservation</p> <p>Induction to include evacuation procedures, location of fire response equipment and emergency contacts</p> <p>Works procedures for 'hot works' to include:</p> <ul style="list-style-type: none"> - Clear area around works (no flammable materials) - Fire trailer to be located at site of hot 	MRWA Project Manager Contractors	MRWA	Government legislation: <i>Bush Fires Act 1954</i>

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
				works Visual inspection of project area for ignition sources and high fuel loads should occur prior to work. No fires shall be lit within the project area.			
	Monitoring/ Inspection	Construction	Ensure the fire risk from construction activities is kept to a minimum	All personnel shall be made aware of fire control requirements during inductions. Undertake regular site inspections to identify potential fire risks and remove any hazards.			
8.	Noise Management	Construction	Reduce the impact of noise on local sensitive noise receptors during construction and operation	<p>Comply with <i>Environmental Protection (Noise) Regulations 1997</i>.</p> <p>Restrict working hours to 0700 to 1900 Monday to Saturday in the vicinity of sensitive noise receptors (within 1km)</p> <ul style="list-style-type: none"> - No construction activities are to occur prior to 0700 <p>Works on Sunday will be restricted to 0900 to 1900 in the vicinity of sensitive noise receptors (within 1km)</p> <p>Prior to 0700, preparation may occur on site, but must not include:</p> <ul style="list-style-type: none"> - Operation of mobile plant - Power tools, hoists and other power equipment - Impact noise including hammering, boring or drilling - Radios <p>Construction works will be carried out in accordance with AS 2496-1981 Guide to Noise</p>	<p>Project Manager</p> <p>Contractor</p>	MRWA DEC	<p>Government legislation:</p> <p><i>Environmental Protection (Noise) Regulations 1997</i></p> <p><i>AS 2496-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites</i></p>

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
				Control on Construction, Maintenance and Demolition Sites The equipment used will be the quietest reasonably available Noise and dust complaints procedures will be developed to deal with any complaints All stakeholders should be informed of works prior to construction			
	Monitoring/ Inspection	Construction	Ensure noise generated from construction activities does not become a nuisance to local sensitive receivers	Ensure work personnel are made aware of any noise related issues, including noise regulations.			
9.	Waste Management	Pre-construction / Construction	Ensure that construction activities area managed to a standard that minimises any adverse impacts on the environment.	<p>All storage and handling of fuels, oils and other hazardous material in the project area is to be done in accordance with all legislative requirements and OSH safety procedures.</p> <p>Dumping or temporary storage of all material or aggregate should only occur at designated depots or controlled hardstands.</p> <p>Appropriate spill equipment should be available at all times.</p> <p>All spills will be recorded as an environmental incident and an environmental incident report filled out.</p> <p>Emergency cleanup procedures shall be implemented in the case of any spillage. These will include control of spilled material and removal</p>	<p>Project Manager</p> <p>Contractor</p> <p>Environment Officer</p>	MRWA DEC	<p>Government Legislation:</p> <p><i>Contaminated Sites Act 2003 (WA)</i></p> <p>Contaminated Sites Regulations 2004 (WA)</p> <p><i>Environmental Protection (Controlled Waste) Regulations 2004 (WA)</i></p> <p><i>Soil and Land Conservation Act 1945 (WA)</i></p> <p><i>Soil and Land</i></p>

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
				<p>of contaminated soil to an approved site.</p> <p>All spills are to be contained immediately and remediated within 1 week. Remediation will consist of removal of contaminated soils to an appropriate treatment facility and will be in accordance with Main Roads Document No. 6707/028 – <i>Contaminated Sites</i></p> <p>In the event of a major spill that may contaminate water sources or groundwater, DEC Emergency Pollution Response is to be called (1300 784 782).</p> <p>The project areas, including hardstand areas, will be kept in a tidy manner at all times. All litter on the project will be placed into lidded bins and disposed of at an approved landfill.</p>			<p><i>Conservation Regulations 1992 (WA)</i></p> <p>Main Roads property management guideline:</p> <p><i>Land Disposal Process Guidelines 60/04/01</i></p> <p>Main Roads environmental guideline:</p> <p><i>Contaminated Sites 6707/028</i></p>
	Monitoring/ Inspection	Construction	Ensure waste management practices are maintained throughout course of project	<p>Inspection of all storage and service areas, spill kits and bunding will be carried out at regular intervals throughout the project timeframe.</p> <p>Inspections of hard stand area will be conducted prior to commencement of construction and throughout the course of the project.</p> <p>All environmental incidents will be investigated by the Environmental Officer, who will ensure that all remedial actions are completed.</p>			
10.	Material Pits	Construction	Minimise the environmental impact of material pit operations	New material pits are to be sited, assessed and operated in accordance with the Corporate Environmental Guideline 6707/008 <u>Environmental Guideline Pits & Quarries</u>	Project Manager	MRWA	<p>Main Roads environmental guideline:</p> <p><i>Pits and Quarries 6707/008</i></p>
	Monitoring/ Inspection	Construction	Ensure the development of borrow pits does not have significant	Inspection of all new material pits will be undertaken by the Project Manager or Environment Officer to ensure that operation in accordance with the Corporate Environmental	Contractor		

