

Appendix L: Environmental and Cultural Heritage Management

Road Asset Management Contract (RAMC) – Gen 2

January 2020

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1 Introduction

The Contractor must manage all Works undertaken by the Contractor, including Works that are undertaken by its sub-contractors, in a manner that avoids or where it is not possible to avoid, minimises impacts on the environment and sites of cultural heritage.

This Appendix sets out the minimum requirements for the controls and actions which are to be implemented in planning and carrying out all works including the repair of any damage that has resulted from the works, under the Contract. The Contract, including its appendices, is to be read in conjunction with all other Statutory requirements, Technical Specifications, policies and guidelines that are applicable to the works.

Where the requirements of other documents require a higher level of control or higher standard or level of control than the Contract (including the Appendices), the higher standards are to be adopted.

2 Environmental and Cultural Heritage Information

The Principal will make available to the Contractor, environmental and cultural heritage information, if it exists, such as:

- a) exemptions which may apply in respect of the certificates, licences, consents, permits and other approvals necessary for the lawful carrying out of the work under the Contract.
- b) studies, reports and investigations that the Principal has carried out or has engaged a third party to carry out, which provide examples of how the Principal satisfied its environmental and cultural heritage obligations in respect of carrying out road maintenance activities that are similar or identical to the work under the Contract, and
- c) interactive mapping tools and environmental and cultural heritage legislative registers developed by the Principal and which may be accessed and used by the Contractor.

The Principal may issue updated Road Asset Management Contract (RAMC), Transport and Main Roads, environmental and cultural heritage information at any time and from time to time during the Term.

Any environmental and cultural heritage information provided to the Contractor is to be considered as Asset Information to which Clause 4.4 the General Conditions applies.

2.1 Contractor remains responsible for Environmental and Cultural Heritage compliance

Environmental and cultural heritage information is provided by the Principal for the convenience of the Contractor only, and without limiting the warranties set out in the General Conditions, the Contractor has entered into the Contract based on its own investigations and determinations as to its environmental and cultural heritage obligations under or in connection with the Contract.

The Contractor shall in no circumstances be entitled to make a Claim arising from, or in connection with environmental or cultural heritage information provided by the Principal, including if any information is incorrect or misleading, or as a result of any updated or amended version of the information issued by the Principal.

2.2 *Principal's Environmental and Cultural Heritage support*

The Principal's Environmental and Cultural Heritage officers will be available to provide information and advice to the Contractor regarding its obligations, the requirements of the contract, or how the Principal operates to satisfy its obligations regarding environmental and/or cultural heritage management.

Any approval, comment, notice or other information provided by or on behalf of the Principal's Environmental and Cultural Heritage officers does not relieve the Contractor of its responsibilities under or in connection with the Contract in relation to environmental and cultural heritage compliance. The Contractor is responsible for obtaining their own environmental advice to ensure compliance with this contract.

3 Significant Cultural Heritage Sites

3.1 *Sites of Aboriginal Cultural Heritage Significance*

The Contractor must note that the road network can contain significant Aboriginal cultural heritage sites. These sites are not always accurately mapped or clearly marked, hence additional due diligence must be implemented when working adjacent to or within the below features and where practicable impact to the features must be avoided.

Where any feature/s listed below cannot be avoided for work under the Contract, the Contractor shall advise the Principal's Representative as soon as the Contractor becomes aware, so that the Principal can arrange for a Cultural Heritage Risk Assessment to be conducted and, if required, enter into a Cultural Heritage Management Plan (CHMP), Cultural Heritage Management Agreement (CHMA) or Exemption Certificate.

Features of potential Aboriginal cultural heritage significance:

- a) Ceremonial places: The material remains of past Aboriginal ceremonial activities come in the form of earthen arrangements or bora grounds and their associated connecting pathways, and stone circles, arrangements and mounds.
- b) Scarred or carved trees: Scars found on large mature trees often indicate the removal of bark by Indigenous people to make material items like canoes, containers, shields and boomerangs. Carved trees generally feature larger areas of bark that have been removed and carved lines deeply etched into the timber. Carvings include geometric or linear patterns, human figures, animals and birds.
- c) Burials: Pre-contact Aboriginal burials are commonly found in caves and rock shelters, midden deposits and sand dunes.
- d) Rock art: Rock art sites can include engravings, paintings, stencils and drawings. Paintings, stencils and drawings may have been done for everyday purposes, but are often used for ceremonial and sacred functions. Engravings include designs scratched, pecked or abraded into a rock surface.
- e) Fish traps and weirs: Fish traps and weirs are stone or wooden constructions designed to capture aquatic animals, predominantly fish. Traps are considered as structures made predominantly from stone to form a type of pen or enclosure. Weirs are constructions designed to block the natural flow of water in creeks, streams and other watercourses.

- f) Occupation sites: Such sites contain discarded stone tools, food remains, ochre, charcoal, stone and clay hearths or ovens, shell middens and shell scatters, including deposits found in rock shelters and caves. These deposits may be buried. Other evidence of occupation sites includes the remains of Aboriginal dwellings or "gunyahs".
- g) Quarries and artefact scatters: Quarries are places where raw materials such as stone or ochre were obtained through either surface collection or sub-surface quarrying. Stone collected or extracted from stone quarries was used for the manufacture of stone tools. Ochre, a type of coloured clay, was utilised by Indigenous people in rock art and for body and wooden tool decoration.
- h) Grinding grooves: They are generally found near water sources. The presence of long thin grooves may indicate where the edges of stone tools were ground. Food processing activities such as seed grinding can leave shallow circular depressions in rock surfaces.
- i) Contact Sites: The material remains of Indigenous participation in the development of Queensland after the arrival of European settlers. These include former or current Aboriginal missions, native mounted police barracks and historical camping sites.
- j) Wells: Rock wells are reliable water sources that have been altered by Indigenous people for the storage of water.
- k) Rock outcrops.
- l) Caves.
- m) Foreshores and coastal dunes.
- n) Sand Hills.
- o) Areas of biogeographical significance, such as natural wetlands.
- p) Permanent and semi-permanent waterholes, natural springs.
- q) Particular types of native vegetation (e.g. remnant).
- r) Some hill and mound formations.

3.2 Queensland Heritage Register listed Sites

In addition, the Principal's road network contains a number of sections that are listed on the Queensland Heritage Register and are protected from unauthorised development under the *Queensland Heritage Act 1992*. Prior to commencing any works within the below listed sections, the Contractor must notify the Principal, request any existing Exemption Certificates or if such certificates do not exist, coordinate with the Principal to obtain them in a timely manner. The Contractor should note that other sites located on the Principal's road network can be added to the Queensland Heritage Register without significant notice by the Administering Authority. Where new sites are added to the Register the above process of notification to the Principal and coordinating an Exemption Certificate prior to works occurring applies.

Sections listed on the Queensland Heritage Register are included in Attachment A of this Appendix L.

4 Environmental Management

4.1 Overview

The following sections of this Appendix are related to the environmental management of the Works carried out under the Contract.

4.2 Definition of terms

The terms used in this Appendix are defined in Table 4.2.

Table 4.2 – Definition of terms

Term	Definition
Administering Authority	An Authority with legislative jurisdiction.
Adverse Impacts	A negative or harmful effect
Air Quality Sensitive Receivers	As defined by the <i>TMR Road Traffic Air Quality Manual, Glossary</i> , as any of the following: <ul style="list-style-type: none"> • a dwelling (detached and attached), reformatory institution, caravan park or retirement village • a library, child care centre, kindergarten, school, school playgrounds, college, university, museum, art gallery or other educational institution • a community building including a place of public worship • a hospital, respite care facility, nursing home, aged care facility, surgery or other medical centre • a hotel, motel or other premises which provides accommodation for the public • a protected area, or an area identified under a conservation plan as a critical habitat or an area of major interest under the Nature Conservation Act 1992 <p>a public park or gardens that is open to the public (whether or not on payment of a fee) for use other than for sport or organised entertainment (passive recreation only).</p>
Approval	Approval means any environmental permit, authority, license, self-assessable code, statutory exemption with conditions, protocol or other statutory instrument with conditions issued by an Administering Authority.
Average Reoccurrence Interval (ARI)	The average or expected value of the periods between exceedances of a given rainfall total accumulated over a given duration. It is implicit in this definition that the periods between exceedances are generally random.
Biosecurity Instrument Permit	An authority issued by Biosecurity Queensland under the <i>Biosecurity Act 2014</i> for movement of a carrier of a regulated Biosecurity Matter under a biosecurity zone regulation to a place outside the zone or into an area subject of a movement control where the activity does not meet the regulatory provisions defined in the Queensland Biosecurity Manual.
Biosecurity Matter	Biosecurity matters as defined in the <i>Biosecurity Act 2014</i> including Biosecurity Matters listed by Local, State and Commonwealth Governments. Biosecurity matters include but are not limited to prohibited and restricted invasive plants (weeds) and animals