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
			impact on environmental aspects	<u>Guideline 6707/008 Environmental Guideline Pits & Quarries</u>			
11.	Vegetation – Clearing	Pre-Construction/ Construction	Ensure that the overall objectives of the alignment and construction works are compatible with maintaining and, where possible, enhancing the biological integrity of the surrounding environment	<p>The proposed construction works shall be designed/located in a manner that minimises adverse impacts on the surrounding environment.</p> <p>Construction works to be undertaken in dry season to reduce the potential for soil erosion and drainage line siltation due to vegetation removal and heavy rains.</p> <p>Any stockpiled vegetation from clearing works shall not be burnt. This vegetation shall be used during any rehabilitation works and either chipped or replaced according to the revegetation plan. Tree trunks which are suitable for use of fauna refuge shall be left on site.</p> <p>Stockpiled vegetation shall be windrowed parallel to the road alignment, not exceeding 2m beyond the limit of the earthworks. The stockpile shall not exceed 1.5m in height. Stockpiled topsoil shall not be stockpiled on vegetation that is not designated for clearing.</p> <p>Wherever possible, the topsoil storage period will be minimised to prevent reduction in biotic viability. Topsoil will be stored and reused locally rather than transported large distances.</p> <p>During construction works, damage of existing vegetation will be avoided as far as practicable.</p> <p>Vehicles and equipment is not to be parked or driven over tree roots or over vegetation that is not designated for clearing.</p>	Project Manager Environment Officer Contractor	MRWA DEC	<p>Government Legislation:</p> <p><i>Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i></p> <p><i>Conservation and Land Management Act 1984 (WA)</i></p> <p><i>Environmental Protection Act 1986</i></p> <p><i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i></p> <p><i>Wildlife Conservation Act 1950</i></p> <p><i>Wildlife Conservation Regulations 1970 (WA)</i></p> <p>Main Roads environmental guideline:</p> <p>Native Vegetation</p>

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
				<p>Native vegetation to be removed is to be cleared in a manner that ensures all clearing occurs within the approved clearing areas. i.e. machine turn around points will be within clearing limits. Excavated areas Birridas that remain above the water level will be re-contoured and lightly scarified to allow <i>Halosarcia</i> species to establish.</p> <p>Proposed clearing for the purposes of extracting gravel material will be undertaken in accordance with Main Roads Corporate Procedure – <u>6707/008 Environmental Guideline – Pits and Quarries</u></p>			Clearing Regulations and Permits 6707/034
	Monitoring/ Inspection	Pre-construction / Construction	Ensure that clearing of native vegetation during the course of the propose project does not impact significantly on sensitive environments	Inspections of clearing works shall be conducted at the time of vegetation clearing to ensure that impacts to sensitive environmental aspects is kept to a minimum.			
12.	Threatened Ecological Communities (TECs), Declared Rare or Priority Flora	Pre-construction/ Construction	Avoid disturbing, and minimise impact on any identified TECs, Declared Rare or Priority Flora.	<p>Flora surveys were undertaken to ensure that no Declared Rare or Priority Flora are impacted during the proposed project.</p> <p>The two priority flora species that were identified within the project areas were:</p> <ul style="list-style-type: none"> Thryptomene ninghanensis (Priority 1) Philotheca kalbarriensis (Priority 2) <p>All personnel will be made aware of the location of priority flora species within the project area and management strategies will be implemented to avoid unnecessary impacts to any of the priority flora populations.</p>	<p>Project Manager</p> <p>Environment Officer</p> <p>Contractor</p>	MRWA DEC	<p>Government Legislation:</p> <p><i>Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i></p> <p><i>Environmental Protection Act 1986</i></p> <p><i>Environmental Protection (Clearing of Native Vegetation)</i></p>

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
				<p>A map which identifies the locations of priority flora special within the strategic material areas will be developed and available to all employees.</p> <p>Main Roads will continue to liaise with DEC in relation to any identified priority flora species within the strategic material areas.</p>			<p><i>Regulations 2004</i></p> <p><i>Wildlife Conservation Act 1950</i></p> <p><i>Wildlife Conservation Regulations 1970 (WA)</i></p> <p>Main Roads environmental guideline: Biological Survey 6707/017</p> <p>Native Vegetation Clearing Regulations and Permits 6707/034</p>
	TEC's, Declared Rare and Priority Flora - Monitoring/ Inspection	Construction	Ensure impacts to priority flora and other sensitive environmental aspects is minimised	<p>Location of priority flora species shall be marked and flagged to ensure minimal impact to these populations occurs during the course of the project.</p> <p>All personnel working on the project will be made aware of the requirements not to impact on the populations during the inductions.</p>			
13.	Dieback Management	Pre-construction	Ensure all Dieback Management issues have been addressed prior to construction work	Given the location of the project area, hygiene measures will be implemented to help reduce the spread of <i>Phytophthora cinnamomi</i> . See <i>Weed Management</i>	Environment Officer	DEC	
14.	Fauna Management	Construction	To protect and avoid impact to native fauna	<p>No animals are to be intentionally harmed or killed by the project personnel, unless there is a real and immediate threat to human health. THIS INCLUDE SNAKES.</p> <p>Animals (including snakes) should be allowed to move on if there is no threat to human safety.</p> <p>If a snake will not move on a suitable qualified reptile handler shall be called.</p>	<p>Project Manager</p> <p>Environment Officer</p> <p>Contractor</p>	<p>MRWA</p> <p>DEC</p>	<p>Government legislation: <i>Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i></p> <p><i>Environmental Protection Act 1986</i></p>

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
				<p>If a sick or injured animal is encountered the Department of Environment and Conservation, Geraldton Office shall be called.</p> <ul style="list-style-type: none"> Department of Environment and Conservation, Geraldton Office – (08) 9921 5955 <p>No pets, traps or firearms shall be allowed on site</p> <p>Any death or injury of an animal shall be reported to the supervisor and recorded as an environmental incident</p> <p>Main Roads will continue to liaise with DEC in regards to impacts to fauna species.</p>			<p><i>Wildlife Conservation Act 1950</i></p> <p><i>Wildlife Conservation Regulations 1970 (WA)</i></p> <p><i>Wildlife Conservation (Reptiles & Amphibians) Regulations 2002 (WA)</i></p>
	Fauna Management - Monitoring/ Inspection			<p>All personnel working on the project will be made aware of the requirements not to harm or kill any animals during the course of the project during site induction and that animals should be allowed to move away from project site.</p> <p>Investigation of any environmental incidents involving fauna will be undertaken by the Environment Office to ensure all remedial actions are completed.</p>			<p><i>Conservation and Land Management Act 1984 (WA)</i></p> <p>Main Roads environmental guideline: Biological Survey 6707/017</p>
15.	Aboriginal Heritage	Pre-Construction	Ensure that there is no unauthorised disturbance to Aboriginal heritage sites during construction	<p>Ensure Aboriginal heritage is managed in accordance with Aboriginal Heritage Act 1972. Aboriginal heritage consultation will be undertaken with the Nanga Claimant Group.</p> <p>All personnel are to be made aware of their obligations under the Aboriginal Heritage Act 1972 during Site Inductions.</p> <p>Any Aboriginal heritage sites identified in close proximity to the alignment shall be fenced to prevent inadvertent disturbance during</p>	<p>Project Manager</p> <p>Environment Officer</p> <p>Contractor</p>	<p>MRWA</p> <p>DIA</p>	<p>Government Legislation: <i>Aboriginal Heritage Act 1972 (WA)</i></p> <p><i>Aboriginal Heritage Regulations 1974 (WA)</i></p> <p><i>Native Title Act 1993 (Commonwealth)</i></p>

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
				<p>construction.</p> <p>Works are to cease if skeletal material or Aboriginal artefacts are discovered.</p> <p>Skeletal material:</p> <ul style="list-style-type: none"> - All works throughout the project area are to cease until given all clear by police. - Police are to be called to establish if the remains are a potential crime scene. - Remains are to be protected from further disturbance. - If the remains are determined to be of Aboriginal origin, Native Title claimants are to be consulted on the management of the remains. - Work at the immediate location (plus 25m buffer) of the skeletal remains is not to be recommence until all parties have been consulted and agreement has been reached. <p>Other Aboriginal artefacts:</p> <ul style="list-style-type: none"> - Work shall cease in the immediate vicinity of the discovery of aboriginal artefacts. - A qualified archaeologist shall examine the material. - If the material is deemed to be of Aboriginal origin, DIA and Native Title claimants are to be informed. - Treatment of the archaeological material shall be decided in consultation with DIA and Native Title claimants. 			<p>Main Roads environmental guidelines: <i>Environmental Assessment and Approval 6707/001</i></p> <p><i>Aboriginal Heritage 6707/006</i></p>
	Aboriginal Heritage - Monitoring/ Inspection		Ensure no disturbances to Aboriginal heritage aspects are caused during the course of	<p>All personnel working on the project will be made aware of the requirements regarding Aboriginal heritage sites during site induction.</p> <p>The Project Manager and Environment Office will</p>			

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
			the project.	ensure on-ground heritage surveys are undertaken prior to any ground disturbing works at any of the proposed material areas.			
16.	Weeds	Construction	Prevent and reduce the introduction and spread of weeds	<p>Where reasonable, the control of weed species within the project area prior to construction will be carried out to limit the amount of propagative material that may be spread during disturbance.</p> <p>Works will be undertaken during summer to help reduce the chance of weed and other pathogen spread during wet conditions.</p> <p>The following machinery and vehicle hygiene measures will be utilised to avoid the inadvertent spread of weeds within any project areas:</p> <ul style="list-style-type: none"> • All clearing, topsoil stripping and gravel cartage activities will be conducted under dry soil conditions • All construction plant and machinery should be cleaned free of soil and vegetative material prior to arrival and prior to departing the project site. • Clean down will comprise of the use of a brush and/or compressed air to remove clumps of soil. A metal bar or spade will be used to remove compacted soil where necessary. • Dust adhering to the sides of vehicles does not need to be removed • All plant is to be inspected on arrival. • Unclean plant will not be allowed to enter the material site. <p>All site personnel will be advised of the hygiene measures.</p>	<p>Project Manager</p> <p>Environment Officer</p> <p>Contractor</p>	<p>MRWA</p> <p>Dept. of Ag & Food</p> <p>DEC</p>	<p>Government Legislation:</p> <p><i>Biosecurity and Agriculture Management Act 2007</i></p> <p><i>Agriculture and Related Resources (Declared Plants and Restricted Animals) Regulations 1982 (WA)</i></p> <p><i>Noxious Weeds Regulations 1973 (WA)</i></p> <p>Main Roads environmental guideline:</p> <p><i>Environmental Assessment and Approvals 6707/001</i></p>

No.	Area of Management	Timing	Objective	Action	Responsible Party	Advice	To the Requirements of
				<p>If a new weed infection is identified within the area, measures to reduce its spread should be established.</p> <p>Weed infested soil is not to be imported into the works for rehabilitation or fill.</p> <p>Declared Plants or environmental weeds listed under the Department of Agriculture and Food's <i>Declared Plants List</i> shall be controlled with the aim of eradication.</p>			
	Weed - Monitoring/ Inspection	Construction	Ensure no introduced weed species or weed spread occurs	Inspections of plant equipment entering project area will occur to reduce any infestation of weed species			