Term	Definition
Complaint	A verbal or written complaint from a member of the public regarding the Works under the Contract and the impact upon their person or property.
Contaminated Sites	Areas of land where any chemical substance or waste has been added as a direct or indirect result of human activity at above background level and represents, or potentially represents, an Adverse Impact to health or environment.
Critical Facility, Infrastructure and Utility	<p>In relation to impacts from noise and vibration, a Critical Facility, Infrastructure or Utility is defined in accordance with the <i>Transport Noise Management Code of Practice: Volume 2 Construction Noise and Vibration</i> as:</p> <p>Critical facilities include medical/health buildings, educational/research facilities, courts of law and community buildings. The latter three are only considered when in use. Critical facilities are usually sensitive to both construction noise and vibration.</p> <p>Critical infrastructure and utilities include dams, electrical and telecommunications facilities (including railway signalling systems), oil and gas pipelines and other petrochemical installations and utilities such as water mains and sewers. Critical infrastructure and utilities are typically sensitive to construction vibration.</p> <p>Other facilities, infrastructure or utilities (for example bridges) which may be deemed to be of critical importance on a project-specific basis.</p>
DAF	Queensland Department of Agriculture and Fisheries
Discharge	<p>The movement of Site stormwater:</p> <ul style="list-style-type: none"> • into a Waterway within the Site, • into a Waterway adjacent to the Site, and <p>beyond the boundary of the Site where it could reasonably enter a Waterway.</p>
EMP (C)	Environmental Management Plan (Construction), to be prepared for each Asset Management Works Projects, including Phase 1 and Phase 2 Projects.
EMP (M)	Environmental Management Plan (Maintenance) including an accepted EMS.
Environmental Assessment/s	This includes but is not limited to Statement of Environmental Effects, Review Environmental Factors etc. It may include a project finalisation report that identifies environmental assets and liabilities to be managed during maintenance or a requested environmental review.
Environment Incident	An environment incident is the occurrence of a reportable breach of legislation, an event that causes or has the potential to cause Environmental Harm.
Environmental Harm	As defined by the <i>Environmental Protection Act 1994</i> , s14-s17A.
Environmental	The protection of the existing environment from adverse impacts

Term	Definition
Management	associated with the Works under the Contract.
EMS	Environmental Management System
Environmental Nuisance	As defined by the <i>Environmental Protection Act 1994</i> , s 15.
Exclusion Zone	An area not to be entered by a person or machine for the duration of the contract or otherwise designated period of time or restricted access for authorised persons.
Limits of Clearing	<p>The Limits of Clearing are defined as the outside boundary of areas specified within the Contract for clearing and ground disturbance, specifically:</p> <ul style="list-style-type: none"> • areas outside limits identified by the Administrator for trimming and clearing or the existing clearing footprint at the time of contract award, • existing approved side track locations and extents at the time of contract award, • noise barriers and fencing (including fauna fencing) clearing footprints established for construction and used for the Contract. It does not include any extensions to this area unless approved by the Administrator, • existing, approved borrow areas, excess spoil disposal areas, stockpile areas and associated access tracks for any of these features at the time of contract award, • existing, approved water point access tracks at the time of contract award or subsequently approved by the Administrator, • any marketable timber, and <p>other areas identified by the Principal within the Contract.</p>
Maintenance	As defined in schedule 6 of the Transport Infrastructure Act 1994.
Management Measure / s	For the purpose of this document a management measure is purpose-built structure or strategy employed by the Contractor and documented in the EMP(C) or the EMP(M) or Contractor's EMS to prevent or minimise Adverse Impacts or provide an environmental benefit.
Monitoring	Targeted observation, measurement and/or data collection of a specific activity or parameter over a duration of time to verify if a legislated or contractual criteria or objective is achieved.
Queensland Waterway for Waterway Barrier Works	A Waterway mapped on the Administering Authorities spatial data layer as having values for fish movement, and therefore requires compliance with the Accepted Development Requirements as a minimum for any barriers or other modifications that are installed or undertaken.

Term	Definition
Sensitive Receptor/s (for noise and vibration)	<p>Defined in accordance with the <i>Transport Noise Code of Practice: Volume 2 Construction Noise and Vibration</i> as:</p> <ul style="list-style-type: none"> • a dwelling (detached or attached) including house, townhouse, unit, reformatory institution, caravan park or retirement village, • a library, child care centre, kindergarten, school, school playground, college, university, museum, art gallery or other educational institution, hospital, respite care facility, nursing home, aged care facility, surgery or other medical centre, • a community building including a place of public worship, • a court of law, • a hotel, motel or other premises which provides accommodation for the public, • a commercial (office) or retail facility, <p>a protected area, or an area identified under a conservation plan as a critical habitat or an area of major interest under the <i>Nature Conservation Act 1992</i>, or an outdoor recreational area (such as public park or gardens open to the public, whether or not on payment of a fee, for passive recreation other than for sport or organised entertainment) or a private open space.</p>
Serious Environmental Harm	As defined in the <i>Environmental Protection Act 1994</i> , Section 17.
Significant Vegetation	Individual or communities of plants that have specific protection under legislation or have been identified as being of significance.
Site	Means the lands and other places made available to the Contractor by the Principal for the purpose of the Contract
SMP	Species Management Program (Low and High Risk)
SMP high risk	<i>Transport and Main Roads State-wide Species Management Program for tampering with micro bat and bird species breeding within TMR infrastructure</i>
SMP Low risk	<i>Transport and Main Roads Species Management Program for tampering with animal breeding places – low risk of impacts – least concern animals (excluding special least concern or colonial breeders)</i> , issued by the Department of Environment and Heritage Protection, June 2016
Suitably Qualified and Experienced Person (fauna)	<p>An ecologists with experience in conducting surveys for animal breeding places;</p> <p>A person who possesses a degree in natural science or similar with experience in conducting surveys for animal breeding places; or</p> <p>A person who is a spotter-catcher under a rehabilitation permit issued under the <i>Nature Conservation Act 1992</i>.</p>
Waste	As defined by the <i>Environmental Protection Act</i> , section 13.
Waterway	Waterways are defined as a watercourse under the <i>Environmental Protection Regulation 2008</i> and including naturally occurring surface waters as defined in the <i>Environmental Protection Regulation 2008</i> .

Term	Definition
Work under the Contract	The work which the Contractor is or may be required to execute under the Contract and includes variations, remedial work and Temporary Works

5 Referenced documents

The Contractor is required to ensure it has systems in place to keep identify, update and comply with relevant requirements, including legislation, Standards, Technical Specifications, Policies and Guidelines, and changes that may occur during the course of this Contract. A number of documents referenced in this Appendix are listed in Table 5, for information.

Table 5 – Referenced documents

Reference	Title
AS 1940	<i>The storage and handling of flammable and combustible liquids</i>
Contractor's Monthly Environmental Reporting Template	<i>MRTS51 Appendix A Contractor's Monthly Environmental Report</i>
Exemption Requirements for the taking of water without entitlement (WSS/ 2013/666)	<i>Exemption Requirements for the taking of water without entitlement under the Water Regulation 2002 (WSS/ 2013/666), Department of Natural Resources and Mines, Version 3.01, 2014</i>
IECA Best Practice Erosion and sediment Control Appendix B – Sediment Basin Design and Operation	<i>International Erosion and Sediment Control (Australasia), Best Practice Erosion and Sediment Control, Appendix B – Sediment Basin Design and Operation, Major Update – December 2016</i>
National Environment Protection (Assessment of Site Contamination) Measure, 1999	<i>National Environment Protection (Assessment of Site Contamination) Measure, National Environment Protection Council, 1999 (Commonwealth)</i>
Noise Code of Practice: Volume 2	<i>Transport Noise Management Code of Practice, Volume 2 – Construction Noise and Vibration, Transport and Main Roads</i>
Road Traffic Air Quality Management Manual	<i>Road Traffic Air Quality Management Manual, Transport and Main Roads</i>
SMP Low risk	<i>Transport and Main Roads' Species Management Program for tampering with animal breeding places – low risk of impacts – least concern animals (excluding special least concern or colonial breeders), issued by the Department of Environment and Heritage Protection, June 2016</i>
Technical Note 03	<i>Technical Note 03: Measurement of Ground Vibrations and Air blast, Transport and Main Roads, Queensland</i>

6 Quality and Systems

6.1 *Contractors Environmental Management Systems and Management Plans*

- a) If the Contractor has an Environmental Management System (EMS) which:
- i. is accredited or certified to ISO 140001, and
 - ii. which specifically addresses the issues and aspects associated with the transport infrastructure activities required to be conducted under this contract, and addresses the requirements of Clause 8.4 of this Appendix L, then the Contractor may submit its EMS to the Principal's Representative in accordance with Clause 13 of the General Conditions of Contract, for assessment of its suitability to address the environmental requirements of this contract.

If the EMS is assessed to be suitable to address the maintenance related requirements of this Contract, then the Contractor may use its EMS in place of the EMP(M), required in Clause 13 of the General Conditions of Contract.

In that case, all of the other requirements of the Contract which apply to the EMP(M) will apply to the Contractor's EMS.

The suitability for the EMS to address the environmental impacts and aspects of the construction related activities for the Asset Management Works Projects, will be assessed for each project on a project by project basis, following a request by the Contractor for each project on a project by project basis, consistent with the requirements to provide an EMP(C) for each project under Clause 13 f the General Conditions of Contract.

If the EMS is assessed to be suitable to address the construction related requirements of an Asset Management Works Project, then the Contractor may use its EMS in place of the EMP(C), required in Clause 13 of the General Conditions of Contract, for that Project only.

In that case, all of the other requirements of the Contract which apply to the EMP(C) will apply to the Contractor's EMS.

- b) If the Contractor has an Environmental Management System (EMS) which is NOT accredited or certified to ISO 140001, the Contractor may submit its EMP(M) or EMP(C) in a format which is compatible with their unaccredited/uncertified EMS to the Principal's Representative in accordance with Clause 13 of the General Conditions of Contract for assessment of its suitability.
- c) If the Contractor does not have an EMS, the Contractor must prepare an EMP (M) and EMP(C) which complies with the requirements set out in this Appendix L, and submit it to the Principal's Representative in accordance with Clause 13 of the General Conditions of Contract for assessment of its suitability.

The EMP(M) or EMS must be submitted and reviewed in accordance with the requirements of Clause 13 of the General Conditions of Contract.

No works are to be commenced on site until the relevant EMS, EMP(M) or EMP(C), as the case may be with amendments if required, is deemed suitable by written notice from the Principal's Representative, which is a HOLD POINT.