17.	Water Course and Surface Drainage	Construction	Maintain the hydrological regime that exists prior to the construction of the proposal and prevent erosion in areas subject to flooding	<p>Clearing within floodways will be avoided during the proposed project.</p> <p>Works should minimise vegetation and soil disturbance to prevent soil movement.</p> <p>All disturbance works will be undertaken during dry seasons to reduce the potential for soil erosion and drainage line siltation and to avoid interactions with personnel and heavy rainfall and flood waters.</p> <p>All activities will be implemented in association with the DoW's 'Water Quality Protection Note 44 – Roads near sensitive water resources.</p> <p>If additional groundwater is required, Main Roads will apply for a 26D Licence under the Rights in Water and Irrigation Act 1914 to construct bores in these areas and apply for a 5C Licence for the abstraction of ground water.</p> <p>Where large quantities of water are to be taken from local aquifers, Main Roads will undertake consultation with surrounding land owners and the Department of Water.</p>	<p>Project Manager</p> <p>Environment Officer</p> <p>Contractor</p>	MRWA DoW	<p>Government Legislation:</p> <p><i>Environmental Protection Act 1986</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p> <p><i>Rights in Water and Irrigation Act 1914</i></p> <p><i>Rights in Water and Irrigation Regulations 2000</i></p> <p><i>DoW's Stormwater Management Manual</i></p> <p>DoW's 'Water Quality Protection Note 44 – Roads near sensitive water resources.</p> <p>Main Roads environmental guideline:</p> <p>Water Protection 6707/005</p>
	Monitoring/ Inspection			Site inspections shall be conducted at regular intervals throughout the course of the project to minimise construction impacts.			

18.	Water Quality	Construction	Prevent groundwater contamination associated with machinery storage, maintenance, bulk fuel storage and refuelling.	<p>Specific areas shall be designated for the storage, maintenance and refuelling of machinery/vehicles in discussion with a Main Roads' Environment Officer. These areas are to be situated on an impermeable surface layer (gravel sheeted as a minimum) not in close proximity to any watercourse/drainage.</p> <p>Bulk fuels area to be adequately bunded.</p> <p>If washdown facilities or chemical storage takes place on site, best management practices will be utilised in accordance with <i>DoW's Water Quality Protection notes, Mechanical Equipment Washdown</i> to minimise impacts on water resources.</p> <p>Stormwater drainage shall be treated and disposed of in accordance with the DoW's <i>Stormwater Management Manual</i> and DEC's requirements.</p> <p>Significant spills are to be reported immediately to Main Roads and as specified in the Waste Management section.</p> <p>All activities will be implemented in association with the DoW's 'Water Quality Protection Note 44 – Roads near sensitive water resources.</p>	Project Manager Contractor Environment Officer	MRWA DoW	
	Monitoring/ Inspection			Site inspections shall be conducted at regular intervals throughout project time frame to minimise impacts to sensitive environmental aspects.			

19.	Rehabilitation	Post-Construction	<p>Leave the project area free from debris; and</p> <p>Rehabilitate temporary cleared area so that the revegetated area provides a net increase in area of native vegetation.</p>	<p>Revegetation of temporary cleared area will be undertaken in accordance with Main Roads' Revegetation Plan for Pastoral Areas, which has been approved by DEC.</p> <p>All waste materials from the development are to be completely removed from the site upon completion of the project. Final clean-up shall be to the satisfaction of the Project Manager and Environment Officer.</p>	<p>Project Manager</p> <p>Environment Officer</p> <p>Contractor</p>	<p>MRWA</p> <p>DEC</p>	<p>MRWA Gascoyne Region - Clearing Purpose Permit</p> <p>Main Roads environmental document: Revegetation Plan for Pastoral Areas 6707/048</p>
20.	Rehabilitation - Monitoring/ Inspection			Monitoring of revegetation works will be in accordance with Main Roads' Revegetation Plan for Pastoral Areas			

21.	Record keeping	All phases of construction	All required records relating to clearing of native vegetation under Main Roads Purpose Permit will be maintained.	<p>Clearing:</p> <ul style="list-style-type: none"> a copy of the PEIA & EMP shall be maintained on record; a map showing the location where the clearing occurred, recorded in an ESRI Shapefile; the size of the area cleared (in hectares); and the dates on which the clearing was done. <p>Offsets:</p> <ul style="list-style-type: none"> a copy of each offset proposal; a map showing the location where any offset have been implemented, recorded in an ESRI Shapefile; a description of the offset implemented; and the size of the area of the offset (in hectares) <p>Revegetation and rehabilitation of areas:</p> <ul style="list-style-type: none"> a copy of the Revegetation Plan; a map showing the location of any area revegetated and rehabilitated recorded in an ESRI Shapefile; a description of the revegetation and rehabilitation activities undertaken; and the size of the area revegetated and rehabilitated (in hectares). <p>Control of weed and other pathogens</p> <ul style="list-style-type: none"> a copy of any management plan prepared; and for any pathogen the appropriate steps taken 	Project Manager Environment Officer	MRWA DEC	<p>MRWA Statewide Clearing Purpose Permit</p> <p>Main Roads environmental guideline:</p> <p>Environmental Assessment and Approval 6707/001</p> <p>Native Vegetation Clearing Regulations and Permits 6707/034</p>
	Record Keeping - Monitoring/ Inspection	All phases of project	Maintain all required environmental and heritage records for auditing and reporting requirements	All environmental and heritage approval records will be maintained on appropriate files for auditing and reporting purposes.			