6.2 Compliance testing

Where stipulated in this specification, the Contractor is responsible for performing Compliance Testing as specified to ensure that environmental performance complies with the standards and requirements of the Contract and statutory legislation.

6.3 Standard test methods

Unless stated elsewhere herein, Compliance Testing shall be carried out in accordance with the relevant Australian Standard. Where no Australian Standard exists for the test, acceptable best practice methodology shall be employed based on State or Federal Administering Authority publications.

6.4 Hold Points and Milestones

Table 6.4 – Hold points and milestones

Clause	Hold Point	Milestone
6.1	No works are to be commenced on site until the EMS or EMP(M), with amendments if required, is deemed suitable by written notice from the Principal's Representative.	Submission of EMS or EMP (M)
6.1	The Asset Management Works Project, which is the subject of the EMP(C) is not to be commenced until the EMP(C), with amendments if required is deemed suitable by written notice from the Principal's Representative.	Submission of EMS or EMP (M) amendments
Other	Approval by the Principal's Representative to use any herbicide product in the State Controlled Road Reserve either for single use or as part of an Integrated Pest Management Program.	
Other	Approval by the Principal's Representative to access and use any quarry or stockpile site.	

6.5 Non-conformances with Environmental Requirements

Non-conformances with requirements of the Contract, including the environmental and cultural heritage requirements outlined in this Appendix, shall be recorded, reported and managed under the Contractor's Quality Plan. This extends to monitoring non-conformances, Compliance Testing non-conformances and non-conformances raised by the Contractor or Principal during audits.

Non-conformances that are also Environmental Incidents, including those that are found to be actual Environmental Harm shall also be notified, managed and reported in accordance with Clause 9.8 of this Appendix.

7 Environmental Assessment

While the Principal will provide the Contractor with information referred to in Clause 2 of this Appendix L, the Contractor may at times be required to undertake activities under the Contract that are considered high risk environmental activities due to their nature or the location in which they need to be conducted. Activities considered High Risk may require a site specific environmental assessment.

The Activities listed in Clause 7.1 and Clause 7.2 of this Appendix L, and some other activities or sites, which may be advised by the Principal, from time to time during the Term of the Contract, also trigger the requirement for an activity or site specific environmental assessment to be conducted.

The Contractor shall advise the Principal's Representative as soon as the Contractor becomes aware of the activity, and at least 5 days before the planned activity is scheduled to commence, unless the works are urgent or there is an imminent risk to safety, in which case the Contractor must provide advice with as much note as possible of:

- a) a High Risk activity, or
- b) an activity listed in Clause 7.1 or 7.2
- c) any other activity, or a location, that the Principal has advised requires an environmental assessment, or
- d) any other activity which the Contractor considers may be considered a high risk environmental activity due to its nature or location.

On receipt of such advice from the Contractor, the Principal will arrange for an environmental assessment to be conducted if required.

The Contractor must not commence the high risk activity without approval from the Principal's Representative, who may impose additional requirements for the activity or the site, which may include not proceeding with the Activity.

7.1 *Activities that trigger Environment Assessment*

1. Disposal of spoil or stockpiling of materials.
2. Use or establishment of any site that provides quarry materials that is not a commercial quarry.
3. Clearing outside of the established clear zone.
4. Night time works with potential cause noise disturbance to residents.
5. Works in a waterway that are:
 - a. ground surface disturbance greater than 1ha that is located within 250m or less:
 - i. a waterway (with defined bed and banks and water present), or
 - ii. a dam, or
 - iii. waterbody.
 - b. any disturbance within the high banks greater than 10 m²
 - c. use of herbicide within the high banks of a waterway with water present

- d. concrete works within the high banks of a waterway with water present.
6. Works involving the removal or disturbance of a contaminant defined under the Environment Protection Act.
7. Works on a sediment basin or other secondary or tertiary treatment structure/device that does not have a management plan.
8. Locations with a Biosecurity Instrument Permit.

7.2 Sites that trigger Environmental Assessment

1. Any works in a World Heritage Area not covered by the World Heritage Maintenance Code of Practice for Wet Tropics World Heritage Area.
2. Any works in a protected area defined under the Nature Conservation Act. Protected areas adjoining a road reserve where the works will not impact on the protected area are not included in this category.
3. Any works that cannot comply with the following Codes:
 - a. Accepted development requirements for operational work that is completely or partly within a Fish Habitat Area.
 - b. Accepted development requirements for operational work that is constructing or raising waterway barrier works.
 - c. Accepted development requirements for operational work that is the removal, destruction or damage or marine plants.
 - d. Riverine protection permit exemption requirements WSS/2013/726.
4. Any fauna infrastructure.

8 Environmental Management Requirements

8.1 General Requirements

At all times during the Term of the Contract, the Contractor is responsible for identifying and undertaking reasonable and practicable environmental Management Measures appropriate to the Work under the Contract to preserve and protect the natural environment on and adjacent to the Site.

Subject to the Conditions in Clause 6.1 of this Appendix L, the Contractor shall prepare Environmental Management Plans which are consistent with, (as applicable):

- a) All relevant environmental and cultural heritage statutory requirements,
- b) Transport and Main Roads Specification MRTS51 *Environmental Management*
- c) Transport Main Roads Specification MRTS52 *Erosion and Sediment Control*, and
- d) The requirements of the Contract including the General Conditions of Contract, Appendix D and this Appendix L, and

- e) any Environmental Management Plan (EMP) outline submitted with the Contractor's tender (except that if any Environmental Management Plan outline is inconsistent with any statutory requirements, MRTS51 Environmental Management or any of the other documents comprising the Contract, then the outline must be amended to the extent of any inconsistency).

The Contractor shall:

- a) Carry out all works under the Contract in a manner which does not cause Environmental Harm and/or Environmental Nuisance.
- b) If Environmental Harm and / or Environmental Nuisance occurs, the Contractor must immediately:
 - i. initiate actions to mitigate the environmental harm or nuisance and prevent any recurrence or escalation of the harm
 - ii. advise the Principal's Representative and
 - iii. advise the relevant Administering Authority.
- c) Prepare, maintain and implement the EMP (M), or EMP (C) as applicable for the relevant works.
- d) Ensure all applicable environment protection measures are implemented prior to proceeding with any relevant Work under the Contract.
- e) Comply with any directions or requirements imposed by an Administering Authority in relation to the works under the Contract, including directions or requirements imposed as a result of notification of Environmental Harm or Environmental Nuisance.
- f) Pay all penalties, costs and expenses that may be incurred concerning offences committed or alleged to be committed under any other statutory requirements relating to environmental management.

8.2 Contract specific requirements

Contract specific requirements may be directed by notification by the Principal's Representative following an environmental assessment conducted the environmental assessment in Section 5 or other specific advice issued by the Principal. The Contractor shall take notice of and must comply with these requirements in addition to the requirements listed in this Appendix.

8.3 Environmental approvals

Copies of all Approvals obtained by the Contractor shall be made available to the Principal's Representative on request. The Contractor shall retain all records required to demonstrate compliance with all Approvals, which shall also be made available to the Principal's Representative on request.

Where Environmental Approvals contain or are likely to contain conditions that will extend beyond the period of the Contract, the Contractor shall seek advice from the Principal regarding the acceptance of the Environmental Approval condition prior to formalising the Approval.

Where the conditions contained in Approvals contain a reporting requirement or supply of data or other documentation, the Contractor will supply the necessary documentation to the Principal's Representative no later than 20 business days prior to the dates specified in the Approvals for the Principal's approval. Reports shall not be released or published without the written approval of the Principal.

The Principal's Representative may direct the Contractor to correct or amend any information in any report the Principal considers inadequate or inaccurate. Should the Contractor correct or amend the documentation to the satisfaction of the Principal within the time required by the Principal's direction, then the Principal will make the corrections or amendments it considers necessary, and recover the cost of doing so, from the Contractor.

Prior to the Date of Practical Completion for Asset Management Works, or the conclusion of the Contract, or any approved extension to the Contract, for maintenance activities, as applicable, the Contractor shall provide documentation of the successful surrender of Approvals held by the Contractor that relate to the Contract.

Where surrender is not feasible, and where approved by the Principal's Representative, the Contractor shall apply to transfer the Approvals to the Principal the Date of Practical Completion for Asset Management Works, or the conclusion of the Contract, or any approved extension to the Contract, for maintenance activities, as applicable, The Contractor shall be responsible for providing all relevant documentation regarding the transfer to the Principal.

8.4 Environmental Management Plan

The Contractor must also develop, implement and maintain, for the duration of the Term of the Contract, and any approved extensions to the Term, an Environmental Management Plan MP which addresses the activities to be carried out under the Contract.

The EMP is to be developed in two parts, the EMP (Maintenance) and EMP (Construction).

All relevant Australian Standards, Statutory Requirements, Local Authority Regulations, other documents and the requirements in or referred to in the Contract shall be taken into account in the preparation and implementation of the Environmental Management Plan (Maintenance), and Environmental Management Plan (Construction).

8.4.1 EMP (Maintenance)

The EMP(M) will address the overarching administrative requirements of Clause 13 of this Appendix L, relevant to all works under the Contract including routine maintenance, Asset Management Works and any other tasks or activities carried out under the Contract, including any ancillary activities such as, but not limited to the obtaining of resources (water, gravel) for Works associated with the Contract, and activities at auxiliary Sites used by the Contractor, such as stockpile sites and temporary site offices. It will also address the operational requirements for the routine maintenance activities under the Contract.

The Contractor must submit the EMP(M) and revisions to the EMP(M), to the Principal's Representative for assessment as to its suitability in accordance with the Clause 13 of the General Conditions of Contract.

The maintenance activities, which are the subject of the EMP(M) are not to be commenced until the EMP(M), with amendments if required, is deemed suitable by written notice from the Principal's Representative, which is a HOLD POINT.