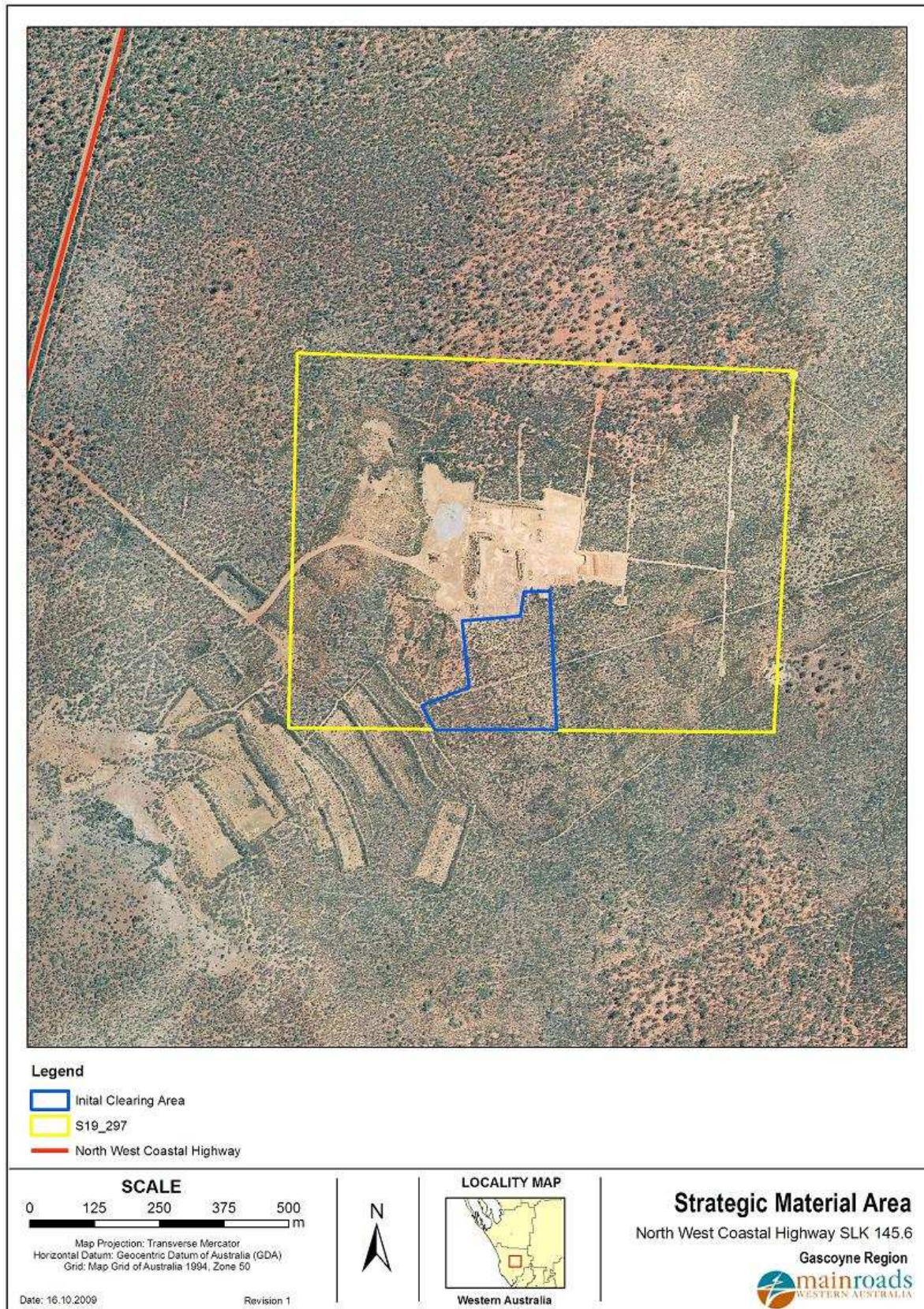
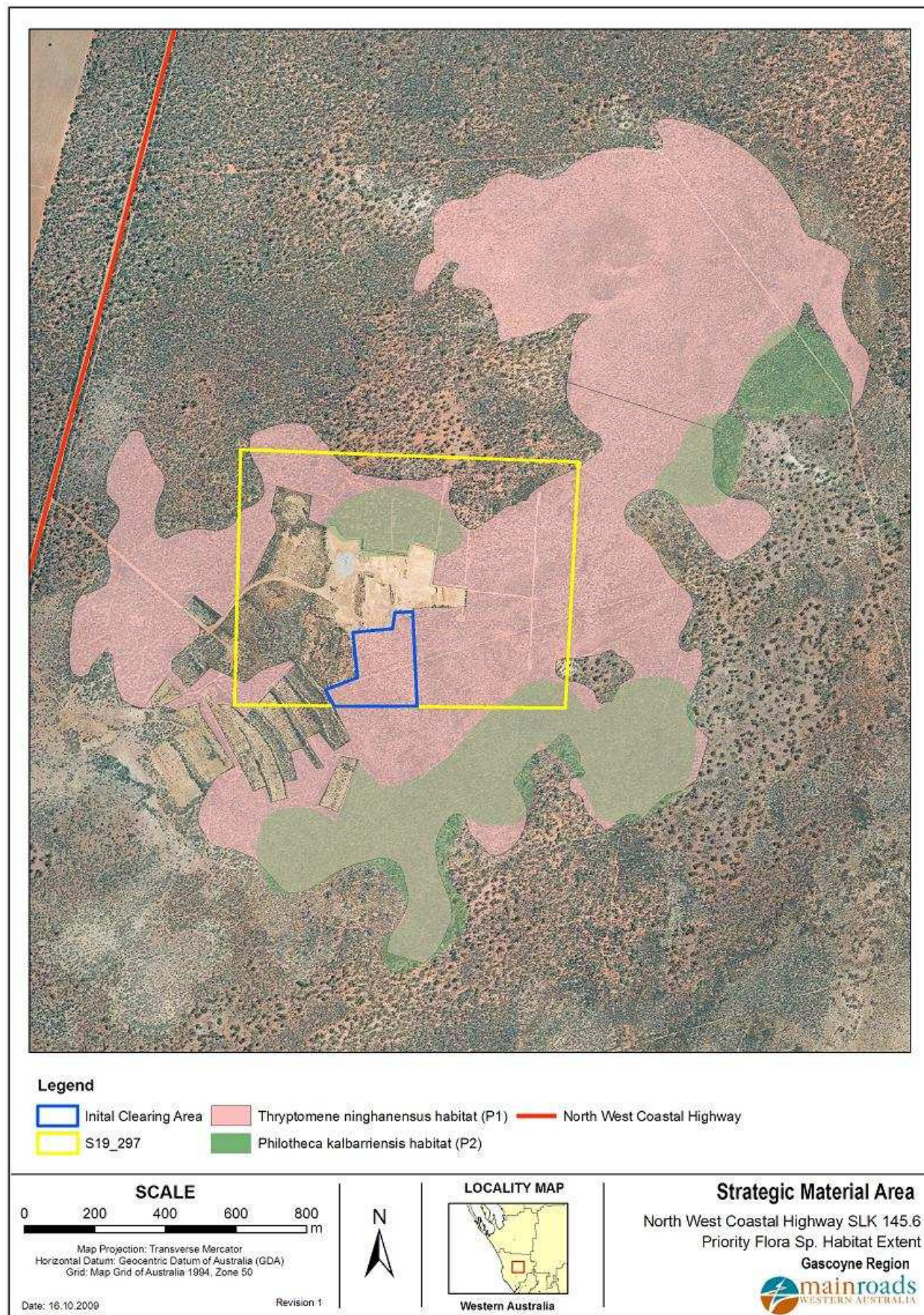