Works under the Contract shall be completed in accordance with the most current version of the EMP (M) deemed suitable by the Principal's Representative. The Contractor may, with the Principal's Representative's deemed suitability, substitute environmental Management Measures included in this Appendix with other environmental Management Measures which achieve the same, or better, environmental outcomes. These Management Measures shall be documented in the EMP(M).

The EMP(M) is the Contractor's management plan to ensure that all Works undertaken by the Contractor, its employees, agents and Sub-contractors shall have minimal impact on the environment. The EMP(M) shall be in accordance with all relevant state, federal and local government laws, regulations and rules, and shall comply with and incorporate the requirements of this Contract.

The EMP (M) shall:

- i. Include the Contractor's Environmental Management Statement which shall define its commitment to addressing environmental and cultural heritage issues within the EMP (M).
- ii. Incorporate best practice environmental management which is defined as "the management of an Activity to achieve an ongoing minimisation of the Activity's environmental and/or cultural heritage harm through cost-effective measures assessed against the measures currently used nationally and internationally for the Activity".
- iii. Describe how the Contractor will identify and abide by all relevant Statutory Requirements, including how the Contractor will keep abreast of, and implement any legislative changes, or changes to other documents including Transport and Main Roads policies and specification. It should also focus on how the Contractor will develop productive working relationships with the Principal's Representative to ensure that any changes which result in increasing or decreasing the regulatory framework of the Contract are effectively and efficiently addressed through the Contract.
- iv. Document how the Contractor will obtain, implement and supply copies to the Principal's Representative of all relevant approvals, licences, permits, etc. relating to the Routine Maintenance Work. Document how the Contractor will obtain, implement and comply with approvals, codes, licences and permits that have been obtained by the Principal.
- v. Document how any reporting of data to the Principal's Representative, required by the Statutory Requirements regardless of which party manages the Statutory Requirements, will be available within five business days of request by either the Contractor or the Principal's Representative.
- vi. Document how the Contractor shall supply copies of such licences, permits, etc. to the Principal two working days prior to commencing the relevant Routine Maintenance Work.
- vii. Document how the Contractor will maintain a register of all licences, permits, approvals and codes being used by the Contractor. The Contractor is able to adopt the Principal's Environment Legislation Register but if this does not occur the Contractor will need to maintain a Legislation Register relevant to the Contract.
- viii. Document how the Contractor will establish and maintain its stockpile register, including details of designated stockpile locations, types of materials to be stockpiled, environmental controls for stockpiles, where materials have come from and where materials will be going once allocated. The Contractor must not create any new stockpile areas without the permission of the Principals Representative.

- ix. Be practicable and achievable the Contractor shall develop, document and implement for each maintenance activity:
 - a. environmental controls (e.g. erosion and sediment controls, clearing limits, waste disposal processes) and commitments (e.g. all waste will be recycled for sign removal activities),
 - b. monitoring and maintenance requirements for devices nominated in the environmental controls described above (including all testing and reporting of test results required under this specification),
 - c. an asset register detailing temporary and permanent controls installed on the Road Infrastructure to protect the environment, access provisions and long term maintenance requirements for such devices,
 - d. procedures to ensure that the duty of care requirements of the Aboriginal Cultural Heritage Act 2003 and the requirement to give notice requirements of the Queensland Heritage Act 1992 are met,
 - e. restoration procedures should a control fail or an environmental and/or cultural heritage incident occur,
 - f. supervision protocols and the assignment of responsibility for environmental and/or cultural heritage management, and
 - g. internal and external auditing and reporting procedures to ensure best practice.

The Contractor's EMP(M) shall address:

- a) Administrative requirements (Clause 9 of this Appendix).
- b) Operational requirements – identified for each environmental element.
- c) The Contractor's environmental management policy relevant to activities carried out under the Contract.
- d) The names and qualifications of all personnel engaged in all environmental-specific roles.
- e) The roles, authorities and responsibilities of all personnel engaged in all environmental-specific roles.
- f) the Contractor's environmental training and/or induction programs, including for personnel acting as environmental representatives for Activities.
- g) Approvals obtained (or supplied by the Principal or documented in an Environmental Assessment provided to the Contractor), relevant to the Maintenance Works, including Principal exemptions or licences being used for undertaking of the Work. The EMP(M) will document the:
 - i. name, type and reference number of Approval
 - ii. administering Authority
 - iii. commencement and expiry date, and
 - iv. conditions of Approvals.
- h) Reporting requirements of this Contract and as required as a condition of a permit, licence or approval, including exemptions. The EMP(M) must clearly state:

- i. who is responsible for reporting (Principal or Contractor)
 - ii. the required content of the report
 - iii. the timing, frequency, or required date the report is required, and
 - iv. how and when the Contractor will provide any necessary information to the Principal, including draft or completed reports, information or test results required to be reported.
- i) details of the Contractor's system to manage complaints, undertake inspections and conduct audits, including undertaking and recording corrective actions.
 - j) arrangements for auditing the environmental management plans, updating and revising the plans in accordance with Clause 13 of the General Conditions of the Contract and Clause 6.1 of this Appendix L, including for example:
 - i. Identifying and addressing legislative changes
 - ii. Physical changes to the site
 - iii. Changes in methodology, such as with changed technology or machinery
 - iv. Incidents
 - v. Corrective actions that may have occurred as a result of an inspection, audit, incident or accident on the site.
 - k) Policies, processes and identifying opportunities for continual improvement.

8.4.2 EMP(Construction)

An EMP (C) is required to be prepared and submitted in accordance with Clause 53.1 of the General Conditions for each Project of Asset Management Work.

Each EMP (C) must address the site specific operational requirements for the Asset Management Project and is to be prepared in accordance with:

- a) All relevant environmental and cultural heritage statutory requirements,
- b) Transport and Main Roads Specification MRTS51 *Environmental Management*
- c) Transport and Main Roads Specification MRTS52 *Erosion and Sediment Control*, and
- d) The requirements of the Contract including the General Conditions of Contract, Appendix D and this Appendix L.

The administrative requirements for environmental management of works under the Contract addressed in the EMP(M), will be deemed to be part of each EMP(C), unless the EMP(C) provides for an alternate administrative arrangement to apply for that specific Asset Management Project.

At least 28 days prior to commencing a Project of Asset Management Work, the Contractor must also contact the Principal and request a Cultural Heritage Risk Assessment to be completed by the relevant District Cultural Heritage Officer. If required, the Principal may enter into a Cultural Heritage Management Plan (CHMP). Cultural Heritage Management Agreement (CHMA) or Exemption Certificate for the Project and the Contractor will be required to operate in accordance with the CHMA, CHMP, or Certificate.

The Contractor must submit each and every EMP(C) and revisions to the EMP(C), to the Principal's Representative for assessment as to its suitability in accordance with the Clause 13 of the General Conditions of Contract.

The Principal will consider a combined EMP (C) for a series of Projects if they are similar in nature, in relative close proximity and programmed for delivery within proximate timeframes.

The Asset Management Works Project, which is the subject of the EMP(C) is not to be commenced until the EMP(C), with amendments if required, is deemed suitable by written notice from the Principal's Representative, which is a HOLD POINT.

8.5 Environmental Management Plan Updates and review

The EMP(M) and EMP(C)'s are living documents which are to be continually updated to address changes, such as legislative changes, physical changes to the site, or changed methods of carrying out activities, incidents, or audits, as applicable.

All changes to the EMP must be submitted to the Principal's Representative for assessment as to the suitability to address the requirements of the Contract.

As a minimum, the Contractor shall review and revise the EMP (M) at least once each year of the Contract Term in accordance with the requirements of Clause 13 of the General Conditions of Contract.

The EMP(M) forms part of the Contract Plan, and is a controlled document, subject to version control.

The Principal's Representative shall be provided with an electronic copy of the most current and complete version of the EMP (M) at all times.

9 EMP (M) Administrative Requirements

9.1 Notification of visits by Administering Authorities

The Contractor shall notify the Principal's Representative of correspondence, meetings with or visits from representatives of any Administering Authority within 24 hours of the Contractor becoming aware of the event. The Principal's Representative may nominate a representative to attend the planned meeting or visit on the Site as an observer.

9.2 Management of complaints and enquiries

The Contractor must develop and implement a system to manage complaints and enquiries from the community and other stakeholders related to environmental or cultural heritage matters.

The Contractor shall notify the Principal's Representative of the receipt of all complaints and enquiries it receives directly from the community or other stakeholders.

The Contractor must take every action necessary to investigate to resolve or respond to all enquiries or complaints as expeditiously as possible, keeping the Principal fully informed of the progress, and providing any other assistance or advice as the Principal may require to address such matters.

The Contractor shall document its procedures for notification, investigation, and assessment for legislative triggers, management and reporting of environmental enquiries and complaints in its EMP(M), which may include making reference to another document in the Contract Plan which addresses communication matters.

The Contractor shall manage complaints in accordance with their procedure, which must include complying with the Principal's processes and time-frames.

In managing noise complaints, the Contractor should follow the requirements of the Transport Noise Management Code of Practice: Volume 2 including undertaking complaint assessment where required.

9.3 *Principal's surveillance and audits*

The Principal's Representative may, at their discretion, undertake or authorise planned or unplanned inspections and audits of the EMP(M) and of the EMP(C) for any Asset Management Works Projects, carried out under the Contract.

The Contractor shall undertake at least one internal environmental audit during each year of the contract and provide the report to the Principal's Representative.

Environmental incidents identified during any audit will be reported by the Contractor to the Administering Authority and the Principal in accordance with the specified legislative timeframes, and as required in the Contract, respectively.

9.4 *Environmental Monitoring*

The Contractor shall undertake monitoring required as a condition of an Approval. The EMP(M) shall contain procedure/s for undertaking monitoring including specific location/s, method, timing, frequency, duration, parameter to be monitored, and objective/criteria measured against.