Figure 1 Proposed Strategic Material Area (S19/279) and Initial Clearing Areas on North West Coastal Highway, SLK 145.6



Appendix A ENVIRONMENTAL ASPECTS AND IMPACT RISK REGISTER

Table A1: Risk Likelihood (probability)

Likelihood	Description	Probability of Occurrence during Project Life
Almost certain	Many times daily	>90%
Likely	Approximately once daily	50% - 90%
Possible	Once a week to once a months	15% - 49%
Unlikely	Once a month to once a year	5% - 14%
Very unlikely	It has known to have happened	<5%

Table A2: Risk Magnitude (Consequence) of Impact

Level	Description	Consequence
1	Insignificant	Very low or positive impact on the environment
2	Minor	Limited and/or localised impact on the environment
3	Moderate	Reversible impacts. Wider implications on the environment
4	Major	Serious long term implications for the environment
5	Catastrophic	Serious or permanent damage to the environment

Table A3: Risk Level Matrix

Risk level Matrix					
Probability*	Consequences*				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain	High	High	Extreme	Extreme	Extreme
Likely	Moderate	High	High	Extreme	Extreme
Possible	Low	Moderate	High	Extreme	Extreme
Unlikely	Low	Low	Moderate	High	Extreme
Very unlikely	Low	Low	Moderate	High	High

*Consequence: the result from an accident involving a hazard.

*Probability: the likelihood of a hazard becoming a hazard event.

Table A4: Risk Level Matrix Description

Risk Level	Qualitative Risk Action Description
Extreme	Immediate action required
High	Senior management attention needed
Moderate	Management responsibility must be specified
Low	Manage by routine procedures

North West Coastal Highway SLK 145.6 Strategic Material Area - Environmental Aspects, Impacts and Risk Register

					Initial Risk				Residual Risk		
					Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Management Area	Classification	Aspects	Impacts	Possible Consequence	L	Env. Harm	Risk Level	Proposed Controls	L	Env Harm	Risk Level
Aboriginal Heritage Management	Social	Ground disturbance works	Disturbance/ interference with a Aboriginal site of significance	May result in damage to significant Aboriginal heritage aspects and breach of <i>Aboriginal Heritage Act 1972</i> .	Very Unlikely	Moderate	Moderate	Consultation will be undertaken with Aboriginal claimant group.	Likely	Moderate	High
Fauna Management	Biodiversity	Construction	Death/ injury to native fauna including threatened and vulnerable species	Breach of State and Commonwealth legislation.	Unlikely	Moderate	Moderate	Minimise the amount of vegetation clearing within project area. Allow fauna to move away from project area. Record the death or injury of fauna as an environmental incident.	Unlikely	Minor	Low
Land Disturbance	Biodiversity	Ground disturbance including the clearing of native vegetation	Disturbance of conservation significant vegetation	Impacts to identified priority flora species and protected fauna habitat within project area. Breach of State and Commonwealth legislation.	Possible	Major	Extreme	Targeted flora and fauna survey undertaken to identify significant flora species. Priority flora species to be fenced off and for personnel to be made aware of priority location and necessary conservation.	Unlikely	Moderate	Moderate

Fire Risk	Biodiversity	Outbreak of Fire	Damage to vegetation and fauna habitat, risk to human life and infrastructure, damage to adjacent national park	Temporary loss of vegetation and fauna habitat. Risk to human life, infrastructure and impacts to economy. Risk of bush fire.	Unlikely	Major	High	Development of an Emergency Response Plan. Implementation of EMP with adequate fire control actions.	Unlikely	Moderate	Moderate
Waste Management	Biodiversity	Waste disposal during construction works	Pollution of natural environment	Discharge of environmentally harmful pollutants into the environment, which may impact on national park, fish industries and human health.	Unlikely	Major	High	Implementation of EMP with adequate waste management protocols.	Unlikely	Moderate	Moderate
Dust Management	Air	Construction works	Generation of dust	Result in complaints from nearby stakeholders and impacts to public safety.	Possible	Minor	Moderate	Implement a Dust Management Plan to ensure likely impacts are diminished. Ensure complaints are handled efficiently via the communication plan.	Possible	Minor	Moderate
Weed Management	Biodiversity	Construction and land clearing	Spread of weed from contaminated machinery, equipment and vehicles	Spread of weeds and declared plants within project area which may lead to the degradation of surrounding environment.	Likely	Moderate	High	Implementation of weed hygiene management actions to minimise impact of construction works.	Unlikely	Moderate	Moderate
Temporary clearing	Biodiversity	Rehabilitation of temporary cleared areas – Borrow pits	Failure to correctly strip and stockpile topsoil and vegetation	Loss of soil and native seed viability in topsoil. Increase likely impacts of weed spread.	Possible	Moderate	Moderate	Ensure stockpiling and revegetation is undertaken in accordance with MRWA revegetation plan and EMP.	Unlikely	Moderate	Moderate

Erosion & Sediment Control	Land	Clearing areas	Unnecessary clearing of vegetation	Loss of biodiversity and increase likelihood of erosion and dust issues.	Possible	Minor	Moderate	Ensure clearing is kept to a minimum and revegetation of temporary cleared area occurs as soon as possible.	Unlikely	Minor	Low
Hydrocarbons /Chemical Management	Land & Water	Storage & use of hydrocarbons/ chemicals	Spills of chemicals and hydrocarbons onto the ground or into waterways	Result in contamination of site, surface and groundwater. May result in death of flora and fauna and loss of biodiversity, may impact on national park, fish industries and human health.	Possible	Major	Extreme	Ensure spill response kits are available at all times on site, chemicals are stored correctly and adequate response actions have been incorporated into EMP.	Likely	Moderate	Moderate
Hydrocarbons /Chemical Management	Land	Weed Spraying	Drift of herbicides outside of designated area	Result in death of native vegetation, including non-targeted flora and protected flora.	Unlikely	Minor	Low	Use of only registered herbicide operators. No straying should be undertaken during windy conditions.	Very Unlikely	Minor	Low

Appendix B
ENVIRONMENTAL INCIDENT CATEGORY
(from 6707/042 Environmental Guideline – Environmental Incident Reporting and Investigation)

Incident Category	Definition	Examples
MINOR ENVIRONMENTAL INCIDENT	<p>Where the environmental impact is limited and is confined within the work site. Environmental impacts are readily addressed through clean up or changes to work practices.</p> <p>Breach of project or contract EMP.</p> <p>NB: Minor incidents that have a high frequency of recurrence are indicative of underlying issues associated with work practices. This in turn increases the potential for these minor incidents developing into significant incidents.</p>	<p>Uncontained hydrocarbon spillage <200 L.</p> <p>Dust suppression spray failure without causing off site impact.</p>
SIGNIFICANT ENVIRONMENTAL INCIDENT	<p>Incident involving off-site environmental impacts that requires significant resources to address.</p> <p>Non-compliance with statutory requirements or environmental criteria requiring reporting to authorities.</p>	<p>Clearing outside of approved area (<100m²).</p> <p>Over spray of herbicides damaging nearby crops or native vegetation.</p> <p>Dust monitoring results exceed statutory criteria.</p> <p>Failure to submit compliance report to DEC within the timeframe.</p>
	<p>Non-conformance with EMP occurring within the work site where the environmental impact is significant and has the potential for an offsite environmental impact.</p>	<p>Uncontained hydrocarbon spillage >200 L.</p> <p>Dust suppression spray failure causing actual off-site impact.</p> <p>Unauthorised clearing of rare flora.</p>
MAJOR ENVIRONMENTAL INCIDENT	<p>Any on-site or off-site environmental incident resulting in significant long term environmental harm</p> <p>An incident resulting in prosecution under environmental laws.</p>	<p>Unauthorised clearing of a large area (>100 m²).</p> <p>Actual pollution of waterways (eg. by on-site or off-site fuel spills).</p> <p>Land disturbance resulting in damage to public infrastructure (power line or water pipes) which impact on a group of people.</p>

Appendix C
TIMING AND NOTIFICATION OF ENVIRONMENTAL INCIDENTS
(modified from 6707/042 Environmental Guideline – Environmental Incident Reporting and Investigation)