Where monitoring identifies a non-conforming result with the legislative criteria or objective, this non-conformance shall be reported in the Contractor's monthly environmental report (Clause 9.5 of this Appendix).

9.5 *Monthly environmental reporting*

As part of the Contractor's monthly Performance Report, required in Appendix B, the Contractor shall report on relevant environmental matters, including as a minimum:

- a) Contractor's updates to EMP (M) and Erosion and Sediment Control Plan (ESCP)
- b) register of current and completed non-conformance and corrective action reports related environmental matters, environment-related complaints and Environmental Incidents and a record of the current status
- c) positive environmental outcomes achieved and opportunities identified by the Contractor
- d) exceptions apparent in the registers, compliance, testing or been noted during inspections or audits, and
- e) where the Contractor has developed a Compliance Management Plan, compliance reporting under the Compliance Management Plan.

Where exception reporting identifies repeated or multiple (3 or more) non-conformances related to the same issue, the Contractor must undertake a review of the adequacy of Management Measures outlined in the EMP, and advise the Principal's Representative within 5 business days of any amendments or revisions made to the Management Measures and the EMP to address the non-conformances and to prevent their recurrence.

9.6 Notification and management of Environmental Incidents

The EMP(M) shall contain the Contractor's procedures for notification and management of Environmental Incidents in accordance with relevant legislation, Approval conditions and this Appendix.

In the event of actual or potential environmental harm, serious environmental harm or environmental nuisance occurring, the Contractor shall undertake immediate remedial actions to mitigate the Environmental Harm, and prevent further impacts.

The Contractor shall also immediately advise the Principal's Representative and the relevant Administering Authority, and follow any directions given by the Principal's Representative or the Administering Authority.

Immediate response actions shall not be delayed by the need to notify the Principal's Representative or Administering Authority.

Once the immediate risk from the Environmental Incident is alleviated, the Contractor shall investigate the cause of the breach and/or potential Environmental Harm and identify and implement corrective actions as soon as practicable. The Contractor shall provide an Environment Incident Report to the Principal's Representative within 40 business days of the Environmental Incident detailing:

- a) the nature of the incident
- b) what Management Measures were in place to prevent an incident occurring
- c) probable cause of the incident, and
- d) corrective actions that have been undertaken to prevent incidents reoccurring.

A template for the Environmental Incident Report may be available from the Principal's Representative. However, the Contractor may nominate to utilise their own reporting template if deemed suitable by the Principal's Representative.

The cost of any remedial or rectification works that are required to repair Environmental Harm resulting from works carried out under this Contract, will be a cost due to the Contractor. If the Contractor fails to carry out the remedial or rectification works, or the standard of the remedial or rectification works is not acceptable to the Principal, then the Principal's Representative may arrange for the works to be carried out by others, and will recover the cost from the Contractor.

Where penalties or offsets are payable for Environmental Nuisance or Environmental Harm, they will be at the Contractor's expense.

9.7 Notification of Environmental Assets and Liabilities

The Contractor shall report to the Administering Authority in accordance with the Approval conditions and relevant legislation where a breach of Approval condition/s, reportable legislative breach, or actual or potential material or serious Environmental Harm (as defined in the *Environmental Protection Act 1994*) is identified.

In addition, the Contractor shall notify the Principal's Representative as soon as practicable upon becoming aware of any of the following:

- a) actual or potential material or serious Environmental Harm as defined in the *Environmental Protection Act 1994*

- b) reportable breach of legislation or Approval condition/s
- c) injury or death of native fauna other than least concern species, potentially caused by Work under the Contract, including the occurrence of a fish kill on Site or in Waterways receiving Discharge from Site
- d) tampering with a native animal breeding place/s other than in accordance with an applicable Species Management Program
- e) clearing of a protected plant under State or Commonwealth legislation other than authorised under an Environmental Approval
- f) identification of a new Biosecurity prohibited matter or restricted matter (category 1 or 2) on Site or breach of a condition of a biosecurity zone
- g) discovery of a Contaminated Site (including unexploded ordinance) or land contamination occurred on the Site during the Work under the Contract, and
- h) significant environmental feature.

Unless justified otherwise and deemed suitable by the Principal's Representative, the above events shall be reported and managed by the Contractor as Environmental Incidents under the Contract.

9.8 Records and registers

Table 9.8 identifies the environmental records which are required to be kept and submitted to the Principal's Representative at least annually, by 30 June each calendar year. All records and registers of records must be made available to the Principal's Representative upon request.

Table 9.8 – Environmental Record requirements and requirements for submission to Principal's Representative

Record Requirement	Submit to Principal's Representative Annually
Contractor environment audit reports and subsequent corrective actions taken	<input checked="" type="checkbox"/>
Formal letters from Administering Authorities	<input checked="" type="checkbox"/>
Biosecurity Matter certificates, Biosecurity Instrument Permits and Biosecurity management documentation	<input checked="" type="checkbox"/>
Complete register kept under Species Management Program of animal breeding place/s tampered with and injury/s or death/s to native fauna	<input checked="" type="checkbox"/>
Records to demonstrate and document compliance with Environmental Approvals held by Principal and Contractor. This should also include a register of water and quarry materials extracted from non-commercial sources under the Contract by source site	<input checked="" type="checkbox"/>
Electronic copy of Waste tracking records and, where required by Clause 11.2 of Annexure MRTS51.1, a completed Waste register (MRTS51 Appendix C)	<input checked="" type="checkbox"/>
Any other record identified within the Contractor's EMP (M) or the specification	<input checked="" type="checkbox"/>

Record Requirement	Submit to Principal's Representative Annually
As constructed drawings and maintenance plans for any permanent environmental management infrastructure constructed (IE sediment basins, fauna management infrastructure)	☒
Details regarding ongoing management, monitoring or reporting requirements related to Environmental Approvals held by Principal or Contractor in relation to works under the Contract	☒

9.9 Selection and management of sub-Contractors

The Contractor shall include a requirement to comply with the EMP (M) in all Contractual arrangements with Sub-contractors.

10 EMP (M) Specific Element Requirements

10.1 General

Environmental elements included in the EMP(M) shall include, but not be limited to those defined in the following sections.

The EMP(M) shall encompass the Environmental Management of the Works under the Contract including Temporary Works and ancillary activities including sourcing water, gravel, side tracks, stockpile sites, Contractor's site facilities and camps, and turnaround points.

The Contractor shall select Management Measures which are reasonable and practicable for the environmental impacts they are managing and the risk to the receiving environment.

10.2 Water Quality (including Erosion and Sediment Control)

10.2.1 General

The Contractor shall be responsible for the management of water quality and erosion and sediment control to meet Contractual and legislative requirements, and not cause Environmental Harm or Environmental Nuisance to Waterways within the Site or adjacent Waterways into which the Site Discharges.

For activities not considered Maintenance the requirements of MRTS51 *Environmental Management* for Water Quality and MRTS52 for Erosion and Sediment Control, will apply to the Contractor's works.

Where captured stormwater (e.g. sediment basins) is to be reused for Maintenance the Contractor shall address requirements in MRTS04 *General Earthworks*.

10.2.2 Performance requirements

The Contractor shall at all times undertake reasonable and practicable Management Measures to prevent erosion associated sedimentation, and avoid Environmental Harm or Environmental Nuisance within the Site and to Waterways into which the Site Discharges. Specifically, the Contractor shall comply with the *Environmental Protection Act 1994*, Section 440zg.

10.2.2.1 Visual Monitoring of Discharge and Waterways

For activities with the low water quality risk Monitoring of Discharges and Waterways shall consist of visual Monitoring. Discharge and Waterway Monitoring shall be undertaken by the Contractor in accordance with Table 10.2.2.1.

Table 10.2.2.1 – Water Quality Monitoring Locations and Frequency

Monitoring	Locations	Frequency / Trigger	
		Weekly ¹	Rainfall ² causing Discharge
Discharge	At representative locations where concentrated-flows of stormwater Discharges from Site.	Nil	✓
Waterways	At representative locations upstream and downstream of the Site on Waterways within the Site and where Discharges enter from the Site.	Nil	✓

Visual Monitoring will be documented in the form of spreadsheet and photographs of the monitoring locations. Photographs must include a time and date stamp. Where Monitoring observes Discharges or Waterways to be:

- a) visually contaminated
- b) there is a visible accumulation of sediment or other contaminant within a Waterway at the point of Discharge, or
- c) a complaint is received.

The Contractor shall undertake investigations, assess whether reasonable and practicable measures are implemented, and whether corrective actions are required. The outcome of the investigation shall be recorded and reported to the Principal's Representative. The Principal's Representative may at their discretion, instruct the Contractor to undertake further investigations and/or undertake quantitative water quality Monitoring in accordance with the Monitoring and Sampling Manual Draft May 2017 under the *Environmental Protection (Water) Policy 2009* or more recent or final version of that document.

10.2.3 EMP(M) requirement for water quality

The EMP(M) shall include descriptions and / or diagrams of:

- a) Works under the Contract (including ancillary activities and temporary works) in locations at risk of impacting water quality other than erosion and sediment control risks, including:
 - i. potential contaminants (e.g. concrete curing in a flowing stream, herbicides),
 - ii. high risk locations where maintenance is undertaken (e.g. urban water supplies, marine parks, waterways in Protected Areas).

¹ Weekly during Works where potential impact to a Waterway or Waterbody with water present (for example from, stockpiling of pre-coated aggregate, concrete curing within a Waterway, clearing and grubbing).

² As soon as practicable following a rainfall event causing Discharge to a Waterway or Waterbody.

- b) water quality Management Measures to manage high risk locations and contaminants
- c) erosion Management Measures to manage water quality at high risk locations and land degradation from erosion
- d) contingency plans for adverse water quality impacts.

10.3 Erosion and sedimentation

Requirements relating to Erosion and Sediment Control are contained within MRTS52 *Erosion and Sediment Control*. The Erosion and Sediment Control Plan forms part of the Environmental Management Plan (Maintenance (EMP (M))).

10.4 Noise

10.4.1 General

The Contractor is responsible for the management of construction noise generated from Work under the Contract that is not Maintenance, in accordance with Transport Noise Management Code of Practice: Volume 2 and MRTS51 *Environmental Management*. The requirements of this Appendix do not include management of noise in relation to noise exposure within the Workplace (occupational noise). This Appendix does not address noise impacts on native fauna.

10.4.2 Performance requirements

The Contractor shall at all times take reasonable and practicable Management Measures to avoid Environmental Harm or Environmental Nuisance and minimise Adverse Impacts from noise associated with Work under the Contract.

10.4.3 Monitoring

If requested by the Principal or required under an approved Compliance Management Plan, the Contractor shall undertake assessment of noise impacts during Works under the Contract identified as having actual high risk of impact on a sensitive receiver for example, night time works.

10.4.4 EMP (M) requirements for noise

The EMP (M) requirements and documentation shall be as follows:

- a) outline of night time works and how these will be managed
- b) location of any Sensitive Receptors and Critical Facilities, Infrastructure and Utilities in proximity to night time maintenance works
- c) noise (including air blasting overpressure) generating activities, their locations, work periods³ (standard hours, non-standard hours (day/evening), nonstandard hours (night time))
- d) evaluation outcome of whether Sensitive Receptors will likely be impacted by Maintenance activities
- e) noise Management Measures to avoid or minimise noise impacts, and
- f) contingency plan for adverse noise impacts.

³ Work periods are as defined in the *Transport Noise Management Code of Practice Volume 2* Table 3.1.3.

10.5 Vibration

10.5.1 General

The Contractor is responsible for managing Work under the Contract to avoid adverse impacts from vibration to property and structures or cause Environmental Harm or Environmental Nuisance to Sensitive Receptors and Critical Facilities, Infrastructure or Utilities. For the purpose of this Appendix potential Vibration impacts are categorised in two forms:

1. Human comfort vibration management relates to managing vibration to avoid nuisance to public, residents or people utilising the area in the vicinity of the Site.
2. Building/Structural vibration management relates to managing vibration to avoid structural damage to buildings and structures within and beyond the Site. This also includes to managing impacts on building contents and surrounding utilities and services.

This Appendix does not address vibration impacts to native fauna.

10.5.2 Performance requirements

The Contractor shall comply with the requirements of MRTS52 *Erosion and Sediment Control* for any activities not considered Maintenance that are undertaken under the contract.

The Contractor shall at all times take reasonable and practicable Management Measures to mitigate:

1. Vibration impacts associated with Work under the Contract so as not to cause Environmental Harm and Environmental Nuisance in accordance with *Environmental Protection Act 1994* (Human comfort Vibration), and
2. Adverse impacts to structures, premises, services and buildings within or beyond the boundary of the Site as a result of Work under the Contract. (Building/Structural Vibration).

The Contractor shall document the reasonable and practicable Management Measures either in the EMP (M) where:

- a) directed by the Principal's Representative
- b) in response to a justifiable complaint caused by the Work under the Contract
- c) in the event of structural/building damage caused by the Work under the Contract, or
- d) when changes in the equipment/work method, intensity, location, duration or timing of impacts that are expected to increase vibration impacts are foreseen.

10.5.3 Monitoring

Where directed by the Principal or required by a Compliance Management Plan, the Contractor shall undertake assessment for Vibration (human comfort) and/or Vibration (structural/building) during Works under the Contract identified as having potential risk of impact.

Contract records shall include all vibration assessment results are documented, investigated and managed in accordance with the Transport Noise Management Code of Practice: Volume 2.

10.5.4 EMP (M) requirements for Vibration

If directed by the Principal's Representative to include vibration related management measures in the EMP (M) it shall include documents and/or diagrams indicating the following:

- a) The type of Vibration Sensitive Receptors and Critical Facilities, Infrastructure and Utilities potentially impacted by Works under the Contract the location in relation to Site
- b) location of significant Vibration and Air Blasting Overpressure generating Works within the Site
- c) applicable vibration criteria for assessment
- d) evaluation outcome of which Sensitive Receptors, structures and/or buildings will likely be impacted by construction Vibration and Air Blast Overpressure and from what Works
- e) vibration Management Measures and strategies to avoid or minimise Adverse Impacts of vibration (human comfort) and vibration (structural/building), and
- f) contingency plan for observed damage to structures (private, public or Departmental-owned).

10.6 Air quality

10.6.1 General

The Contractor shall be responsible for managing Work under the Contract to avoid and minimise Adverse Impacts on air quality including from dust, smoke and offensive odours and other air pollutants.

10.6.2 Performance Requirements

The Contractor shall at all times take reasonable and practicable Management Measures to minimise Adverse Impacts on air quality and avoid causing Environmental Harm and Environmental Nuisance.

Air quality complaints shall be managed in accordance with Chapter 7 of the *Road Traffic Air Quality Management Manual*.

Burning of material shall not be permitted unless approved by the Principal. If burning is permitted, the Contractor shall:

- a) obtain approval from the Administering Authority prior to burning
- b) notify adjacent landowners
- c) not burn regulated waste that shall create toxic or nuisance emissions.

The Contractor shall document the reasonable and practicable Management Measures either in a standalone the EMP (M) where:

- a) directed by the Principal's Representative
- b) in response to a justifiable complaint caused by the Work under the Contract
- c) when changes in the equipment/work method, intensity, location, duration or timing of impacts that are expected to significantly increase air quality impacts are foreseen.

10.6.3 Monitoring

The Contractor shall undertake air quality monitoring if directed by the Principal. Air quality monitoring shall be undertaken in accordance with the current Australia Standard measurement techniques.

If directed by the Principal's Representative to include air quality related management measures in the EMP (M) it shall include documents and/or diagrams indicating the following:

- a) Location of Air Quality Sensitive Receivers.
- b) List of works likely to *Adversely Impact* air quality and location of the Works on Site for example, odour from asphalt overlays, waste deposited during litter or dead animal collection, dust from excavation).
- c) Prevailing wind direction and speeds (wind rose) generally expected for the Site location (available from Bureau of Meteorology).
- d) Evaluation outcome of which air quality sensitive receivers will likely be Adversely Impacted
- e) Management Measures and strategies for minimising Adverse Impacts to air quality, Environmental Nuisance and Environmental Harm. Works that may result in air quality emissions of a substance harmful to health, shall be identified and additional specific management practices and controls prescribed.
- f) Where monitoring is requested by the Principal, air quality monitoring methodology, equipment used, frequency, duration, location of equipment and details of the person undertaking the monitoring assessment.
- g) Contingency plan for observations of emissions exceeding criteria.

10.7 Acid Sulphate Soils

The Contractor shall be responsible for the management of actual or potential acid sulphate soils within the Site. The Contractor's EMP (M) shall address the requirements of MRTS04 *General Earthworks* including the requirements concerning the management of actual and potential acid sulphate soils.

10.8 Contaminated Sites

10.8.1 General

The Contractor shall be responsible for managing Work under the Contract in order to mitigate risks of Adverse Impacts from Contaminated Sites within the Site (for example, contaminated soil, Waste dumps, unexploded ordnances) or creation of contaminated sites. In addition to the requirements in this Appendix, the Contractor shall comply with the requirements of MRTS04 *General Earthworks* Clause 11 in relation to use of or disposal of surplus and unsuitable material.

Known locations of Contaminated Sites are provided in Clause 7.2 of this Appendix. Where a DEHP-accepted Site Management Plan exists, this is identified in Annexures to Clause 7.2.

10.8.2 Performance Requirements

The Contractor shall at all times take reasonable and practicable Management Measures to manage known Contaminated Sites in order to avoid and prevent the spread of contaminants either within the Site or beyond the boundary of the Site. Management shall be in accordance with the DEHP-approved Site Management Plan where it exists. Where the Contract requires disturbance of known Contaminated Sites an assessment is required under clause 5 of this Specification. Where disposal is required off Site, a disposal permit shall be obtained by the Contractor.

If an additional Contaminated Site is identified during Work under the Contract, the Contractor shall:

- a) notify the Principal's Representative
- b) notify the DEHP in accordance with the requirements of the *Environment Protection Act 1994* (for unexploded ordnances (UXO) notify Department of Defence)
- c) prevent spread of contamination
- d) manage the Contaminated Site in accordance with statutory requirements.

The Principal may at their discretion elect to undertake the investigation and management of the Contaminated Site for the purpose of developing a Site Management Plan for implementation by the Contractor. The Contractor shall facilitate the investigation and development of the Site Management Plan where requested by the Principal's Representative.

The Contractor shall document the reasonable and practicable Management Measures either in the EMP (M) to prevent and report land contamination.

10.8.3 Monitoring

The Contractor shall undertake contaminated land monitoring if directed by the Principal and in accordance with the requirements the Principal specifies or contained with the Site Management Plan approved by DEHP.

10.8.4 EMP (M) requirements for Contaminated Sites

The EMP (M) shall include documents and/or diagrams indicating the following:

- a) location of known Contaminated Sites and known insitu contaminants
- b) Management Measures and monitoring requirements applicable to each Contaminated Site
- c) contingency plan for the event of contaminants leaving Site or being discovered on site.

10.9 Native Fauna

10.9.1 General

The Contractor shall be responsible for managing potential Adverse Impacts to native fauna, their breeding places and their habitat within the Site and adjacent to the Site.

The Contractor shall be responsible for the assessment, management and compliance of temporary Waterway Barrier Works undertaken as part of this Contract on the DAF identified Queensland Waterways for Waterway Barrier Works.

10.9.2 Performance requirements

The Contractor shall take reasonable and practicable Management Measures to avoid Environmental Harm and Environmental Nuisance and mitigate adverse impacts to native fauna, and to known habitat and breeding places. Where adverse impacts cannot be avoided, the Contractor shall comply with the provisions of both State and Commonwealth legislation pertaining to native fauna.

Where impacts to native fauna, known habitat and breeding places cannot be avoided, the Contractor shall operate in accordance with legislative requirements. The Principal has obtained an Environmental Approval for Tampering with Animal Breeding Places of Least Concern Species (SMP-low risk). Where the Works under the Contract will result in a requirement to tamper with a breeding place covered by the scope of the SMP-low risk, the Contractor shall be responsible for:

- a) Tampering with any least concern breeding places in accordance with Table 1 of the SMP-low risk including the engagement of Suitably Qualified and Experienced Person (fauna) as required.
- b) Complete the Register of Tampering with an Animal Breeding Place⁴ to record any breeding places known to have been tampered with and whether native fauna have been injured or killed. If no animal breeding places are identified "Nil" shall be entered into the register. Refer to TMR Guideline – Completing the Animal breeding place register for a Species Management Program (SMP).

Report other fauna-related Monitoring in the Monthly Environment Report, and
- c) Submit completed Register to Principal's Representative annually.

Any unauthorised death of fauna or tampering with a breeding place not in accordance with an Approval, will be reported in accordance with Clause 9 of this Appendix.

In the event that native fauna species is injured or killed on Site, the Contractor shall undertake an investigation into the Environmental Incident and determine whether the injury/death was related to Works under the Contract and whether reasonable and practicable measures were in place and determine if corrective actions are warranted to prevent a similar incident re-occurring. The Contractor shall submit the results of their investigation to the Principal. The Principal's Representative may at its discretion elect to undertake their own investigation.

Where stipulated by the Principal, the Contractor shall implement measures to facilitate the safe movement of fauna across the Site.

10.9.2.1 Waterway Barrier Works

If temporary Waterway Barrier Works are to be constructed, raised or modified as part of this Contract, the Contractor shall ensure compliance with the Department of Agricultural and Forestry's Accepted development requirements for operational works that is constructing or raising waterway barrier works (2017).

Where compliance with a Self-Assessable Code is not practicable, the Contractor is obligated to obtain an applicable Development Approval and comply with conditions.

The Contractor shall be responsible for completing and submitting notifications for all waterway barrier (permanent and temporary) works under the Contract.

⁴ <https://www.ehp.qld.gov.au/licences-permits/plants-animals/documents/fm-wl-register-animal-breeding-place.xls>

10.9.3 Monitoring

When operating under the SMP-low risk, the Contractor shall engage a Suitably Qualified and Experienced Person (Fauna) to Monitor for native fauna and breeding places when undertaking Works that are known or likely to impact animal breeding places or native fauna, and undertake pre-clearing inspections of vegetation and potential breeding places.

The Suitably Qualified and Experienced Person (fauna) inspections are to verify the absence or presence of native fauna and breeding places and where breeding places exist the absence or presence of eggs or young. The Suitably Qualified and Experienced Person shall advise the Contractor of the outcomes of the inspections and whether the SMP-low risk is applicable. Where SMP-low risk applies, the Contractor shall, based on the advice of the Suitably Qualified and Experienced Person, undertake:

- a) measures to avoid tampering with breeding places, death or injury to animals
- b) where avoidance is not possible, engage the Suitably Qualified and Experienced Person(fauna) to undertake Management Measures to relocate and preserve breeding places and animals if appropriate
- c) where avoidance and relocation not practicable, engage the Suitably Qualified and Experienced Person(fauna) to destroy breeding places and remove eggs and young for rehabilitation, and
- d) as a last resort, engage the Suitably Qualified and Experienced Person (fauna) to destroy eggs, young under an appropriate Damage Mitigation Permit.

The Contractor shall record monitoring and tampering data in the Register for tampering with animal breeding places.

10.9.4 EMP (M) requirements for native fauna

The EMP (M) shall include documents and/or diagrams indicating the following:

- a) identification of activities that are likely to impact fauna, habitat or animal breeding places and the nature of impacts
- b) identification of mapped Queensland Waterways for Waterway Barrier Works impacted by the Work under the Contract and location of any temporary Waterway Barrier Works
- c) Management Measures and strategies for native fauna, breeding places, habitat and fish passage, including details of any Suitably Qualified and Experienced Person(fauna) to be utilised for fauna management
- d) contingency plan including procedures for fauna rescue and release including treatment of fauna injured by Work under the Contract, and
- e) contact details for emergency wildlife care shall be included on the Site's emergency contact list and within the fauna management plan.

10.10 Vegetation

10.10.1 General

The Contractor shall be responsible for managing Work under the Contract in order to avoid Environmental Harm, Environmental Nuisance, mitigate Adverse Impacts on Significant Vegetation within the Site, minimise the disturbance area on Site.

Significant Vegetation known to occur within the Site and associated management requirements are stated in Clause 7 of this Appendix.

Management of vegetative waste is detailed in Clause 10.6.2 and 10.12 of this Appendix.

10.10.2 Performance Requirements

The Contractor shall take reasonable and practicable Management Measures to avoid disturbance to vegetation or ground surface outside of the clear zone.

Where the Contractor identifies the requirement for additional areas of Vegetation or ground to be disturbed outside the current clearing limit and/or clear zone, the Contractor shall submit a request to the Principal's Representative in accordance with Clause 7 of this Appendix. The Contractor will be responsible for determining whether Approval/s are required, obtaining the Approval/s and complying with conditions. Delays incurred as a result of obtaining Approvals shall be the Contractor's responsibility.

Where Significant Vegetation is, the Contractor shall comply with Principal-obtained Approvals and or conditions specified in the environmental assessment undertaken in accordance with Clause 7 of this Appendix. If the Contractor cannot comply with the Approval or conditions, the Contractor shall advise the Principal's Representative and be responsible for obtaining an alternative Approval for the relevant vegetation clearing.

Any vegetation cleared beyond the clear zone not deemed suitable by the Principal's Representative, shall be reported to the Principal's Representative as a non-conformance in accordance with the Contractor's Quality system, and Clause 9 of this Appendix. The Contractor shall provide details on the area (metre squared), the location, a description of the vegetation cleared.

Where disturbance has occurred beyond the Limits of Clearing, the Principal's Representative may at their discretion, may order the Contractor to Stop Works which pertain to the activity where the unauthorised disturbance occurred. The Principal's Representative will then promptly arrange for the Site to be inspected and the extent and impact of the additional clearing assessed. The Principal's Representative may choose to declare the area an Exclusion Zone for any period of time until the Principal's Representative is satisfied that the additional clearing has been investigated, remediated and measures have been implemented to prevent additional unauthorised clearing from reoccurring. Remediation of unauthorised cleared areas beyond the Limits of Clearing deemed suitable by the Principal's Representative will be at the Contractor's expense.

Where Works encroach on individual trees or vegetation to be retained, ground disturbance or other Works, including material stockpiling, shall not encroach within the dripline of the tree (below canopy of tree) unless otherwise deemed suitable by the Principal's Representative. For Contracts within an urban context, the Contractor shall comply with AS 4970 2009 Protection of trees on development sites for the protection of vegetation to be retained.

Clear zone clearing shall be undertaken in accordance with the departmental *Road Planning and Design Manual, Supplements to Volume 3, Part 6 Roadside Design, Safety and Barriers*.

10.10.3 Monitoring

The Contractor shall undertake monitoring if directed by the Principal and in accordance with the requirements the Principal specifies or contained with the Species Management Program approved by DEHP.

10.10.4 EMP (M) requirements for vegetation management

The EMP (M) shall include documents and/or diagrams indicating the following:

- a) method of identifying Significant Vegetation or maps
- b) management Measures and strategies to minimise the area of vegetation clearing, and
- c) where required Environmental Approval for additional clearing.

10.11 Biosecurity

10.11.1 General

The Contractor shall be responsible for managing Work under the Contract in order to mitigate the spread of Biosecurity Matters.

10.11.2 Performance requirements

The Contractor shall comply with the *Biosecurity Act 2014*. The Contractor shall undertake reasonable and practicable Management Measures to manage prohibited and restricted Biosecurity Matters (including but not limited to invasive animals and plants) within the Site by preventing their spread into the Site, within the Site and out of the Site. The Contractor shall manage movement of Biosecurity Matter carriers across biosecurity management zone boundaries as part of Work under the Contract.

The Contractor shall undertake the following:

- a) Obtain biosecurity certificates certifying that all imported topsoils and mulches are free of prohibited or restricted biosecurity matters.
- b) Ensure plant and vehicles undergo a documented cleaned down on a regular basis commensurate with the biosecurity risks:
 - i. Ensure plant and vehicles operating in biosecurity-contaminated areas undergo a thorough clean in accordance with *QDAF Clean-down* procedures prior to movement out of the Biosecurity-contaminated area.
 - ii. Clean slashers and other related machinery at least monthly.
 - iii. Develop slashing plans which minimise the spread of prohibited and restricted category 3 biosecurity matters known to exist in the Site.
- c) Where temporary clean-down bays are used, the Contractor shall document:
 - i. maintenance requirements and procedures
 - ii. management measures implemented to contain wastewater and restrict movement of Biosecurity Matters particularly to Waterways and drainage lines

- iii. management measures to contain biosecurity matter, sediments, oils and greases, and
 - iv. prevention of vehicle recontamination.
- d) Where specified, comply with the Departmental Biosecurity Instrument Permit requirements. If this is not available, or the Principal has advised it will be supplied to the Contractor in more than 150 business days the Contractor will obtain and comply with a Biosecurity Instrument Permit for applicable Work under Contract not covered by Principal's Biosecurity Instrument Permit.
- e) Where previously unidentified suspected prohibited or restricted Biosecurity Matter is identified on or adjacent to the Site, the Contractor shall isolate the infestation and implement Management Measures to prevent the spread or transmission of the Biosecurity Matter out of the identified infestation area within the Site. The Contractor shall notify the Principal's Representative and, where applicable Biosecurity Queensland, in accordance with Clause 9 of this Appendix, and
- f) ensure use of pesticides is undertaken by appropriately licenced Contractors and in accordance with the label and retain records of spray activities. Pesticides shall be registered for use on roadsides and rights of way under the Chemical Usage (Agricultural and Veterinary) Control Act 1988 and registered for treatment of weeds by the Australian Pesticides and Veterinary Medicines Authority (APVMA).

Knock-down herbicides shall be a broad spectrum, non-residual, glyphosate based herbicide that has been specifically manufactured for low aquatic toxicity. Target herbicides shall be used exclusively for the eradication of the target plant species. Insecticides shall treat target insect species infesting structure and vegetation works. Fungicides shall treat target diseases infesting vegetation works and structures.

- g) The Contractor shall prepare an Integrated Pest Management Plan to prevent the further development of resistance in state controlled road reserves. The plan will focus on chemical rotation and establishing triggers for spraying herbicides.

10.11.3 Monitoring

The Contractor shall undertake opportunistic visual monitoring of the Site for new infestations of Biosecurity Matters.

10.11.4 EMP (M) requirements for biosecurity

The EMP (M) shall include documents and/or diagrams indicating the following:

- a) Details of Biosecurity Matter risks, category and respective Management Measures.
- b) Location of applicable biosecurity management zone boundaries in relation to Work under Contract (including ancillary activities such as water source, stockpile sites, gravel sources, spoil locations).
- c) Identify movement of Biosecurity Matter carriers across biosecurity zone boundaries and Biosecurity Instrument Permit details pertaining to these movements.
- d) Management Measures for preventing the spread of Biosecurity Matters within Site and out of the Site.
- e) Measures to exclude access to known areas of Biosecurity Matter infestation such as flagging.

- f) Specific monitoring procedures for biosecurity matters (method, timing, frequency, duration, parameter to be monitored, criteria/outcome measured against).
- g) Integrated pest management Plan focusing on pesticide treatment schedule addressing method of control, chemicals, locations, timing of works, and
- h) Biosecurity Matter control operator license.

10.12 Waste

10.12.1 General

The Contractor shall be responsible for management of Wastes generated from Work under the Contract. Where illegally dumped waste and litter is discovered during the Work under the Contract, the contractor must advise the Principal's Representative who may direct the Contractor to undertake appropriate management, removal and disposal of Waste and litter.

10.12.2 Performance requirements

No Waste, including vegetative Waste, or litter shall be burnt on Site unless allowed as specified in Clause 10.6.2 of this Appendix.

Upon completion of works, the Contractor shall ensure that all Wastes have been removed from Site or otherwise lawfully disposed of on Site. No Waste shall be disposed of or buried on Site unless deemed suitable by the Principal's Representative and the Administering Authority.

The Contractor shall record Wastes generated, disposed, recycled and reused by the Work under the Contract in the Transport and Main Roads Waste Register provided in Appendix C of MRTS51 *Environmental Management* or an alternative template approved by the Principal's Representative. The Contractor shall retain copies of all documents issued in relation to Trackable Waste transportation and disposal processes. The completed Waste Management Register shall be submitted to the Principal's Representative and also emailed to projectwasteregister@tmr.qld.gov.au annually.

The EMP (M) shall include documents and/or diagrams indicating the following:

- a) waste management strategies (avoidance, reuse, recycling, energy, recovery, disposal)
- b) waste storage and containment locations
- c) the procedure for measuring and recording Waste generated, reused, recycled and disposed of under the Contract.

10.13 Chemicals and Fuels including Storage of Precoated Aggregate

10.13.1 General

The Contractor shall be responsible for the management of all chemicals and fuels within the Site so as not to cause Environmental Nuisance or Environmental Harm.

10.13.2 Performance requirements

In addition to satisfying the requirements of *Environmental Protection (Water) Policy 2009*, management of hazardous substances or dangerous goods (flammable and combustible liquid storage) shall comply with AS 1940 for large (>10,000L) storages. For other storages, the Contractor shall undertake reasonable and practicable Management Measures to avoid Environmental Harm or Environmental Nuisance and mitigate adverse Impacts associated with storage and use of fuels and chemicals as part of the Works under the Contract.

The Contractor shall ensure spill response equipment is available on the Site for use in an emergency. Spill response equipment shall be commensurate with the Site location, topographical features, type and quantity of chemicals and fuels being stored on Site and the time of year the Contract is undertaken. All Staff on Site shall be trained in the use of spill response equipment.

The Contractor shall, promptly remediate any contamination resulting from spills, leaks and Discharges to a condition similar to that existing before the contamination and to the Principal's Representative's satisfaction.

Refuelling of machinery shall conform to the following requirements:

- a) occur away from Waterways unless for tracked machinery and contingency plan Management Measures are available in the immediate area
- b) fuelling activity to be supervised at all times, and
- c) hoses to be fitted with a stop valve at the nozzle end.

Machinery shall be maintained to minimise the leakage of oil, fuel, hydraulic and other fluids. During the servicing of machinery, the Contractor shall use Management Measures to capture and contain oils, fuels, hydraulic and other fluids so as to minimise contamination of the servicing area.

Surface coating treatments will be undertaken in a manner that avoids or minimises release of chemical to the environment and contact with the public. Unless otherwise approved by the Principal's Representative no pre-coating of aggregates shall be conducted on Site.

10.13.3 EMP (M) requirements for management of chemicals and fuels

The EMP (M) shall include documents and/or diagrams indicating the following:

- a) list chemical and fuels stored on Site in volumes greater than 250L, the maximum quantity to be stored at any one time, storage location
- b) type, location, size of spill response equipment stored on site
- c) Management Measures, including containment, for avoiding contamination or Discharge to land or water from fuels and chemicals
- d) details of any approvals held in relation to fuel and chemical storage or use, and
- e) contingency plan in the event of a contamination or Discharge.

10.14 Sourcing of Construction Materials (Non-commercial and non potable sources)

10.14.1 General

Materials such as gravel and water are often sourced from non-commercial sources without existing infrastructure, management procedures and Approvals.

The sourcing of materials from non-commercial sources⁵ requires that the material source, the activity (the “take”) and any associated Site activities such as clearing vegetation, construction of access tracks potentially including waterway barriers works, be planned and managed by the Contractor to ensure operations comply with legislation, avoid causing Environmental Harm and Environmental Nuisance and mitigate associated adverse impacts.

10.14.2 Performance Requirement

Where Approvals have not been obtained by the Principal, the Contractor is responsible for identifying, assessing, obtaining Environmental Approvals for relevant material sources including water and gravel resources or sourcing from suitably commercial/licensed Suppliers. The materials supplied by the Contractor shall be from sources compliant with relevant environmental legislation and managed in accordance with Environmental Approval conditions.

Where specified in the Principal supplied Environmental Assessment (Clause 7 of this Appendix), the Approvals obtained by the Principal pertaining to the material source and activity, the Contractor shall ensure that Works under the Contract are in accordance with the conditions of the Approvals, recording and documenting compliance as required by the Approval. The Contractor shall plan and undertake Management Measures in accordance with the Approval Conditions and include in the EMP (M).

The Contractor shall maintain volumetric and photographic records of material sourced and supplied under the Contract from each source as well as other records required for compliance with Approvals. The records shall be reported in accordance with Clause 9 of this Appendix.

10.14.3 Monitoring

For construction water sources, the Contractor’s shall undertake Monitoring of the water source to ensure compliance with the *Exemption Requirements for the taking of water without entitlement (WSS/2013/666)* or other applicable Approval. This shall require Monitoring of water levels in a non-flowing source against a depth gauge or suitable alternative and recording percentage (%) of full capacity. For flowing sources, Monitoring shall be of the flow rate and whether flows cease during Works under the Contract.

10.14.4 EMP (M) requirements for Material Sourcing

The EMP (M) shall include documents and/or diagrams indicating the following:

Water Sourcing

- a) key water consumption activities under the Contract, the estimated volumes of water, the identified water source/s and proposed volume of take, legislative requirements, applicable conditions for take and whether notification to other users has been undertaken
- b) water efficiency strategies to be utilised under the Contract
- c) procedures for monitoring against requirements of any applicable Environmental Approval (exemption) (i.e. capacity level of non-flowing source).

⁵ Non-commercial sources are sources where either Principal or Contractor hold relevant approvals and material sourcing operations are undertaken by the Contractor or its sub-contractor.

Quarry Material

- a) identify non-commercial gravel, fill or sand sources, distance to Site, access track requirements, stockpile areas, associated approvals and conditions, proposed volume of take and progressive rehabilitation processes.

Activity based management plan for extraction sites.

Attachment 1 – Sites Listed on the Queensland Heritage Register

Sites Listed on the Queensland Heritage Register in Metropolitan District:

- a) Springbrook Road and Associated Infrastructure, QHR number 602140, road name, ID and chainages: Gold Coast-Springbrook Road, 104, Ch 11.5-23.2 km & Springbrook Road, 2015, Ch 0-7.5 km.
- b) Binna Burra Cultural Landscape, QHR number 601899, road name: Binna Burra Road, road ID: 2021, chainages: 8.6-11 km.
- c) Tamborine Mountain Road/Geissman Drive, QHR number: 602364, road name: Tamborine Mountain Road, road ID: 205, chainages: 4-11.6 km.