Incident Category	Personnel to be Notified by Whom	Timing of Notification
MINOR	<ul style="list-style-type: none"> ▪ Observer(s) notifies the relevant Supervisor 	<ul style="list-style-type: none"> ▪ By the end of the working day.
SIGNIFICANT	<ul style="list-style-type: none"> ▪ Observer(s) notifies the relevant Supervisor ▪ Supervisor notifies the Project Manager and Environment Officer ▪ Project Manager notifies Manager Environment and DEC if the incident is a non-compliance with statutory requirements or has resulted in pollution or environmental harm. 	<ul style="list-style-type: none"> ▪ Upon completion of remediation actions. ▪ Upon completion of initial incident assessment. ▪ Upon completion of initial incident assessment.
MAJOR	<ul style="list-style-type: none"> ▪ Observer(s) notifies the relevant Supervisor. ▪ Contractor's Supervisor notifies Project Manager and Environment Officer. ▪ Project manager notifies DEC, Manager Environment and relevant Executive Directors. 	<ul style="list-style-type: none"> ▪ Immediately. ▪ Immediately. ▪ Upon completion of initial incident assessment and/or site emergency response procedure.

Appendix D
ENVIRONMENTAL INCIDENT AND INVESTIGATION REPORT

CONTRACT
NUMBER

CONTRACTOR

REGION

INCIDENT
REPORT
NUMBER

PART A – INCIDENT DETAILS		
OBSERVATION DETAILS		
Name:		Position:
Company:		Select
DETAILS OF INCIDENT		
Location:	Time:	Date: / /
INCIDENT CATEGORY (Refer Environmental Incident Category Attached):		Select
MANAGEMENT NOTIFIED (<i>Refer Environmental Incident Notification Process attached</i>)		
Select		
DETAILS OF INCIDENT (<i>i.e. Where did the incident occur? What happened? How the incident happened?</i>)		
IMMEDIATE REMEDIAL ACTION TAKEN (<i>To Stop, Control or Contain the Incident</i>)		
DESCRIPTION OF ENVIRONMENTAL IMPACT (<i>Size, Duration</i>)		

PART B – INCIDENT INVESTIGATION			
7. DESCRIPTION OF EVENTS LEADING UP TO THE INCIDENT			
8. CONTRIBUTING FACTORS / IMMEDIATE CAUSES			
9. LIKELY UNDERLYING CAUSES			
10. CORRECTIVE AND PREVENTIVE ACTION			
DESCRIPTION	Responsible Person	Target Completion	Date Completion
11. TEAM INVESTIGATION			
NAME	POSITION	SIGNATURE	
	(Investigation		
	(Team		
	(Team		
	(Team		
12. COMMENTS (<i>Contractor's Representative</i>)			
		Signature & Date	
13. COMMENTS (<i>Contract Manager</i>)			
		Signature & Date	
14. COMMENTS (<i>Main Roads Environment Manager – Significant Incident Only</i>)			
		Signature & Date	

Appendix E
ENVIRONMENTAL CHECKLIST

North West Coastal Highway SLK 145.6 Strategic Material Areas

Date of Inspection:	Officer:	Checklist Sequence Number:
Serials from previous inspection that required further action:		
Have all the further actions identified from previous inspections been closed out?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA

Number	Aspect	Scope	Compliance	Comments/Observations
	General	Have all staff received an environmental induction?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Does the environmental induction require updating?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Aboriginal Cultural and Heritage Sites	No Aboriginal sites have been disturbed or located	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Material Pits	Visual inspection of active pit and rehabilitated pits for weeds, topsoil management & regrowth.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Weed Management	Field inspection for the presence of weeds, particularly in problem areas.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Plant & vehicle inspection logs up to date	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Washdown register up to date	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Presence of weeds and implementation of mitigation measures.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Herbicide use.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	

Number	Aspect	Scope	Compliance	Comments/Observations
	Drainage Management	Evidence of scour, erosion around culverts and batters	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Visually inspect native vegetation around bores for draw down effects e.g. sudden dying off	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Noise Management	Compliance with plant and vehicle noise maintenance activities.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Investigations of received complaints.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Vegetation	Inspection of clearing lines, temporary fences and markings	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Has any over clearing occurred since last inspection?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Priority Species Management	Are all known populations priority flora marked and sign posted	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Inspect priority flora populations for damage	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Fire Prevention	Does the fire trailer have water in it?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Observations of any potential ignition sources or fuel source	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Dust Management	Is dust mitigation being carried out?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Have any complaints about dust been received from residents?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Handling, Storage and Disposal of	Implementation of measures to minimise the risk of spills and land contamination.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	

Number	Aspect	Scope	Compliance	Comments/Observations
	Dangerous Goods	Inspect chemical and fuel storage areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Are fuels, oils & hazardous substances being stored in bunds/drip trays with adequate capacity?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Is a 3000L spill kit located at the designated refuelling point?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Do all refuelling vehicles have spill kits?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Waste Management	Are waste containers clearly labelled?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Visual inspection for litter on site	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Are waste materials being regularly removed from site?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Fauna Management	Fauna encounters including death or injury.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		Any significant encounters with native fauna (i.e. snakes)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Environmental Incidents	Have there been any environmental incidents since the last inspection?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
		If so, have they been reported and investigated?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
	Rehabilitation and Topsoil Management	Visual inspection of rehabilitation and vegetation along whole alignment, noting areas where vegetation is in a poor condition	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	

Number	Aspect	Scope	Compliance	Comments/Observations
	Summary	List serials above that require further action		

Additional Comments:

Signed: _____

Date:

