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ENVIRONMENTAL MANAGEMENT PLAN

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Environmental Management Plan - Construction

Project Name: North Burnett Regional Council NDRRA Restoration Works- Roads Reconstruction Package
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1. ENVIRONMENTAL POLICY STATEMENT

Refer to **Appendix "L".**

2. PURPOSE OF THIS PLAN

The purpose of this EMP(C) is to provide a concise overview of environmental considerations and requirements for the following projects under the North Burnett Regional Council NDRRA Restoration Works- Roads Reconstruction Package:

- New section of Browns Road
- New section of Gayndah-Mundubbera Road
- New section of Boomerang Road
- Humphrey Binjour Road Landslip Repair

This plan has been developed to comply with specific requirements of the contract agreement and, in addition, to the Department of Main Roads Technical Standard MRTS51 Environmental Management.

This EMP(C) will outline defined processes to adhere to for environmental risks through the assessments of these risks and prevention of matters arising from the construction activities or from unforeseen project hazards. Monitoring with regular review throughout the project, (monthly meeting) is to be used to ensure that standards are maintained and continual improvement where necessary is targeted.

2.1. Commonwealth Legislation

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is the principal commonwealth environmental legislation. There are seven aspects, (named *Matters of National Significance*) which if impacted; the project will have to refer the actions to the Department of the Environment for review. The Humphrey Binjour Road Landslip Repair was sent to the Department of the Environment for approval as it involved the clearing of *Pomaderris clivicola*, which is listed as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). An approval with conditions was provided on the 9 October 2013 to remove four *Pomaderris clivicola*. : PB7 Clearing must only commence after the necessary legal requirements for the implementation of a Species Management Program(SMP) or SMP's have been met by the applicant.Prior to works commencing Probuild Civil will seek formal approval from the client confirming the endangered species permit conditions have been addressed prior to clearing. This will be implemented with a hold point in the clearing and grubbing procedure.

Table 1 outlines the seven Matters of National Environmental Significance the potential impact from the project.

Table 1 - Potential Impact On Matters of National Environmental Significance

Matter of National Environmental Significance	Potential Impact of Project
World Heritage properties	There are no World Heritage properties within the construction site.
National Heritage places	There are no National Heritage places within the construction site or which would be affected by the construction work.
Wetlands of international importance	While the Commonwealth database search did not indicate the presence of a Wetland of International Significance (RAMSAR Sites). The Department of Environment and Heritage Protection web search did not indicate the presence of any wetlands.

Vegetation / Flora Species	Browns Rd is being constructed along an existing railway corridor and will involve some clearing. Boomerang Rd is being reconstructed along an existing road so it will involve clearing for cut and fill of batter areas. Gayndah-Mundubbera Rd is being constructed adjacent to the existing road and has been substantially previously cleared, so will involve minimal clearing. Humphrey Binjour Road landslip repair will involve clearing of vegetation including the removal of conservation significant plants (e.g. four *Pomaderris clivicola* and 82 *Bertya pedicellata*).
Fauna & Migratory Species	No threatened species noted on the project.
Commonwealth marine areas	The Construction / Earthworks do not occur within any Commonwealth marine areas.
Nuclear actions	The Road Project does not involve any nuclear actions.

3. PERMITS, APPROVALS AND REGULATIONS

This EMP(C) will outline defined processes to adhere to and manage significant environmental risks through the assessments of these risks and prevention of matters arising from the construction activities or from unforeseen project hazards.

This plan is a subordinate to the following documents:

- Current legislation at Federal, State and Local levels imposes a number of obligations in relation to Probuild Civil (QLD) Pty Ltd Civil construction activities, outlined in **Table 3**; and
- Relevant Authorities with jurisdiction over the site include:
    - Department of Environment and Heritage Protection (EHP) including air, water and noise impacts and relevant pollution control legislation;
    - Department of Agriculture, Fisheries and Forestry;
    - Department of Natural Resources and Mines with respect to the Vegetation Management Act 1999;
    - Department of National Parks, Recreation, Sport and Racing
    - Department of Energy and Water Supply
    - Department of State Development, Infrastructure and Planning
    - North Burnett Regional Council; and
    - Department of Transport and Main Roads Queensland.

The following exemptions can be used for works:

- Protected plant exemption under section 89 of the Nature Conservation Act 1992 and section 41 (1)(a)(ii) of the Nature Conservation (Protected Plants) Conservation Plan 2000 (5/13)
- Species Management Program for tampering with animal breeding places under section 88 of the Nature Conservation Act 1992 and Section 332 of the nature Conservation (Wildlife Management) Regulations 2006 (5/13)
- Riverine Protection Permit Exemption Requirements (Department of Natural Resources & Mines (DNRM) 2013)

In regards to the exemption for undertaking activities in water course, lake or spring, the specific conditions are outlined in **Table 2** below:

A Clearing Permit (Protected Plants) Permit (permit number WICL13063413), under the *Nature Conservation Act 1992* (QLD) has been issued by the Department of Environment and Heritage Protection (DEHP) for the removal of four *Bertya pedicellata* and 82 *Pomaderris clivicola*. The conditions are outlined in Table 2.

An approval (reference EPBC 2013/6893) under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) is in place to clear four (4) *Pomaderris clivicola* plants from edge of the road reserve on the cut face. The location of these plants permitted to be removed under the approvals is indicated in Appendix A of the ***Road Realignment Design Report*** (Arup 2013). The conditions are outlined in Table 2.

Other environmental approvals may be required to carry out the works (dependent on final construction methodology), including but not limited to, vegetation removal outside the road reserve for construction purposes DONE UNDER PROTECTED PLANT EXEMPTION, water extraction permits under the *Water Act 2000* DONE UNDER PROTOCOL, environmentally relevant activities (eg. gravel extraction & screening (ie. borrow pits), concrete batching etc) under the *Environmental*

Protection Act 1994. Probuild Civil is responsible for any additional licenses, permits or approvals identified during construction.

A Preliminary Construction EMP (CEMP) has been prepared for the Humphery Binjour Road works by ARUP (4 October 2013. This preliminary CEMP contains in section 5 Environmental Operating Procedures covering:

- EPO 1: Soil and Water Management
- EPO 2: Vegetation and Weeds
- EPO 3: Native Fauna
- EPO 4: Noise and Vibration
- EPO 5: Air Quality
- EPO 6: Contaminated Land
- EPO 7: Cultural Heritage
- EPO 8: Waste Management
- EPO 9: Sustainability and Green House Gas Management

These Environmental Operating Procedures will be considered in managing the risks and issues in the project.
Construction water will be obtained under the Protocol-Authorised taking of water without a water entitlement. The conditions are outlined in Table 2.

Table 2 - Environmental Exemption/Approval Conditions

Activity	Exemption/Approval Conditions
Riverine Protection Permit Exemption Requirements (DNRM 2013)	
Minimum Requirements	The minimum requirements outlined below must be achieved to be eligible for an exemption from having to apply for and obtain a riverine protection permit: • The extent of the area required to carry out the permitted activity must be limited to the minimum area necessary to reasonably carry out the works. • Sediment and erosion controls must be used. • All areas of disturbed bed and banks must be stabilised to protect against erosion. • All fill placed must be free from contamination (e.g. weeds seeds, oils, chemicals and other contaminants). • Disturbed banks must be returned to a profile similar to the pre-disturbance condition. • Natural stream bed controls or features that create natural waterholes (e.g. riffles, logs, sediment or rock bars) must not be lowered or removed. • Any excavated material that is not removed as waste must be spread evenly within the bed and banks of the watercourse so that it does not interfere with the flow of water. • All fill placed in the bed of the stream must not redirect flow into an adjacent bank. • Access tracks or crossings must not interfere with the low flow of water. • The invert of culverts or the deck height of a splash through crossing must be placed at or below bed level. • All culverts placed within the watercourse must be orientated in line with the stream channel, and placed as close to the centre of the watercourse channel as practical. • All culverts placed within the watercourse must be of a sufficient size to ensure uninterrupted low flows and minimise the occurrence of blockage of culverts caused by flood-borne debris. • Constructed access tracks (e.g. culverts or splash through crossings) must be provided with a scour apron and cut off wall on the downstream side sufficient to prevent bed erosion. • All disturbed areas must be revegetated with trees, shrub and grasses endemic to the area, sufficient to re-establish a riparian environment and protect bed and banks from erosion.
Protected plant exemption under section 89 of the Nature Conservation Act 1992 and section 41 (1)(a)(ii) of the Nature Conservation Act (Protected Plants) Conservation Plan 2000 (5/13)	
	This approval is for taking a protected plant in the course of an activity under a roads implementation program approved under Section 11 of the *Transport Infrastructure Act 1994* by the Chief Executive, Department of Environment and Resource Management (DERM) (May 2013).

Activity	Exemption/Approval Conditions
Protected Plants	CL 5.1.3 Slashing or trimming of all classes of protected plants not to result in the death of the plant. CL 5.1.11 Make all reasonable and practicable effort to salvage or utilise in replanting, least concern type A restricted plants in revegetation projects CL 5.1.12 Employ suitably qualified persons to undertake prior ecological assessment of activities. Where assessment identifies that whole rare, near threatened and vulnerable and endangered plants are to be taken, relevant clearing permits must be sought (contractor to seek permit where such plants are encountered during works and they have not been encountered during the prior ecological assessment). CL 5.1.14 In the event that taking of whole least concern protected plants within Essential Habitat cannot be reasonable avoided, authority must be obtained from DERM for that taking (Contractor to seek permit where such plants are encountered during works and they have not been encountered during the prior ecological assessment). CL 7.1.1 The Contractor, other than an authorised person, must not take a protected plant that is in the wild other than under: a) A conservation plan applicable to the plant; or b) A licence, permit or other authority issued or given under a regulation; or c) An exemption under a regulation CL 7.1.2 The Contractor must not take a protected plant other than in a way that minimises: a) damage to the soil; or b) for the taking of i. a whole plant – damage or injury to other wildlife; or ii. a plant part – damage of injury to wildlife.
Species Management Program for tampering with animal breeding places under section 88 of the Nature Conservation Act 1992 and Section 332 of the nature Conservation (Wildlife Management) Regulations 2006 (5/13)	
General Conditions	Species management program for tampering with animal breeding places under Section 88 of the Nature Conservation Act 1992 and Section 332 of the Nature Conservation (Wildlife Management) Regulation 2006 (May 2013). CL 5.2.1 Apply species management principles to all activities of construction. CL 5.2.2 Apply species management principles to maintenance of road infrastructure. CL 5.2.8 Prior consultation with DERM for interfering with breeding places for relevant animals (Contractor to consult DERM where such animals are encountered during works and they have not been encountered during the prior ecological assessment). CL 5.2.9 Where there is a likely presence of species listed in 5.2.8 relevant regional DERM office must be notified. CL 5.2.10 Where tampering with a known breeding place would also take protected wildlife, must attempt to enlist the assistance of a licensed spotter-catcher and/or carer. CL 5.2.11 Suitably licensed and experience person must be engaged where employment of spotter-catcher is not possible or practical. CL 6.03 Removal and relocation of nests must be undertaken by suitably qualified and experienced persons. CL 6.04 Provide the necessary support to allow for next removal such as a substitute platform. CL 6.05 Wherever possible retain large mature trees on road corridor. CL 6.06 Enlist a suitably qualified and licensed wildlife carer to incubate all eggs removed and/or to raise young animals where required. CL 7.2.1 The Contractor must not take, keep or use a protected animal other than under some form of authorisation, such as a licence or permit or under a conservation plan. CL 7.2.2 The Contractor must not tamper, without a reasonable excuse, an animal breeding place that is being used by a protected animal.
A Clearing Permit (Protected Plants) Permit (permit number WICL13063413), under the Nature Conservation Act 1992 (QLD), issued by the Department of Environment and Heritage Protection	

Activity	Exemption/Approval Conditions
	For the removal of four *Bertya pedicellata* and 82 *Pomaderris clivicola.* Conditions of Approval Agency Interest: General PG1 Activities relevant to the clearing, including impact avoidance, underthis permit must be in accordance with the procedures and actions outlined in the following documents, except where conditions on this permit indicate otherwise: - Applicationform, clearing permit (protected plants), signed by Matt Davis of ARUP on 06/06/2013. - North BurnettRegional Council "Humphrey-Binjourlandslip remediation - Clearing Permit (Protected Plants) Supporting information" CPPP/222124N001,final issue, revision 2 - 25 June 2013. PG2 A Return of Operations form must be sent to the Department of Environment and Heritage Protection (EHP)within 28 days after, either the clearing is completed, or the permit ceases to have effect, whichever is the sooner; and you must keep a copy for your records. If the Return of Operations on the approved form is not submitted a penalty may be given. The approved form should be downloadedvia the following website link: http://www.ehp.qld.gov.au/licencespermits/plants-animals/return__of_operations.html PG3 Financial assurance as required by the Queensland Biodiversity Offsets Policy must be provided in the form of an unconditional bank guarantee to be lodged by the permit holder with an offset broker within 40 business days of this permit being granted. PG4 The permit holder must after receiving the Federal Government's decision regarding a controlled action for the clearing of Pomaderrisclivicola providethis decision to EHP. PG5 The permit holder must ensure that the offset site is legally secured within 8 months from the permit start date. PG6 This permit does not exempt the permit holder from obtaining other approvals relevant to the clearing of vegetation at the site. Agency Interest: Biodiversity PB1 An offset plan must be developed by the permit holderand provided to EHP for assessment within 3 months of the permit start date. The offset plan must identify an offset site in State forest on the Binjour plateau in consultation with the Department of National Parks, Recreation, Sport and Racing (Maryborough office) and the Queensland Herbarium. Clearing can only commence after the offset plan has been approved by EHP. The development of an offset plan should be in accordance with the "Guidelines for the Translocation of Threatened Species in Australia" (Vallee et al., 2004). PB2 Pomaderris clivicolaand Bertya pedicellatamust predominantlybe propagated from vegetative stock. Pomaderris clivicola must be propagated from all 34 plants; therefore at least 34 plants must be established at the offset site to ensure the best conservation outcome for the endangered species. PB3 To ensure genetic integrity, all plants must be propagated from stock of local provenance. This permit authorises vegetative material to be collected in accordance with "The Code of Practice for the take and use of protected plants", to the extent that the offset relating to this permit can be met. PB4 The propagation of Pomaderris clivicola and Bertya pedicellata from vegetative stock must be undertaken by a suitably qualified person, experienced in horticultural techniques to achieve the desired outcomes. This action must be undertaken as soon as possible after the start date of this permit. PB5 Clearing under this permit must only commence after it is demonstratedthat the required number of Pomaderris clivicola and Bertya pedicellata have been successfully propagated. PB6 Prior to commencing vegetation clearing the entire development site must be inspected by a suitably qualified professional for the presence of animal breeding places. Any handling of wildlife Department of Environment and Heritage Protection Clearing Permit WICL13063413 must be undertaken by a licenced spotter catcher and the latter should be on site during the clearing operation. PB7 Clearing must only commence after the necessary legal requirements for the implementation of a Species Management Programme (SMP) or SMP's have been met by the applicant. PB8 Reports on the success of the offset measures must be provided at least 6-monthlyfor the first year and thereafter annually to EHP until offsets have been achieved to the satisfaction of EHP and financial assurance is released. PB9 Clearing authorised under this permit shall be conducted in a sequential manner to allow fauna to disperse into adjacent areas and to minimise damage to surrounding vegetation. PB10 Plants of Pomaderris clivicola and Bertya pedicellata that are adjacent to the development Footprint must be clearly demarcated and all contractors must be informed of this demarcation to protect these plants from accidental clearing.
An approval (reference EPBC 2013/6893) under the Environment Protection and Biodiversity Conservation Act 1999 (Cth), issued by the Deapartment of the Environment	

Activity	Exemption/Approval Conditions
	Approval to clear four (4) Pomaderris clivicola plants from edge of the road reserve on the cut face. The location of these plants permitted to be removed under the approvals is indicated in Appendix A of the Road Realignment Design Report (Arup 2013). **Conditions attached to the approval** 1. To compensate for significant residual impacts to Pomaderris clivicola, the person taking the action must establish 34 Pomaderris clivicola plants at the offset site (hereinafter referred to as the 'new population'). a. The new population must be vegetatively propagated from all 34 Pomaderris clivicola plants at the subject site (identified in the figure at Annexure A). b. All vegetative material required to be collected in order to adhere to this condition must be collected before commencement of the action. c. The establishment and management of the new population must be undertaken in accordance with the Offset Management Plan. 2. Within 10 days after the commencement of the action, the person taking the action must advise the Department in writing of the actual date of commencement. 3. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the Offset Management Plan, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media. 4. Within 3 (three) months of every 12 month anniversary of the commencement of the action, for the life of the approval, the person taking the action must publish a report on their website addressing compliance with the conditions of this approval over the previous 12 months, including implementation of the Offset Management Plan. Non-compliance with any of the conditions of this approval must be reported to the Department within 2 (two) business days of becoming aware. 5. Upon the direction of the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister. 6. If the person taking the action wishes to carry out any activity otherwise than in accordance with the Offset Management Plan as specified in the conditions, the person taking the action must submit to the Department for the Minister's written approval a revised version of that management plan. The varied activity shall not commence until the Minister has approved the varied management plan, in writing. The Minister will not approve a varied management plan unless the revised management plan would result in an equivalent or improved environmental outcome over time. If the Minister approves the revised management plan, that management plan must be implemented in place of the management plan specified in the conditions. 7. If the Minister believes that it is necessary or convenient for the better protection of Pomaderris clivicola to do so, the Minister may request that the person taking the action make specified revisions to management plan specified in the conditions and submit the revised management plan for the Minister's written approval. The person taking the action must comply with any such request. The revised approved management plan must be implemented. Unless the Minister has approved the revised management plan then the person taking the action must continue to implement the management plan specified in the conditions. 8. Unless otherwise agreed to in writing by the Minister, the person taking the action must publish all management plans referred to in these conditions of approval on their website. Each management plan must be published on the website within 1 (one) month of being approved for the life of the approval.
Protocol-Authorised taking of water without a water entitlement	

Activity	Exemption/Approval Conditions
	Notification The constructing authority must notify the chief executive, in writing, 10 business days, (or a shorter period approved by the Chief Executive) before taking any water under section 20C(3) of the Water Act. The notification must include the: • name of the constructing authority and contact details of the responsible person • purpose for which the water will be taken • name(s) of the water source(s) from which the water is intended to be taken including a river, creek, lake, spring or aquifer • location(s) from where the water is intended to be taken, including latitudinal and longitudinal coordinates, and adjacent lot on plan details • proposed commencement and completion dates • anticipated volume of water to be taken • written permission from the relevant interim resource operations licence, resource operations licence or distribution operations licence holders, if the water is to be taken from within a water supply scheme area. This information should be provided using the specified template. **Recording the take of water** The constructing authority must record details of the water taken. For each take of water, the minimum information that must be recorded includes: • the date(s) the water was taken • the time the take commenced and ceased • the purpose for which the water was taken • the source of water (e.g. the name of the watercourse, lake, spring or aquifer) • the location(s) from where the water was taken, including latitudinal and longitudinal coordinates, and adjacent lot on plan details • the volume of water taken on each occasion • any identified impacts on the environment and measures to remedy such impacts • any concerns or issues raised by other water users and arrangements put in place to address these. A constructing authority taking water from a non-flowing waterhole or lake must also record: • the estimated depth of the waterhole at full supply level • the calculated depth of the waterhole at 75 per cent of full supply level (see Attachment 2) • the estimated depth of the waterhole or lake at the commencement of the take of water • the estimated depth of the waterhole or lake at the cessation of the take of water. The constructing authority must keep records of water taken under the authorisation for each location from which water has been taken for a period of two years from commencement of the take of water. **Minimal requirements** The minimum requirements outlined below must be achieved for this protocol to apply: 1. The take of water from the following sources is prohibited: i. springs within the Water Resource (Great Artesian Basin) Plan 2006 ii. artesian water, unless taken through an existing lawfully constructed artesian bore. 2. The constructing authority must provide notification to the chief executive. 3. The constructing authority must record details of the take of water. 4. If water is taken within a water supply scheme area managed under an interim resource operations licence (IROL), resource operations licence (ROL) or distribution operations licence (DOL) holder, prior written approval to take the water is required from the licensee. 5. If there is a flow in the watercourse – take of water from a watercourse must stop if the take causes the flow immediately downstream of the point of take to cease. 6. If there is no flow in the watercourse – the take of water is from a waterhole or a lake during periods of 'no flow' must not reduce the depth of the waterhole or lake to (whichever is the greater): i. Less than 0.5 metres ii. Less than 75 per cent of its full supply level (see Attachment 2).

Table 3 - Legislation Summary

Issue	Legislation
Soil	• Environmental Protection Act 1994 • Soil Conservation Act 1986
Water quality / use	• Environmental Protection Act 1994 • Environmental Protection (Water) Policy 2009 • Water Act 2000

Flora and Fauna	• Environmental Protection Act 1994 • Environmental Protection and Biodiversity Conservation Act 1999 (Cth) • Nature Conservation Act 1992 • Vegetation Management Act 1999 • Forestry Act 1959 • Fisheries Act 1994 • Land Protection (Pest and Stock Route Management) Act 2002
Noise	• Environmental Protection Act 1994 • Environmental Protection (Noise) Policy 2008
Air quality	• Environmental Protection Act 1994 • Environmental Protection (Air) Policy 2008
Cultural heritage	• Aboriginal Cultural Heritage Act 2003 • Queensland Heritage Act 1992
Waste	• Waste Reduction and Recycling Act 2011 • Environmental Protection (Waste Management) Regulation 2000
Planning	• Sustainable Planning Act 2009 (SPA) • Environmental Protection (Greentape Reduction) and Other Legislation Amendment Act 2012

Table 4 outlines the relevant environmental guidelines and policies which have been used in the development of management strategies for the EMP(C).

Table 4 - Relevant Guidelines and Policies Summary

Issue	Relevant Guidelines and Policies
Soil/Contaminated Land/Erosion and Sediment Control	• The IECA Best Practice Erosion and Sediment Control IECA Australasia November 2008 • Sunshine Coast Regional Council Erosion and Sediment Control Manual at: http://www.sunshinecoast.qld.gov.au/sitePage.cfm?code=erosion-sediment-manual • DERM Urban Stormwater Quality Planning Guidelines at: http://www.ehp.qld.gov.au/water/policy/urban_stormwater_planning_guidelines.html • Soil Erosion and Sediment Control – Engineering Guidelines for Queensland Construction Site – IE Australia 1996; • State Planning Policy 2/02 – Planning and Managing Development Involving Acid Sulphate Soils (QLD) • State Planning Policy 2/02 Guideline – Acid Sulphate Soils (QLD) • Guidelines for Sampling and Analysis of Lowland Acid Sulphate Soils in Queensland 1998 • Queensland Acid Sulfate Soil Technical Manual – Soil Management Guidelines, SE Dear, NG Moore, SK Dobos, KM Watling and CR Ahern, Department of Natural Resources and Mines, Indooroopilly, Queensland, Australia, Version 3.8, November 2002 • Guideline for contaminated land professionals, Department of Environment and Heritage Protection, Queensland Government 2012 at http://www.ehp.qld.gov.au/licences-permits/contaminated-land/guidelines_and_information_sheets.html • National Environment Protection (Assessment of Site Contamination) Measure 1999 (amended 2013) at: http://www.comlaw.gov.au/Details/F2013C00288/Download
Water quality / use and watercourse	• Monitoring and Sampling Manual 2009 Environmental Protection (Water) Policy 2009 Version 2 September 2010 (July 2013 format edits) DEHP • WMO010: Water Monitoring Data Collection Standards (Version 2.1) March 2007 Department of Natural Resources and Water (QLD) • Australian and New Zealand Water Quality Guidelines for Fresh and Marine

Issue	Relevant Guidelines and Policies
	Waters, ANZECC 2000 (including separate amendments) • AS 2031-2012 - Water quality - Sampling for microbiological analysis • APHA/AWWA/WEF Standard Methods for the examination of water and wastewater 22nd Edition, January 2012 • Road Drainage Manual Department of Transport and Main Roads (TMR) 2nd Edition, March 2010 • Protocol for Authorised taking of water without a water entitlement (WAP/2011/4768) at: http://www.nrm.qld.gov.au/about/policy/documents/4768/wap_2011_4768.pdf • Guidelines – Application for Permit to take water DERM version 5, 2006 at: www.nrm.qld.gov.au/water/management/pdf/w2g007-permit-water.pdf • Application for Permit to Take Water (Form W2F007-V5 DERM 2007) at: http://www.nrm.qld.gov.au/water/management/pdf/w2f007-permit-water.pdf • Riverine protection permit exemption requirements (DNR&M 2013) http://www.nrm.qld.gov.au/water/management/pdf/rpp-exemption.pdf • Best practice principles for activities in a watercourse at http://www.nrm.qld.gov.au/water/management/rpp-best-practice.html
Noise / Vibration	• TMR Road Traffic Noise Management Code of Practice 2007 • Noise Measurement Manual May 2013 DEHP link to fulltext at:[1] • AS1055.1-1997 – Acoustics – description and measurement of environmental noise – General procedures • AS2436-2010 - Guide to noise and vibration control on construction, demolition and maintenance sites • AS/NZS 1269 Set:2005 Occupational Noise Management Set of five standards such as AS/NZS 1269.2:2005 Occupational noise management - Noise control management • AS IEC 61672.1-2004 Electroacoustics - Sound level meters - Specifications • AS IEC 61672.2-2004 Electroacoustics - Sound level meters - Pattern evaluation tests • AS2659.2-1983 Guide to the Use of Sound Measuring Equipment Part 2-Portable Equipment for Integration of Sound Signals • AS2702-1984 – Acoustics – methods for the measurement of road traffic noise • ISO 5349-1:2001 Mechanical vibration -- Measurement and evaluation of human exposure to hand-transmitted vibration -- Part 1: General requirements • ISO 5349-2:2001 Mechanical vibration -- Measurement and evaluation of human exposure to hand-transmitted vibration -- Part 2: Practical guidance for measurement at the workplace
Air quality	• EPA Air Quality Sampling Sampling Manual 1997 link to fulltext at: [2] • AS/NZS 3580.1.1:2007 Methods for sampling and analysis of ambient air - Guide to siting air monitoring equipment • AS/NZS 3580.10.1:2003 Methods for sampling and analysis of ambient air - Determination of particulate matter - Deposited matter - Gravimetric method
Waste	• Queensland's waste reduction and recycling strategy 2010-2020, Waste Reform Unit, Dept. of Environment and Resource Management (2010)
Other	• Environmental Processes Manual – Technical Manual (DTMR August 2013) at http://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Environmental-processes-manual.aspx • Technical guideline - Licensing - Wastewater release to Queensland waters Version 1 DEHP • Riverine protection permit exemption requirements, Department of Natural Resources and Mines 2013 at http://www.nrm.qld.gov.au/water/management/pdf/rpp-exemption.pdf

Table 5 outlined any potential environmental approval and permits that may be required for the project.

Table 5 - Approvals, Permits and Exemptions (with conditions)

Act	Approvals Required	Administering Authority	Comment
Federal Legislation			
Environmental Protection and Biodiversity Act 1999	Referral	Department of the Environment	Approval with conditions provided for project
Native Title Act 1993	Provides native title claim process and identified areas where native title is extinguished	National Native Title Tribunal	Not required for current scope of works.
State Legislation			
Agricultural Chemicals Distribution Control Act 1966	Licence required for certain weed sprays	Department of Primary Industries and Fisheries	Not required for current scope of works.
Chemical Usage (Agricultural and Veterinary Control) Act 1998	Deals with the requirements for use and disposal of chemicals	Department of Agriculture, Fisheries and Forestry (DAFF)	Not required for current scope of works.
Sustainable Planning Act 2009	Development Permits	Dependent on activity	Exemption as community infrastructure activity
Environmental Protection Act 1994	Licence required for Environmental Relevant Activities (ERAs)	Dept. of Environment and Heritage	Not required for current scope of works.
	Permit to remove contaminated soils	EHP	Not required for current scope of works.
Environmental Protection (Waste Management) Regulation 2000	Discussion minimising impacts from waste and defines how certain waste types are to be stored, removed, transported, disposed and/or treated including some waste defined as controlled or trackable	EHP	Required for project
Nature Conservation Act 1992, Nature Conservation (Protected Plants) Conservation Plan 2000, Nature Conservation (Wildlife Management) Regulation 2006	Licence required to take, keep or use protected animals and plants (i.e. all native) outside of National Park	EHP	Clearing permit with conditions provided for project.
	Permit required to take protected plant or TMR's Protected Plant Exemption (May 2013)	EHP	Protected Plant Exemption to be used for project. Clearing permit with conditions provided for project.

	Permit to tamper with animal breeding place or TMR's Species management program for tampering with animal breeding places (May 2013)	EHP	Species management program for tampering with animal breeding places to be used for project
Fisheries Act 1994	Water barrier permit required for construction or raising of waterway barrier works including temporary and permanent waterway barriers including weirs, dams, culverts and causeways	DAFF	Not required for current scope of works.
	Self-assessable codes for temporary, minor and regularly rebuilt waterway barrier works (need prior resource allocation authority)	DAFF	Not required for current scope of works.
	Self-assessable codes or approval required to disturb marine plants including mangroves	DAFF	Not required for current scope of works.
	Self-assessable codes or approval required for building or operational works in a declared Fish Habitat Area	DAFF	Not required for current scope of works.
Water Act 2000	Permit required to take fresh water or Protocol-Authorised taking of water without a water entitlement	EHP	Protocol to be used for project
	Riverine protection permit required to destroy riparian vegetation and/or placing fill or excavating within a watercourse or Riverine protection permit exemption requirements	EHP	Riverine protection permit exemption requirements (DNRM, 2013)
	Permit to take, get, remove or otherwise interfere with quarry material in or from a watercourse	EHP	Not required for current scope of works
		DNR&M	
Vegetation Management Act 1999	Permit to remove vegetation	DNR&M	Exemption granted under Principal as works are essential management
Native Title (Queensland) Act 1993	Notification of proposed works and to ensure that Queensland law is	DNR&M	Not required for current scope of works
Plant Protection Act 1989	Requirements for an Approved Risk Management Plan and/or restrictions and requirements apply to Fire Ants	DAFF	Not required for current scope of works
Queensland Heritage Act 1992	Requirements to give notice about discovery of archaeological artefact (follow procedure of find, stop, notify and manage) and protect and manage listed items	EHP	Not required for current scope of works

Aboriginal Cultural Heritage Act 2003, Torres Strait Cultural Heritage Act 2003	Aboriginal Cultural Heritage Duty of Care Guidelines and provides effective recognition, protection and conservation of Aboriginal cultural heritage	Department of Aboriginal and Torres Strait Islander and Multicultural Affairs	Notification and assessment required for project, Category 5 under Duty of Care Guidelines
Local Legislation			
Building (Flammable and Combustible Liquids) Reg.1994	Licence required to store flammable and/or combustible liquids	Local Government	Not required for current scope of works.

The approvals, permits (including licences) and exemptions will also be noted as part of the scheduling for the project on the Performance and Compliance Calendar.

All copies of relevant environmental permits, licences and exemptions (with conditions) will be kept on site.

4. CONTACT DETAILS

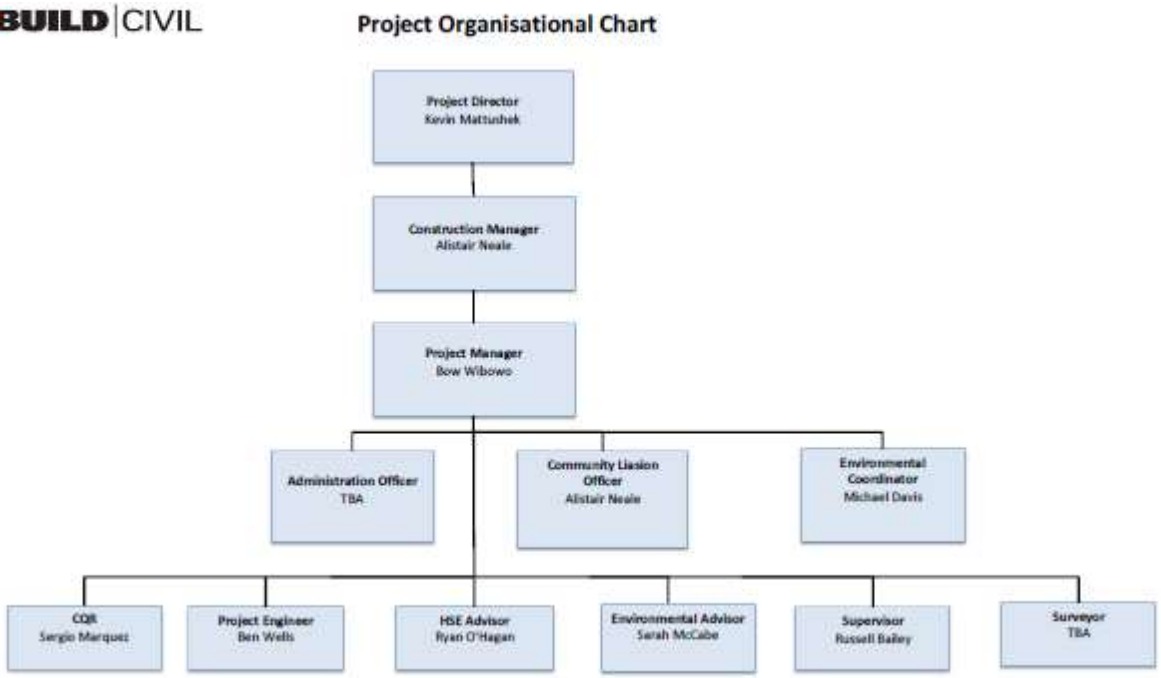
Client/Principal	:	North Burnett Regional Council
Address	:	34-36 Capper St Gayndah QLD 4625
Contact person	:	Mark Pitt
Telephone No	:	1300 696 272
Fax No	:	07 4161 1425
Email address	:	admin@northburnett.qld.gov.au
Superintendent	:	Michael Guthridge
Address	:	7/55 Main St Pialba QLD 4655
Telephone No.	:	07 4957 5080
Fax Number	:	07 4951 1070
Email address	:	michael.guthridge@cardno.com.au
Principal Contractor	:	Probuild Civil (QLD) Pty Ltd
Address	:	40 Thompson Street, Bowen Hills, Qld, 4010
Contact person	:	Alistair Neale
Telephone No	:	0403 183 576
Fax No	:	07 3854 1518
Email address	:	aneale@probuildcivil.com.au

5. KEY PERSONNEL

Project Director	-	Kevin Mattushek	Tel: 0437 343 073
Construction Manager	-	Alistair Neale	Tel: 0403 183 576
Project Manager	-	Bow Wibowo	Tel: 0488 667 739
Project Engineer	-	Ben Wells	Tel: 0488 456 177
Foreman	-	Russell Bailey	Tel: 0418 924 142
CQR	-	Sergio Marquez	Tel: 0448 183 001
Surveyor	-	TBA	Tel:
Company Environmental Manager	-	Les Reimers	Tel: 0428 112 036
Environmental Coordinator	-	Michael Davis	Tel: 0428 112 931
Environmental Advisor	-	Sarah McCabe	Tel: 0400 471 331
Site Environmental Rep Representative	-	Ryan O'Hagan	Tel: 0417 229 884
ERT & First Aid Officer	-	Russell Bailey	Tel: 0418 924 142
WHSA	-	Ryan O'Hagan	Tel: 0417 229 884

6. PROJECT ORGANISATIONAL CHART

PROBUILD | CIVIL



7. RISK ASSESSMENT OF TYPICAL ACTIVITIES

RISK SCORE / RANK CALCULATOR

Identification 'Context' Category	Calculator

Table 6 - Consequence AS/NZS ISO 31000, Adaptation

	Descriptor	Description - Consequence
1	Insignificant	No medical treatment of injuries, ($<5,000) loss , Minor effects on Environment, minor non-conformance
2	Minor	First aid treatment, on-site release immediately contained, >$5,000 <$100,000 loss. Short term effect on Environment
3	Moderate	Medical treatment required, on-site release contained with outside assistance, >$100,000 <$1 million. Serious harm to Environment,
4	Major	Serious injuries / death, loss of production capability, off-site release, >$ 1 million <$10 Million Very serious effect on the Environment,
5	Catastrophic	Multiple Death, Toxic release off-site with very serious detrimental effect, >$10 Million. Significant Litigation including Class Action,

Legend

1-8 Extreme risk; immediate action required and notification to supervisor/s
9-16 High risk; senior management attention needed
17- 20 Moderate risk; management responsibility must be specified
21 -25 Low risk; manage by routine procedures

Any score of 1-8 (Extreme) should be notified to your supervisor ASAP and some sort of immediate control put in place. Remember the lower the **likelihood** the higher the **consequence.**

	AS/NZS 4360:2004				
	Insignificant	Minor	Moderate	Major	Catastrophic
LIKELIHOOD	**CONSEQUENCE**				
A (Almost certain)	15	10	6	3	1
B (Likely)	19	14	9	5	2
C (Possible)	22	18	13	8	4
D (Unlikely)	24	21	17	12	7
E (Rare)	25	23	20	16	11

How to use the risk calculator: Choose likelihood then run your finger across horizontally from that point and then choose a consequence from the top list. The score or rank is the block your finger is in at that point.

Table 7 - AS/NZS ISO 31000, Adaptation

	Descriptor	Description- LIKELIHOOD
A	Almost certain	Is expected to occur in most circumstances. Can be expected to occur in the / a Project. 1 in 1 Year
B	Likely	Probably occur in most circumstances, 1 in 3 Years
C	Possible	Might occur at some time, 1 in 10 Years
D	Unlikely	Could occur at some time, 1 in 100 Years
E	Rare	May occur only in exceptional circumstances, 1 in 1000 Years or greater

RISK ASSESSMENT PROCESS

Establish the Context	If dust is it in the context of harm to humans or machines, if humans is it visibility or lungs
Identify the Hazard	What is the hazard (potential to cause harm) and hazard event (incident)
Analyse and Assess	Analyse; data; statistics, incident and accidents and assess; accept the risk or not.
Select the Controls	Choose from the hierarchy of controls the best treatment of the risk. In order of 1 to 5.
Implement the Controls	Make an action plan that will cause the controls to be put in place within the time frames set
Monitor and Review	Loop any accidents and incidents back to risk assessment so that you can see if there are any. Accidents and incidents happening since you conducted the risk assessment. Conduct an inspection the item risk assessed. Have the risk assessment put into an audit program.

Hierarchy of Controls, (Risk Treatment Steps)

1. ELIMINATE- Can the hazard be eliminated? You may choose to buy a finished product from others.
2. SUBSTITUTE - Is there another product, process, substance that can be used which is not as hazardous?
3. ENGINEER OUT - Can the hazard be, isolated, contained and/or limited?
4. ADMINISTRATE - Can people be rostered on the job, to minimise the exposure time – 2 people, each work 4 hours on the job.
5. PERSONAL PROTECTIVE EQUIPMENT - What is the best PPE to minimise the risks involved?

Australian Law and Standards require that PPE is the last resort to be used in protecting people. This combined with the fact that the Laws state that you must try to **eliminate hazards** is a two-fold reason for not choosing PPE first up. For Queensland, the Laws which cover the workplace are the Work Health and Safety Act 2011 and Regulations 2011 as amended.

Remember that risk is a seesaw, the higher the probability, the lower the consequence and visa versa. This is always the case.

Table 8 outlines which environmental impacts are covered in the EMP(C).

Table 8 - Checklist of Environment Impacts

Ref	Pollutant/Hazard	Project Risk Score	Included in Contract Document EMP	Incl. in EMP(C)
1	Noise e.g. exhaust	L	Y	Y
2	Vibration e.g. compaction	L	Y	Y
3	Dust e.g. on roads	L	Y	Y
4	Damage to adjacent structures	L	Y	Y
5	Damage / Contamination to roads e.g. truck traffic	L	Y	Y
6	Fuel & Servicing	L	Y	Y
7	Chemical Hazard e.g. curing compound	L	Y	Y
8	Physical hazard (e.g. flooding potential)	M	Y	Y
9	Acid Sulphate Soils – PASS or ASS	NA	N	N
10	Groundwater discharge	L	Y	Y
11	Water runoff	M	Y	Y
12	Damage to flora and fauna	M	Y	Y
13	Wildfire risk management	L	Y	Y
14	Exposure of existing pollution hazard	NA	N	N
15	Fire Ant Management	N/A	N	N
16	Waterway turbidity	M	Y	Y
17	Site registered on EMR or CLR	NA	N	N
18	Management of waste products	M	Y	Y
19	Weed Control	M	Y	Y
20	Cultural Heritage (potential or probability of finding)	L	Y	Y

8. SPECIFIC MANAGEMENT REQUIREMENTS

Environmental responsibilities of the supervisory staff on site can be outlined as follows:

It must be noted that all staff have an environmental duty and a duty to notify the relevant Authorities of any Environmental incidents classed as Material Environmental Harm and Serious Environment Harm (as outlined in the Environmental Protection Act 1994).

Project Manager (PM) – Bow Wibowo

- Compile statistics of NCR's, incidents, etc.;
- Co-ordinate and maintain training in environmental matters;
- Assemble information for presentation at the monthly (or other interval) management meetings;
- Ensure that the Project Manager discharges his duties as defined in EMSM;
- Ensure perceived breaches of legislation are reported;
- Ensure environmental checks occur at intervals as specified in EMSM;
- Undertake duties relevant to being a member of the CMT (Construction Management Team);
- Draw up EMP(C) as per guidelines in EMSM;
- Monitor aspects highlighted by the EMP(C);
- Liaise with the client or his representative on matters relating to the environmental management on a project;

- Maintain project statistics (NCR's, monitoring, etc.) and submit them to the CM on a fortnightly basis;
- Assess competency of employees under his supervision and report the need for training to the CM;
- Deal with community complaints that cannot be dealt with by the site supervisor;
- Establish and maintain work procedures (management plans) for the activities to be carried out on the site;
- Ensure that employees, subcontractors and suppliers are aware of the work procedures relevant to the project;
- Maintain a register of calibration of monitoring equipment where required;
- Raise and report NCR's where appropriate;
- Implement corrective actions; and
- Obtain the necessary permits and approvals;

Site Environmental Representative – Ryan O'Hagan

- Maintain all site records;
- Ensure all monitoring and reporting requirements are completed and documented;
- Undertake filing, controlling and archiving of all environmental information and documentation as required by the EMSM;
- Investigate Environmental incidents;
- Assist in the development of the Monthly ESC Plan
- Assist in the implementation of corrective actions; and
- Obtain the necessary permits and approvals.

Company Environmental Manager (CEM) – Les Reimers

- Prepare an agenda and documents for the annual Review Meeting;
- Undertake duties relevant to being a member of CMT; and
- To be contactable at all times.

Environmental Advisor – Sarah McCabe

- Provide assistance and training to the site environmental representative & supervisors.
- Advise the Project Manager on the performance of the EMPC and corrective actions required;
- Assist the Project Manager on environmental management of the project site;
- Carry out audits as outlined in the Performance and Compliance Calendar ;
- Development of the Monthly Erosion and Sediment Control Plan;
- Assist in the development of the Project Environmental inductions;
- Report to Management on recommendations for improvement to the EMSM; and
- To be contactable at all times.

Site Supervisor – Several Site Supervisors

- Conduct project inductions on safety and environmental issues;
- Conduct toolbox talks;
- Undertake any environmental action directed from the Environment Coordinator and Company Environment Manager;
- Complete the TMR Environmental Representative Training within 3 months of Project inception
- Investigate environmental incidents;
- Carry out daily/weekly (or other interval inspections, as required);
- Assess competency of employees under his supervision and report findings to the PM;

- Deal with community complaints;
- Raise NCR's, etc., arising from non-conformance, incidents, complaints, etc.;
- Take steps necessary to prevent incidents or events resulting from NCR's from re-occurring;
- Implement corrective and preventative action; and
- When informed of an Environmental incident, the Supervisor must inform the Project Manager to enable notification to the relevant persons and authorities.

Site Operational Personnel and Subcontractors

- Must not cause pollution or harm;
- Must follow procedures stipulated in the EMP(C); and
- Must report any incidents as soon as practical to the site supervisor.

Site Operational Personnel and Subcontractors shall be inducted on site with regard to their responsibilities and duties and shall acknowledge this induction by signature on the induction form.

The following actions are in accordance with the 'weekly checklists' which are the basis for the monitoring process.

9. PRE-WORKS PHASE

9.1. EMP(C) Contractual Hold Points

The following hold points apply and are included in the QA manual:

Hold Point 1 – Works under the contract shall not start until the EMP (C) is assessed for suitability by the Principal. (Contract)

Hold Point 2 – Any amendments to the EMP(C) shall be submitted on a monthly basis and be assessed for suitability by the Principal. (Contract)

Hold Point 3 – Sediment controls must be implemented in drainage lines within 24 hours after grubbing/clearing activities have been undertaken. (Policy, Contract)

A time based implementation outline of the EMP(C) for the project has been included in **Appendix K**.

9.2. Induction Process

All site personnel will undergo an Induction by Probuild Civil (QLD) Pty Ltd for the site specific considerations and environmental controls applicable to the sites. The induction shall include but not limited to:

- Relevant legislation identified
- General environmental duty and duty to notify
- Conditions of environmental licences, permits and approvals
- Environmental management strategies contained in the contractor's EMP
- Identified site specific areas such as environmentally sensitive areas, limits of construction, cultural heritage issues etc.
- Emergency response procedures
- Definition and management of environmental incidents
- Refuelling, waste disposal, litter collection etc.
- Procedure for drawing water specific to the water point

- Procedure for sediment control at stockpile locations
- Procedure for removal of declared and non-declared weeds on the project
- Procedure for incident reporting – notification and management, all incidents are required to be reported to the client's representative within 30mins. Incidents may include animal deaths, hazardous spills, breaching limits and waterway contamination.

An Induction Register is maintained on site at all times. The Induction Register is provided in **Appendix B**.

9.3. Site Compound

The site compound locations are to be established at locations approved by the Principal. A plan of the site will be forwarded to the Principal.

It is not intended to store Hazardous chemicals, including fuel, on site. Fuel if any, will be stored in small volumes in a bunded area. Any fuel in utility trays will be removed at the end of each working day; each vehicle will carry a fire extinguisher. Emergency procedures for spills and other potential incidents are provided in **Appendix H**.

Gravel will be provided to minimise dust in defined areas. Where necessary, security fencing, barrier mesh or bunting (flag) tape will be used to delineate Exclusion zones and access to walkway areas. Demarcation and delineation of site zones and/or areas will be determined through risk assessments.

9.4. Traffic Management

Traffic will be managed and monitored by means of a Traffic Management Plans (TMP). All Traffic Management Plans and implementation take into account requirements of MUTCD Part 3 2010 and the Traffic Management for Construction or Maintenance Work Code of Practice 2008.

9.5. Road Construction Materials and Imported Fill

Fill material where imported, must conform to Fire Ant (http://www.dpi.qld.gov.au/4790_7500.htm) and declared weeds management requirements with regard to the supply and conveyance of materials from restricted areas; if any. No contaminated site material is to be supplied.

9.6. Contaminated Sites

The site is not included on the Environmental Management Register (EMR) or the Contaminated Land Register (CLR). There are no known locations of contaminated land or pollution hazards. However it has been noted that the railway line ballast of the Browns Road project is likely to be contaminated. As per the contract conditions Probuild Civil are to stockpile the material for proper disposal by Queensland Rail. The stockpile area will be bunded area and lined with plastic to avoid further contamination of the site until removed from site by other parties.

In the event any other contaminated sites being discovered during the works, Probuild Civil (QLD) will:

- Immediately notify the Principals Representative;
- Notify the Department of Environment and Heritage Protection (DEHP) as required under the Environment Protection Act 1994
- Demarcate the area to prevent the spread of contamination
- Follow any instructions from the Principals Representative and the DEHP as required.

All works will be undertaken in accordance with MRTS04 General Earthworks.

9.7. Planning for Night Works

The community liaison officer shall assess the impact from any proposed night works. Where the liaison officer deems the night works as impacting on the local community, notification well in advance shall be carried out. This shall be through letter drops and local paper advertisement as necessary.

All night work notification must accompany a contact telephone number for the person in charge of the shift or their approved representative for handling or addressing concerns during the works.

Night work activities if required, shall be addressed but are not limited to the following:

- Location of the works and its proximity to local residents
- Determine persons impacted from the work
- Determine extent of impact
- Conduct desktop exercise for possibility of reducing impact through appropriate machine/equipment selection
- Notify residents and locals of impact and affected services (if any)
- Ensure complaints can be handled on the night and are handled promptly and efficiently

10. WORKS PHASE

The sub-plans stated in the Pre-works phase are found in Appendix D. It should be noted that all matters associated with access to lands outside the initial planning footprint shall be the responsibility of Probuild Civil.

10.1. Training

Maintain registers of all persons on site who have received environmental and safety training. It is our intention at present to allocate the task of environmental daily monitoring to either the project engineer or site supervisor, since its importance warrants a senior member of staff to monitor it. This also means that non conformances incurred will be dealt with promptly as the notifier will have the authority to deal with the matter.

Probuild Civil (QLD) Pty Ltd employees (supervisors and above) have attended a course on environmental management and are therefore aware of legislative and regulative requirements concerning environmental practices. More importantly these staff members understand the necessary approach to ensure that matters are handled effectively. This is reinforced by the Senior Executive and Company Directors who have made it clear that along with safety, Environmental issues are of the highest concern.

Selected senior site staff members have undergone training such as the “Application of Erosion & Sediment Control Measures”.

10.2. Use of Concrete

The washout of concrete trucks, other than the cleaning down of chutes and delivery equipment, is not to take place on site. The dedicated chute wash area is to be located at an area determined on site; a site that is not in close proximity to waterways. The wash area is to be clearly signed and appropriately managed during the currency of the contract. Waste concrete will then be removed and sent to concrete recyclers. Other actions to be considered include:

- Timing works to avoid inclement weather conditions or stormwater flows;
- Avoid spillage and overflow;
- Use dry pack grout where possible;
- Divert water from works area to avoid contamination (including PH change);
- Undertake PH monitoring of watercourse during and after works;
- Keep water off the surface of the curing concrete for at least 48 hrs;
- Cleaning equipment and vehicles off site.

10.3. Construction water

Water used on the project shall be potable water or Class A/B non-potable water.
Water will be extracted according to the Protocol – Authorised taking of water without a water entitlement (Department of Natural Resources and Mines 2013). If and where deemed necessary, testing shall be carried out to warrant its use.

For water extraction the following shall apply:

- Hold any necessary permit or authority or exemption;
- Comply with the conditions of any permit or authority or exemption;
- Unless otherwise specified by permit or authority or exemption, select an extraction point away from steep or unstable banks and sensitive vegetation;
- Limit access and disturbance to waterway and riparian vegetation;
- Unless otherwise specified by permit or authority or exemption conserving an environmental flow of at least one third of the original depth;
- Maintain pump in good working order;
- Ensure refuelling is undertaken no less than 30m away from watercourse or with controls in place to capture spill;
- Draw water through an exclusion device.

10.4. Work Hours

Working hours are Monday to Sunday 0600 to 1700 hours. Changes to these working hours is as agreed with the Principal after giving 24 hours request in writing for a change to working hours. Night works, as required, will be notified to the Principal.

10.5. Fire Ants

Probuild Civil (QLD) Pty Ltd operates under Fire Ants Management Plan No 2634.

This site has not been identified as being in a declared fire ant zone. Inspection request website (http://www.dpi.qld.gov.au/4790_8027.htm).

Consideration will be given to where plant or materials are sourced so they do not come from fire ant restricted areas.

10.6. Earthworks

No stockpile locations have been identified at this stage. Dispose of excess and unsuitable material in already cleared areas to minimise clearing that is required. The Administrator shall be advised of all off-site locations to be used for the disposal of excess and unsuitable material before material is disposed into these sites. The Contractor shall provide to the administrator, copies of all agreements and approvals for each site.

10.7. Trucks / Plant

The washout of concrete trucks (if any), other than the cleaning down of chutes and delivery equipment, is not to take place on site. A dedicated wash area and shake down area is to be located at an area determined on site by the Principal; a site that is not within 50m of a waterways. The wash and shakedown area is to be clearly signed and appropriately managed during the currency of the contract.

10.8. Supplies of Road Making Materials and Imported Fill

Suppliers of fill material (if any) to site is to provide a written statement that it is red fire ant free.

No supplies are to originate from Fire Ant Restriction areas.

No supplies are to originate from contaminated sites. Quarry suppliers are to have current Quarry Assessment Certificate (QAC).

10.9. Hazard Risk Management:

Work is to be carried out in accordance with the relevant statutory requirements, codes and guidelines but not limited to the following:

- Work Health and Safety Act 2011
- Work Health and Safety Regulations 2011.

All relevant records including those of Subcontractors are to be made available for audit and surveillance purposes.

The Site Supervisor is (usually) to be the first person to be notified of any WH&S breach.

Ongoing identification of unsafe work practices and environmental hazards will form a part of every employee’s performance. One of the means to accomplish this is regular site audits on

the safety, environmental and quality systems. Safe Work Method Statements are based upon Risk Assessments.

10.10. Non Conformances/Improvement Reports

Non Conformances are to be recorded on the Non Conformance Report and submitted to Head Office on a weekly basis by the nominated Environment Representative. Monthly summaries, or as otherwise stipulated in the contract, are to be submitted to the principal or client's representative by the CEM (see also section 8).

The principal will be notified immediately of any incidents involving material or serious environmental harm, as defined in the EP Act 1994.

10.11. Meeting

Prior to the commencement of work a Prestart Meeting will be undertaken with the Superintendent. The Prestart Meeting shall:

- Establish lines of communication and clarify all relevant responsibilities and delegations
- Discuss arrangements for the submission and review of the construction program, Quality Plan, Environmental Management, Safety Plan, Traffic Management Plan, Community Liaison Plan and Transport Management Plan
- Discuss arrangements for project records, including access by the Superintendent, submission of test results and other reports, and disposition upon completion of the Contract
- Discuss setting out of the Works, site accommodation, camp and delivery of materials and plant to Site
- Determine arrangements for site inspections and site conferences
- Define arrangements for management of payment claims, variations and nonconformances
- Discuss arrangements for all administrative requirements, including information and documents which the Contractor is obliged to submit to the Superintendent
- Deal with any other matters nominated by the Contractor or the Superintendent
- Deal with requirements for post-construction review.

Project Meetings with the NBRC Project Management Committee (PMC) shall be held fortnightly to review progress of the Works and to discuss and resolve other matters of concern related to the project. Specific site meetings can be held if required, and at the intervals as mutually agreed between the Contractor and the Superintendent. Site meetings would be for the purpose of discussing and resolving any or other matters of concern related to the particular site. Project meetings shall:

- Review progress of the work under the Contract
- Review the Contract Plan documents and issues pertaining thereto
- Review non-conformances and dispositions
- Discuss any matters of concern related to the project with a view to their resolution as far as possible.

Project Meetings shall be attended by the Contractor, the Superintendent, and/or their senior representatives. Subject to the prior approval of the Superintendent, other persons may attend all or part of any Site meeting.

Weekly site/project meetings shall be held with regards to the implementation of the project including the EMPC. Daily pre-start meetings will be undertaken to ensure all personnel on-site are aware of the days activities, hazards and controls including environmental. Monitoring results and environmental incidents will be tabled in the meeting minutes. Meetings are held monthly and/or as required/requested.

The principal will be notified by the contractor within 24 hours of meetings, inspections and visits from representatives of any administering authority.

10.12. Inspections and Audits

During the construction work inspections will be carried out by various contractor employees. The supervisor will do the daily inspections on safety and environmental issues and will make notes of these. Verifying compliance with the EMP(C) and all other requirements mentioned in the contract will be one by means of the Environmental Management System Monitoring Weekly Checklist (the Weekly Checklist). This checklist has been included in **Appendix E**.

Weekly Audits of the Humphrey Binjour Rd site will be carried out using the North Burnett Regional Council Environmental Audit Checklist (Preliminary CEMP Appendix K). This checklist has been included in Appendix M of this plan.

Records of these will be to the Principal on a monthly basis. There will be scheduled monthly inspections from the Environmental Coordinator to ensure compliance is maintained to this EMP(C) and an Internal EMS audit will be undertaken to ensure compliance with the environmental management system.

Water quality monitoring of water leaving the site will include visual inspections for hydrocarbons and turbidity on a daily basis and after rain events at any nearby watercourses. This will be recorded in supervisor's diary and considered in the environmental inspection checklist. Water quality considerations are outlined in the Water and Soils Sub-Plan (**Appendix D**)

10.13. Monthly reports

Reporting will involve daily and/or weekly reports (as directed by the Superintendent) to the Superintendent in a format approved by the Superintendent in additional to provision of weekly site inspections and all required monitoring results.

10.14. Erosion and Sedimentation

A Erosion and Sedimentation Plan including a drawing showing the location of controls will be completed for each site. This drawing will be updated for each work site each month, taking into account proposed scheduling and timing of works in the up-coming month.. The ESCP and the DTMR form are attached in **Appendix C**.

The ESCPs will:

- Assess the implications of the erosion hazards present on site and site constraints;
- Locate stabilised access points;
- Identify watercourse crossings, riparian buffer zones and strategies to divert water around culverts and or bridges during construction involving works within the bed and banks of any watercourse;
- Monitor the implementation, maintenance and reconfiguration of erosion and sediment controls in respect of construction progress;
- Plan to rehabilitate disturbed areas progressively and promptly after final shaping is completed, but in no case longer than 7 days; and
- Identify any further measures necessary to comply with the specified performance criteria.

Within 24 hours of initial clearing and grubbing and any earthworks activities, the erosion and sediment controls will be installed as required to minimise potential for erosion in the area. The completion of these activities will be a **HOLD POINT** for any future earthworks. (MRTS 51.1 Clause 3.0)

Daily visual assessment of erosion and sediment control structures/devices will be conducted to verify the condition and effectiveness of these controls. Any damage to these controls will be rectified immediately. This information will be recorded on the daily Supervisor/Foreman's diary. All temporary erosion and sediment devices will be removed once site is stabilised.

10.15. Wildfire Management

The Principal Contractor is responsible for the management and prevention of bushfires within the site.

Probuild will consult with the local Fire Brigade or Fire Warden before commencement of hot works or scraping activities on days declared as high fire risk. In addition, location of flammable material and the provision of a water truck will be implemented to reduce the risk of wildfire / bushfire.

10.16 Demolition works

Existing railway infrastructure at Browns Rd is to be taken up and stockpiled on site for subsequent removal by QR. Liaison with QR and TMR is required prior to undertaken works. All works involving railway infrastructure to be in accordance with QR and TMR requirements.

10.17 Clearing and Grubbing – Vegetation and Fauna Protection Plan during Construction

The clearing of vegetation will only occur after installation of exclusion fencing that clearly demarcates the vegetation to be retained. All *Pomaderris clivicola* and *Bertya pedicellata* trees nominated for retention must be clearly marked and tree protection fencing installed in accordance with TMR Standard Drawing for Vegetation Protection Works - Erection of Fenced Enclosures around Vegetation (Drawing No. 1640). Vegetation clearing works under the contract shall not commence until all tree protection fencing has been erected and inspected by the Principal's representative. Tree protection fencing is to be installed around trees to be retained at the limit of

the works at the top of the crest, around the patch of semi-evergreen vine thicket on the embankment and around all retained *P. clivicola* and *B. pedicellata* trees.

No access or storage of machinery or materials is to occur within tree protection fencing. All site office, storage, stockpile, waste storage, equipment storage, machinery and vehicle parking and any other construction requirements must be located in previously cleared areas where possible.

Vegetation clearing works under the contract shall not commence until all tree protection fencing has been erected and inspected by the Principal's representative.

Annexure MRTS 4.1 provides for additional width for clearing and grubbing, however the minimal area to be cleared should be applied. The additional width includes:

- For Browns Road, Boomerang Road and Gayndah-Mundubbera Road is three metres excluding any areas nominated on the drawings as an exclusion zone
- For Humphrey Binjour Road is one metre.

Also when undertaking the vegetation clearing:

- A spotter-catcher is required to complete a pre-clearing inspection of vegetation identified for removal in conjunction with the clearing contractor including identifying any additional *Bertya pedicellata* and 82 *Pomaderris clivicola* within the clearing and works area. The survey shall take place no more than 48hours prior to clearing. A pre-clearing report is required to be produced and submitted to the Principal within 7 days of the commencement of clearing operations.
- The entire development site must be inspected by a suitably qualified professional for the presence of animal breeding places. Any handling of wildlife must be undertaken by a licenced spotter catcher.
- Licenced spotter-catcher shall be present on site during all clearing works and will again inspect all vegetation immediately prior to clearing.
- If an active animal breeding place being used by a near threatened, vulnerable or endangered fauna species listed under the Nature Conservation Act 1999 is identified by the fauna spotter catcher works must cease in the area of the breeding place and adequate protection (as directed by the fauna spotter/catcher) is to be implemented and the Principal immediately notified.
- Clearing authorised under DEHP permit shall be conducted in a sequential manner to allow fauna to disperse into adjacent areas and to minimize damage to surrounding vegetation.
- Clearing must only commence after the necessary legal requirements for the implementation of a Species Management Programme (SMP) or SMP's have been met.
- The four *Bertya pedicellata* and 82 *Pomaderris clivicola* to be removed from the site will be translocated to the offset site in accordance with any requirements in the Offset Management Plan prepared by ARUP
- Compliance with conditions in the Clearing Permit (Protected Plants) Permit (permit number WICL13063413), under the Nature Conservation Act 1992 (QLD), EPBC Act approval (reference EPBC 2013/6893) under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) and Environmental Operating Procedures contained in the Preliminary Construction EMP (CEMP) prepared by ARUP for the Humphery Binjour Road works.
- The Contractor must attempt to retain as many native trees as possible, depending on the final required construction methodology.

- Native vegetation is to be mulched and chipped onsite or deposited at the nearest green waste transfer station.

10.18 Pest/Weed Management

There is Lantana camara (Lantana) located on the lower embankment side of the works. Declared plants shall be flagged and location communicated to personnel for avoidance. Preconstruction pest treatment activities shall be undertaken by suitably qualified pest controller to minimize pest management risks. Topsoil likely to contain reproductive material of a declared plant shall be isolated from “clean” soils and disposed as waste. Weed material is to be stored separately and disposed of at a green waste transfer facility where the material will be composed or mulched.

11. POST-WORK PHASE

11.1. Site Compound

Clean up all litter and construction materials and return the area to a natural acceptable state.

11.2. Concrete Usage

The concrete wash area is to be vacated and returned to its pre-use state.

11.3. Sediment and Erosion Control

Stabilise and rehabilitate the works areas. Remove sediment and erosion control devices only when the area is stable and/or vegetated and there is minimal risk of erosion.

11.4. Stockpile Area

On completion of the works, the stockpile area is to be vacated and restored to its pre-use state.

11.5 Waste Minimisation

The site is to be left in a clean and tidy state and waste disposed of to an approved waste disposal tip. Where applicable waste reduction, reuse and recycling should be implemented.

12. CONSTRUCTION SUB PLANS

12.1. Environmental Management Sub-Plans

The following sub-plans that form part of this EMPC are:

Ref	Environmental Management Sub-Plan	Included in Contract Document EMP	Incl. in EMP(C)
001	Flora and Fauna	Y	Y
002	Water, Soils and ESC	Y	Y
003	Cultural Heritage	Y	Y
004	Noise and Vibration	Y	Y
005	Acid Sulfate Soils	N	N
006	Air Quality and Dust	Y	Y
007	Waste Management and Site Clean Up	Y	Y
008	Chemical and Fuel Storage	Y	Y

Individual site specific EMP Sub plans have been included in **Appendix D**.

In addition to the sub-plans, Site specific environmental management procedures have been developed which outline the specific mitigation methods that will be undertaken during the project. These are attached in **Appendix J**.

In relation to works at the Humphrey Binjour Rd Site, 9 Environmental Operating Procedures have been referenced for use in the Preliminary CEMP. These are attached in **Appendix N.**

12.2. Description of Environmental Management Sub-Plans

The environmental management sub-plans detail the environmental protection measures which are required to be implemented during the construction and operational phases of this project.

The sub-plans are titled according to that particular environmental aspect which may be impacted by the development (e.g. flora and fauna). Individual sub-plans are internally divided into several sections:

- Objective;
- Summary of Impacts;
- Statutory Obligations;
- Performance Criteria;
- Mitigation Measures;
- Monitoring;
- Reporting; and
- Corrective Action.

Note all of these sub-plans are the Principal Contractors Responsibility during the construction phase.

13. SITE MONITORING AND REPORTING

Apart from monitoring environmental, safety and quality issues by the Contractor itself, it is possible that environmental and safety authorities will visit the site for random inspection. In this case the Principal will be notified immediately or at least 24 hours prior to the visit/inspection/meeting with that authority.

Where there has been a breach of licence conditions or material or serious environmental harm as defined in the EPA Act, they must be reported in accordance with the license conditions and the EPA Act. Probuild Civil (QLD) Pty Ltd shall also immediately notify the Principal of such incidents.

Daily inspections will be carried out by the Site Supervisor, and weekly inspections by the Project Engineer, in coordination with the site environmental representative. Monthly meeting data will be collated and presented by the Project Manager. All records and registers will be made available to the Principal on request.

The following documents will be used to monitor and record all aspects of the EMP(C).

These are all included in the Appendices:

- Induction Form and Register – **Appendix B**;
- Waste Disposal Register – **Appendix D** – Waste Management Subplan
- Weekly monitoring check lists – **Appendix E**;
- Non Conformance Report – **Appendix F;**
- Complaint Form – **Appendix G;**
- Emergency Spill Response Flow Chart– **Appendix H;**
- Site Training Register. – **Appendix I;**
- NBRC Weekly Audit Checklist**- Appendix M**

An overview of monitoring activities by the Contractor is as follows:

Table 9 - Monitoring Requirements

Monitoring & Reporting Subject	Monthly Meeting Data Requirements	Monthly Requirements	Weekly Requirements	Daily Requirements
Flora & Fauna	Report on flora condition, injury to fauna incl. rare & endangered.	If requested or required	Visual record of fauna & flora	Visual record of fauna & flora.
Soil & Water	Report water results, performance of erosion & sediment controls.	As per meeting requirements	Water sampling results	Machinery Daily, Water, Erosion & Sediment controls
Cultural Heritage	Report any cultural heritage identified	If requested or required	If requested or required	If requested or required
Community Liaison	Record & report complaints log book	If requested or required	If requested or required	If requested or required
Noise & Vibration	Report any Complaints	If requested or required	Weekly Inspection checklist	Inspection of Plant
Acid Sulphate Soils	Not required	Not required	Not required	Not required
Air Quality & Dust	Report any complaints	If requested or required	Weekly Inspection checklist	Visual on dust and exhaust fumes
Waste & Site Clean Up	Waste Register updates.	If requested or required	Site inspected for rubbish	Visual to determine effectiveness of controls
Traffic Management	Provide Inspection sheets	To be provided at the end of each month	If requested or required	Inspect Signage and record
Concrete wash out Bays	If requested or required	If requested or required	Check condition & record	If requested or required
Weed Control	If any control undertaken	If requested or required	Weekly Inspection checklist	Daily during clearing and weekly for topsoil piles.
Fuel and chemical Storage	Report any fuel or chemical spills. Raise NCR	If requested or required	Fuel Storage Area inspection	Visual general site

14. DOCUMENT CONTROL

The Project Manager or nominee shall be responsible for the maintenance of the records kept, from which storage and retrieval shall be performed in a systematic manner. Relevant records will be kept on site and filed in accordance with company procedure for filing and archiving of documents (**See Appendix A**).

The records shall be maintained to demonstrate the conformity of all works and materials to the contractual requirement.

Lists of records that shall be kept where applicable are given below:

- Induction register;
- Site investigation and inspection reports; monitoring results daily, weekly & monthly;
- Incident and accident register;
- Design sketches and drawings;
- Specifications;
- As built drawings;
- Completed quality records (ITP, Checklists);
- Non-conformance reports and complaints;
- Corrective action on system / Repetitive deficiencies;
- Copies of all formal letters written;
- Minutes of all relevant meetings;
- Subcontractor/Supplier evaluations/Comparisons;
- Subcontractor's Quality- and Environmental System documentation;
- Approved and Superseded work procedures/methods;
- Equipment calibration certificates;
- Tests approvals and audits of agencies/suppliers;
- Functional test reports/data of permanent equipment/materials;
- Waste measurements and tracking records; and
- Any Cultural Heritage monitoring and register requirements.

Detected work nonconformities shall be reported:

- To the Clients Representative, if the non-conformance is relevant to the final quality or the environment, and / or
- To Probuild Civil (QLD) Pty Ltd Corporate office for review by senior management.

This shall be done via a Non-Conformance Report (NCR) as shown in **Appendix F**, on which the Client Representative and/or the Contractors Quality Representative (CQR) will be advised of any proposed procedures to prevent the probable cause(s) of the non-conformance from recurring.

Environmental incidents which form breaches of any license or the EP Act or which form material or serious threat to the environment will be reported to the Principal immediately.

15. REFERENCES

- Supplementary Conditions of Contract for North Burnett Regional Council NDRRA 2013 Restoration Works – Road and Drainage Reconstruction Package Tender Number 2322/2013-14/TTB/01 (November 2013);
- North Burnett Regional Council NDRRA Road Works Technical Specifications prepared by GHD (November 2013)
- North Burnett Regional Council Humphery Binjour Road landslip remediation Preliminary Construction Environmental Management Plan prepared by ARUP (Final 4 October 2013)
- DTMR Technical Standard MRTS51 Environmental Management and Annexure MRTS51.1 Environmental Management Project Specific Requirements ;
- DTMR Technical Standard MRTS04 General Earthworks and Annexure MRTS04.1 General Earthworks Specific Contract Requirements
- Department of the Environment (Cth) Approval Landslip remediation works at Humphrey Binjour Road, Gayndah Queensland (EPBC 2013/6893) (9 October 2013)
- Department of Environment and Heritage Protection (QLD) Notice of decision – permit application, Clearing Permit (WICL13063413) (27 June 2013)
- Legislation as listed;
- Environmental Protection Agency's Noise Measurement Manual 2000;

- North Burnett Regional Council Humphery Binjour Road landslip remediation Offset Management Plan for *Pomaderris clivicola* and *Bertya pedicellata* prepared by ARUP (26 September 2013)
- Proposed propagation methods: *Pomaderris clivicola* and *Bertya pedicellata,* prepared by University of the Sunshine Coast for North Burnett Regional Council by Associate Professor Stephen Trueman (16 August 2013)

16. DEFINITIONS

ARI — Annual Recurrence Interval
ASS — Acid Sulphate Soil
EMSM – Environmental Management Systems Manual
E&SC — Erosion and Sediment Control
PASS — Potential Acid Sulphate Soil
Acid Sulphate soils (ASS)
References under and of the Legislation and/or regulation per the dictionary of that specific legislation and/or regulation

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1. Appendix "A" Project Records Filing System

Filing System

Part	Section	Description	File Order	Where?
1		**START UP**		
	a	Contract Review Checklist - Form 1.1.01		
	b	Bank Guarantees		
	c	Insurances		
	d	Fees/Permits - WH&S, Environmental, Traffic, etc	Alphabetical	
	e	Site and Other Agreements (Wage Rates, Allowances including EBA)	Alphabetical	
2		**FINANCIAL**		
	a	Budget, Cost Code Makeup		
	b	Cost Control Reports	Date	
	c	Fortnightly Reports to Construction Managers	Date	
3		**PROGRESS CLAIMS**		
	a	Progress Claims, Certification, Tax Invoices and Copies of Cheques	Claim Number	Compactus at Bowen Hills and On Site
	b	Sundry Invoices		
4		**CORRESPONDENCE**		
	a	Correpondence to Client / Superintendent + **Register**	Date	
	b	Correspondence from Client / Superintendent + **Register** Includes Letter of Award, Practical Completion, Final Completion	Date	
	c	Correspondence to/from Other Parties - Utility Providers, Landowners, etc (but not Suppliers / Subcontractors)	Date	
	d	Instructions and Clarifications + **Register** * Site Instructions from Client * Requests for Information - Request, Response * Confirmation of Verbal Instructions (all three registered on one sheet)	Number	
	e	Variations - **Register**, Submission, Response	Number	
	f	Extension of Time - **Register**, Request, Response + Rainfall Records	Number	
	g	Drawing and Document Registers / Transmittals	Date	
	h	Minutes of Meetings	Date	
5		**PURCHASING**		
	a	Purchase Orders / Subcontract Agreements	Alphabetical	
	b	Correspondence, Subcontract Reconciliations, Payments		
	c	Request for Quotation, Quotes		
	d	Minutes of Subcontractor Meetings		
6		**PROJECT PLANS**		
6A		**PROGRAMME** Contract Programme and Revisions Note: All correspondence in sections 6 and 7 are to be in the Client or Other Correspondence **Registers**		

6B		**SAFETY**		
	a	Safety Plan including correspondence		
	b	Work Method Statements / Risk Assessments		
	c	Toolbox Talks - incl Environmental and Traffic Topics		
	d	Site Inspections		
	e	Non-Conformance Reports		
	f	Induction Register and Signed Sheet		
	g	Other / General		

Part	Section	Description	File Order	Where?
6C		**ENVIRONMENTAL**		
	a	Environmental Management Plan including correspondence		
	b	Site Inspections		
	c	Non-Conformance Reports		
	d	Other / General		
6D		**TRAFFIC MANAGEMENT**		
	a	Traffic Management Plan including Correspondence		
	b	M994 Forms		
	c	Daily Sign Check List		
	d	Non-Conformance Reports		
	e	Other / General		
6E		**QUALITY**		
	a	Quality Assurance Plan including Correspondence		
	b	Test Requests		
	c	Lots - **Register**, Lots		
	d	Non-Conformance Reports		
	e	Other / General		
6F		**COMMUNITY LIAISON**		
	a	Community Liaison Plan including Correspondence		
	b	Complaints Register		
	c	Newsletters / Publications		
6G		**EXISTING SERVICES** (Dial-Before-You-Dig)		
6H		**PHOTOGRAPHS**		
7		**SURVEY**		
	a	Control Points and Stations		
	b	Information from Client / Designer		
	c	Information to Subcontractors		
	d	As Constructed Files		
	e	Calibration Records		
8		**TENDER** (as per Tendering System) Original kept at Bowen Hills		
9		**CONTRACT DOCUMENTS**		
10		**SITE OFFICE** (To be discarded once project is completed - for office info only)		
	a	Labour - Timesheets		

	b	Plant and Material - daily Report Sheets
	c	HR - Training, resumes

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OHS - Form

SITE INDUCTION REGISTER

Project No.: **Project Name:**

Note: If a person is listed as Y (Yes) in the 'Plant Operator' column they are to have their name and competency / license listed on the 'Register of Plant Operators' Form number OHS-WHS-FORM-108-2 and their Plant type listed on the 'Plant Maintenance Register' Form Number OHS-WHS-FORM-108-1. Check that a copy of the persons SWMS has been given in and that they have been trained / taken through the SWMS and have signed off on that SWMS, a blank SWMS is Form Number OHS-WHS-FORM-103-2, Special Note: The ABN of the workers employer is to be on all SWMS forms. If Probuild Civil (QLD) Pty Ltd is not the workers employer (ie, we hold them as a PAYG employee) then the Probuild Civil ABN is NOT to be displayed on the SWMS. All SDS sheets MUST be handed into the Principal Contractor and/or a copy of the Sub-contractor's SDS substances register placed with Probuild Civil's SDS substances register. The SDS 'Substances Register' is Form Number WHS 107-1. If the person being inducted is a 'Key Person' to the project (ref to the positions listed in Site Safety Management Plans such as: CM, PM, PE, FM, Safety Advisor, ENVIRON REP, CLIENT REP or INSPECTOR) then ensure that the Plan is updated. Regarding Construction Industry Induction Card (CIIC), refer to Procedure OHS-WHS-PRO-105-6 at section 6.2.

Date	Company	Name of Person Inducted (*print*)	Worked on a construction job in last 2 years Y/N	Name of Person Conducting Induction (*print*)	Plant Operator? Y/ N	Has Person Been Inducted Into Relevant SWMS? Y/N	Have SDS Sheets Been Submitted? Y/N	Signature of Person Who Has Undergone Induction	Construction Induction Card No	Date Card Issued	Contact Number	Emergency Contact Name (*print*)	Emergency Contact Number
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FORMS: **WHS108-2 WHS108-1** | **WHS103-2** | **WHS107-1**

Ensure a copy of the competency / license is made and filed with the individuals own induction sheet. Where a copy cannot be made ENSURE you sight the particular competency / license before listing the person in CHS-WHS-FORM-108-2

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Appendix "B" Induction Register

3. Appendix “C” Initial Erosion & Sediment Control Plan

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Erosion & Sediment Control Plan

For

North Burnett Regional Council NDRRA Restoration Works Roads Reconstruction Package

Feb 2014 – June 2014

The site environmental rep will be responsible for the monitoring of predicted rainfall to ensure appropriate ESC measures are implemented prior to rain.

The site environmental representative will be responsible for the identification of potential hazards; this will be conducted weekly with a risk assessment done identifying specific risks including proposed works and predicted rain forecast for the week. .

The devices to be used are shown in **Appendix B** for the various construction activities. Site specific plans for minor activities on some roads will not be developed due to the short duration of the works.

The control measure/s for downstream of culvert works is dependent on the steepness and catchment area of the table drain/ surrounding areas and will be left to the Senior Site Supervisor to implement control devices such as silt fences, rock bunds or gravel socks. (Refer **Appendix B**)

The spacing of the control measures will be designated to the Senior Site Supervisor. As the spacing of the control measures is dependant on the gradient. Separation between control measures: Low gradient 60m – 45m, High gradient 45m – 30m.
Note: this is just a guide line; final decision will be left to the Senior Site Supervisor. (Refer **Appendix B**)

4.0 INSTALLATION SEQUENCING OF ESC DEVICES

4.1 Silt Fencing Including Textiles

- Silt fences are to be installed to capture any silt runoff from the site before entering a waterway and will be installed primarily at designated stockpile areas.
- Fences are to be installed on site as per the manufacturer's specifications and with the main body of the fence on the same contour with ends turned uphill.
- Storage and handling of silt fencing materials is to be done in accordance with the manufacturers specification.
- Tearing and puncturing of the silt material other than that done to prevent water backing up and around the structure will be repaired or the fence replaced.

4.1.1 Installation

Step1 – Excavate **150mm** deep trench on the downstream side of the silt fence

Step 2 – Bury the bottom flap in trench and sbackfill sith soil compacting to ensure anchorage

Step 3-4 Drive support posts into ground until sufficient resistance is achieved at a maximum **2m centres**. Position silt fence support posts and tension. Attach using galv staples.

Step 5 – Daily inspection program (particularly after rainfall) and the removal of excessive silt deposits.

Appendix b illustrates the above requirements.

Installed in the following areas:

- Gravel Stockpile areas (off-site)
  - Refer to **Appendix B** for illustrated example
- Spoil stockpile areas (off-site)
  - Refer to **Appendix B** for illustrated example

4.2 Synthetic Filters (Silt Socks / Sand Bags)

- Silt socks are to be installed downstream of work areas to prevent silt runoff from the work site before entering catchpits, culverts or other downstream structures (refer Appendix A).
- These devices are to be placed in the table drains immediately following clearing, stripping and excavations.
- These devices along with sand bags will also be used to prevent sediments, binder material and gravel originating from pavement stabilisation and kerb and channel activities from entering waterways through street kerb inlets (refer Appendix A).

4.2.1 Installation

- Fill material is to be either clean sand or clean aggregates (no pre-coated aggregates are to be used
- Socks/bags are to be filled to approximately 2/3 capacity, and be sitched or tied so that the filling material does not spill or break from the bag during service.
- Socks/bags are to be placed in regular rows with a tapering vertical face, to form a stable structure.
- Voids between socks/bags are to be kept to a minimum.

4.2.2 Application

- Formation Grading
- Formation Re-sheeting
- Embankment Construction
- Pavement Stabilisation
- Culvert Repairs

4.3 Rock Bund or Rock Check Dams

Used when required for long term >2 weeks in duration. It is expected minimal use of rock check dams on this project, however they will be employed on steeper grades or where higher flows are anticipated. Specific locations to be identified during site assessments.

- Rock is to be well graded with a median size of **150mm** and no greater than **300mm**
- Rock is to be clean dense and durable
- Trench the rock 200mm into the ground across its whole width.
- The centre line of the dam should be at least 150mm lower than the outside edges

- In the event channel is of high erodibility (high % clay), geofabric may be placed beneath the dam to prevent erosion from under the rocks.
- Rock structures are to be placed in a manner that ensures larger rocks are evenly distributed throughout and smaller rocks evenly fill the spaces between the large rocks.
- Placing of rock is to be done in a manner that minimises the chances of running loose and damaging other structures.
- Layers of rocks shall be of even thickness and of even grading and include a defined spillway within the crest of the structure. (As pictured)

4.4 Roadside Stormwater – Sandbag Sediment Barrier

Sandbags to be placed 4m up stream of kerb inlets in a "U" shape formation against the invert. To be implemented prior to pavement stabilisation and kerb and channel repair works. This is demonstrated in Appendix B.

4.5 Roadside Stormwater – Gravel / Synthetic Filter

A combination of silt sausage, sand bags and wooden block spacers placed around downstream kerb inlets to prevent runoff from entering town drainage. To be implemented prior to pavement stabilisation and kerb and channel repair works. Several designs can be implemented which have been illustrated in **Appendix B**.

If additional ESC measures are to be used during the project, installation details will be provided in this document for that period.

5.0 MAINTENANCE

5.1 Maintenance of ESC Devices

The performance, monitoring and disestablishment of these devices will occur through the inspection and maintenance program. Daily ESC inspections are to be undertaken by the site foreman or his delegate directly after the pre-start meeting. This is to verify their condition and effectiveness so any maintenance required can be completed prior to the commencement of construction activities. Weekly inspection will be undertaken by the site environmental representative as part of the EMP(C) checklist.

5.2 Disestablishment of ESC Devices

To ensure the disestablishment of the erosion and sediment control measures, it will be discussed by both the Senior Site Supervisor and the Site Environmental Representative, weekly so that rehabilitation of the land can take place as soon as possible.

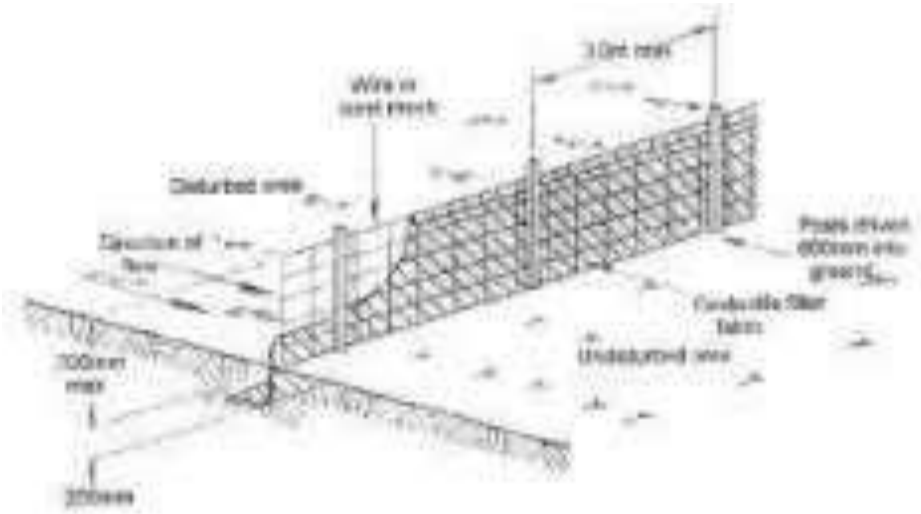
5.3 Water Quality Monitoring Locations

If required, locations for monitoring water turbidity and sediment levels, to be agreed on site with the Superintendents Representative.

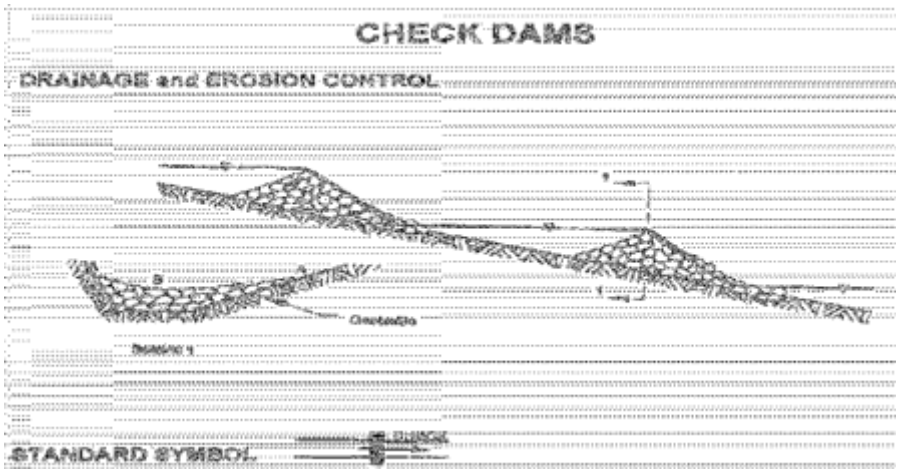
Appendix "A" EROSION & SEDIMENT CONTROL PLANS

Appendix "B" DEVICES

Sediment Fences



Rock Check Dams



Silt Socks / Sand Bags

Drain Inlet Protection Design

Stockpile Management

Appendix “D” Environmental Management Sub-Plans

Environment Management Plan – Sub-Plan

AIR QUALITY AND DUST

1.0 OBJECTIVE

To minimise the potential air quality impact due to dust generated from construction activity that could environmental nuisance or harm.

2.0 SUMMARY OF IMPACT

Dust emissions are likely to be generated during construction activities. Especially in uncontrolled situations, such as during high wind speeds and dry weather conditions. Dust emissions could constitute an environmental nuisance. Cartage of the fill material during the earthworks operation and fill compaction are going to increase dust generation and thus lower air quality

Project specific details of potential air quality impacts are to be outlined. Please note, additional mitigation measures may need to be included due to site specific conditions.

3.0 STATUARY OBLIGATIONS

Works shall be carried out in accordance with the Environmental Protection (Air) Policy 2008.

4.0 PERFORMANCE CRITERIA

The performance criteria for managing air quality impacts include:

- To minimise the impacts on air quality arising from plant and machinery emissions used on site, including minimising dust generation.
- Ensure that all practicable control measures are taken to reduce dust generation and to prevent dust from affecting nearby developed areas and nearby recreational areas
- Ensure plant and equipment used on site are in good mechanical order at all times
- Ensure burning is not carried out at any time.

5.0 MITIGATION MEASURES

- Access and haul roads shall be regularly watered to assist in dust suppression;
- In the event a poly-resin, ‘gum’ or chemical based suppressants, Probuild Civil (QLD) will seek approval from the Principal prior to use. (SDS must be obtained)
- Avoiding or minimising dust generating activities (i.e. stripping, excavation etc) during dry and windy conditions
- Vehicles and plant to be maintained to keep emissions within the limit set by the Australian Design Rules.
- Where excessive dust is generated from earthworks activities, dust suppression devices shall be utilised for minimisation.
- Stabilising all materials stockpiled, where it is deemed to be increasing dust levels, for longer than 1 month by grassing or other approved method
- Promptly removing and disposing of materials, mud or the like, spilled onto the road surface from vehicles transporting materials to and from the site
- Ensure loaded trucks leaving site are covered to prevent dust nuisances

6.0 MONITORING

- Visually monitor activities for dust generation on a daily basis;
- The exhaust of machinery and plant used on site will be visually monitored on a daily basis;
- Air quality monitoring shall be undertaken in response to, or as part of an investigation from a complaint. Air quality monitoring shall be in accordance with:
    - Environmental Protection Agency Air Quality Sampling Manual 1997
    - AS2922 Ambient Air Guide for siting Sampling Equipment
    - AS 3580.10.1-1991 Method of Sampling Analysis of Ambient Air
- The air quality monitoring investigation will include but not limited to:
    - Immediately report the complaint to the Principal
    - Investigate the cause of the complaint through consultation with the complainant. Review and log the type, location and duration of the site activity, meteorological conditions and other extraneous events occurring at the time of the complaint
    - Where directed by the Principal's Representative Delegate, perform air quality monitoring at the location from which the complaint arose (or a representative location) during a representative period to determine construction dust levels at the location of the complainant. Monitoring shall be conducted in accordance with the relevant Australian Standards and the EPA Air Quality Sampling Manual 1997
    - Analyse the results of air quality monitoring and use this data to assist with the assessment of impact and in the development and implementation of appropriate work procedures or mitigation measures to minimise further dust impacts
    - Within 14 days of the receipt of the dust complaint, report the results of investigation and the actions taken to "close out' the complaints to Main Roads and the complainant.
- In addition to complaints investigation, Probuild Civil (QLD) Pty Ltd will engage in proactive consultation with the affected community. Information including the purpose of the dust generating works and on the duration of the works is to be provided to affected property owners.

7.0 REPORTING

Any complaints received from the community or regulatory authorities will be incorporated into Probuild Civil (QLD) Pty Ltd complaints register and checklists together with the remedial actions undertaken.

8.0 CORRECTIVE ACTIONS

- If emissions from plant and machinery are excessive, equipment should be inspected and either repaired or retrofitted with appropriate measures to ensure compliance with the Australian Standard for that equipment
- In the event that the environmental safeguards have not been implemented, or are not working correctly, the Construction Contractor shall take whatever measures necessary to remedy the situation. If this is not practical or achievable the Construction Contractor shall contact the Principal's Representative for further advice.

9.0 SUB-PLAN REVISION TABLE – AIR QUALITY AND DUST

Version Number	Revised By	Description of Amendments	Revision Date	Authorised By
1st	L. Reimers			
2nd	A.Masci	Format Change and Content Review	21/03/2013	A.M

Environment Management Plan – Sub-Plan

CHEMICAL AND FUEL STORAGE

1.0 OBJECTIVE

To minimise the potential of environmental impact from chemical and fuel storage.

2.0 SUMMARY OF IMPACT

Risk of contamination of the surrounding environment and water ways will be managed by Probuild Civil during construction. Regular monitoring of systems and processes will be undertaken to ensure its effectiveness and compliance.

The main potential types of chemicals and fuels that will be present on site included; fuel and diesel.

3.0 STATUARY OBLIGATIONS

Works shall be carried out in accordance with the Work Health & Safety Act 2011and the Environmental Protection (Water) Policy 2009, AS1940, Dangerous Goods Safety Management Act 2001.

4.0 PERFORMANCE CRITERIA

The performance criteria for managing chemical and fuel include:

- All practicable control measures are taken to store and handle chemicals and fuels to ensure that nearby developed areas and adjacent bushland are not affected.
- Any spillages are identified quickly and are dealt with using the correct procedures to ensure zero contamination at completion.
- Prevent environmental nuisance or harm.
- Compliance to all required legislation

5.0 MITIGATION MEASURES

- Refer to the Water and Soils sub-plan for fuel & chemical handling;
- It is not envisaged to store any large amounts of fuel on-site. All refuelling of plant will be done by the use of mobile tankers at least >30m away from water courses and will be supervised at all times.
- There will be no fixed point refuelling areas.
- Fuel stored on-site will be in small quantities and used to refill powered hand tools and pumps. They will be held in 5 or 10 litre containers stored on a bunded pallet in the site compound. This quantity will not exceed 250 litres.
- Hoses will be inspected for the fitting of a stop valve at the nozzle end.
- Chemical storage on site will be limited and it is not envisaged that any large quantity of chemicals are required to be stored on site with the exception of the chemicals used to treat any ASS soils, (Refer to sub plan 6.1 for details of storage and handling). The SDS records will record the nature and quantity of chemicals stored on site. This will be the responsibility of the site WHSA. Some low risk chemicals such as curing compound (750 litres at any one time), epoxy based glues and

sealants (no more that 50l at any one time) will be stored on site. All of these will be stored in lockable containers within the site and they will in turn be stored on bunded pallets capable of holding the required volume in case of spillage.

- All chemicals and fuels shall satisfy the requirements of the Environmental Protection (Water) Policy 2009, and flammable and combustible liquid storage will comply with AS1940, Dangerous Goods Safety Management Act 2001 and the Work Health and Safety Act 2011
- For spill response procedures please refer to **Appendix A**.
- Two 250 litre spill kits will be held in the main compound. This will contain spill socks, absorbent pads, pillows, coveralls, gloves, safety goggles, absorbent beads and disposable bags for storage of spilled products.
- In addition, spill kits large enough to deal with any spillages that are likely to occur throughout the year are to be maintained throughout the project site. They are to be adequate for the works to be undertaken, locality and type of works.
- All plants and machinery are to be maintained to minimise the leakages of oil, fuel and hydraulic and other fluids;
- If possible, all plant servicing are to be carried out off site. If emergency servicing is required on site, measures to capture and contain these shall be in place so as to minimise contamination of the servicing area.
- In the event servicing is undertaken on site, servicing area is to be remediated to the satisfaction of the Principals Representative.
- No pre-coated aggregates will be used on site.
- Specific requirements outlined in Clause 14 of the MRTS51.1 Annexure include:
    - All fuels and chemicals are to be stored in a bunded, secure container that provides cover from weather. Any fuel and chemical containers that are to be temporarily removed from the above storage facility during work hours shall be placed within a bunded area at all times.
    - Storage and repair of vehicles, machinery, equipment and chemicals including protocols for bunding and emergency clean-up procedures shall be included in the CEMP.

6.0 MONITORING

Daily and Weekly inspection of fuel and chemical storage areas will be carried out. Chemicals on site are to be stored at appropriate temperatures specified by the manufacturer. Stored chemicals are to be clearly labelled

7.0 REPORTING

- If requested any results from site inspections and actions to resolve any non-conformances identified during the month shall be tabled at the monthly meeting.
- All complaints or enquiries from members of the public shall be recorded in the complaints register with the resulting follow up investigation and actions recorded to be presented at the monthly meeting.

8.0 CORRECTIVE ACTIONS

- The site must be kept cleaned and on completion be cleaned up and to the Principal Representative's satisfaction. In the event that the environmental safeguards have not been implemented or are not working correctly, the Construction Contractor shall take whatever measures are necessary on-site to rectify the situation. If this is not practical or achievable the Construction Contractor shall contact the Principal's Representative for further advice.

- In the event that the environmental safeguards have not been implemented, or are not working correctly, the Construction Contractor shall take whatever measures necessary to remedy the situation. If this is not practical or achievable the Construction Contractor shall contact the Principal's Representative for further advice.

9.0 SUB-PLAN REVISION TABLE – CHEMICAL AND FUEL STORAGE

Version Number	Revised By	Description of Amendments	Revision Date	Authorised By
1st	L. Reimers			
2nd	A.Masci	Format Change and Content Review	21/03/2013	A.M

Appendix “A” Spill Response Procedure

CONTROL AND PREVENTION OF SPILLS AND LEAKS

1. PURPOSE

The purpose of this procedure is to ensure that spills and leaks are prevented where possible, but if they occur, are cleaned up immediately, safely and in an environmentally responsible manner.

2. SCOPE

This procedure applies to spills and leaks on any substance stored, used or created on a site.

3. REFERENCES

3.1 Legislative Requirements

The Work Health and Safety Act Qld 2011

3.2 Codes Of Practice

Control of Workplace Hazardous Substances, National Model Regulations and National Code of Practice 1994 (Worksafe Australia)

Advisory Standard for Hazardous Substances 1998 (Qld)

3.3 Australian Standards

AS 1940 - The Storage and Handling of Flammable and Combustible Liquids
AS 3500 - National Plumbing and Drainage Code
AS 3500.3 - Stormwater Drainage
AS 3735 - Concrete structures for retaining liquid
AS 3780 - The Storage & Handling of Corrosives
AS 4326 - The Storage And Handling of Oxidising Agents

3.4 Related Procedures

Accident/Incident Investigation
Workplace Inspection
Emergency Preparedness and Response

3.5 Element

Hazardous Substances

4. DEFINITIONS

Spill - An unplanned, uncontrolled or unauthorised discharge of substances which may create a risk to the health and safety of personnel or the environment.

5. METHOD

5.1 Design

During the design phase of new or refurbished plant and equipment, the Site Manager shall ensure that design features to prevent leaks, spills and any losses of containment from reaching the environment or work areas are incorporated.

5.2 Bunding

Where there is a risk of a leak, spillage or loss of containment from storage tanks, production processes or raw material deliveries, concrete bunding shall be provided which has a large enough volume to contain the whole of the largest container or tank plus 10% or plus 25% for drum storage. Consideration should also be made for rainwater and firewater in the event of a fire as per AS 1940.

Overflow protection, such as automatic shutoffs, should be provided on all storage tanks to reduce the likelihood of overflow during filling.

5.3 Inspection

All areas where substances are used or stored shall be inspected for evidence of spills or leaks by the area supervisor at least once per month including tanks, pipes, drums and intermediate bulk containers (IBCs). This may be carried out as part of the monthly Workplace Inspection procedure.

5.4 Reporting

Any person who notices a spill or leak of any kind shall report it to their immediate supervisor who shall arrange to have it cleaned up or, where the spill or leak is not in their area of supervision, shall liaise with the supervisor of the area to have it cleaned up. There may be a requirement for reporting spills of a hazardous nature to the regulator (Division of Workplace Health and Safety or the EPA). Spills of substances that provide a risk to the health and safety of personnel or the environment shall be investigated as per the Accident/Incident Investigation procedure.

5.5 Reference to The Safety Data Sheet

Where an SDS exists on the site for a substance which has been spilled or has leaked this shall be referred to prior to commencement of the cleaning up of the spill or leak.

5.6 General Procedure For Spills And Leaks

Where there is no specific procedure for the treatment of spills or leaks, the guidelines in Appendix 1 (Spills) or Appendix 2 (Leaks) may be followed.

5.7 Absorbent/Clean Up Material

Where an absorbent material is used to absorb or bund spills it shall be an inert material such as sand, soil, vermiculite or attapulgite clay. Potentially reactive or combustible materials such as rags or saw dust shall not be used for this purpose due to the risk of fire. Sufficient stockpiles to contain and absorb likely spills shall be maintained on the site at all times and checked regularly as part of the workplace inspection program.

5.8 Provision Of Spill Kits

Spill kits will be provided where there is a likelihood that spills may occur. Such kits should be mobile, eg provided in a drum on a pallet or trolley or in a "wheelie" bin. The kit should be clearly labelled as a spill kit and the procedure for using them included in any training conducted. The kit may contain:

- A supply of absorbent material (See 5.7 above)
- A supply of large plastic bags to accept the cleaned up material
- Such PPE as is appropriate to the materials being handled eg gloves, goggles, respirator or dust mask and disposable coveralls
- A standing sign that states - "Keep Clear - Spill clean up in progress"
- A copy of this procedure and/or appropriate work instructions
- A check sheet for the contents of the kit.

Spill kits and equipment shall be commensurate of the type of and quantity of chemicals and fuels being stored on site.

5.9 Work Instructions

Where materials on the site are stored in large amounts or are hazardous, the Site Manager shall ensure that specific work instructions are written giving the specific procedure for dealing with spills or leaks of the material. The work instructions shall take into account the information provided in the SDS, any other information provided by the supplier and the requirements of any legislation or Australian Standards. Such work instructions shall be issued under document control and copies placed where the materials are stored and used.

Remediation of any contamination resulting from spills and leaks shall be to the Principals Representative Standard.

5.10 Training

All personnel working with substances shall be trained in spill and leak procedures including any specific work instructions. This training shall be a component of the training requirements for dangerous goods and/or hazardous substances. Training on the handling of spills and leaks shall also be included at induction for those personnel handling substances on the site.

5.11 Disposal

The disposal of the cleaned up material shall be carried out according to the Disposal of Substances procedure.

5.12 Emergency Response

The response to major spills should be incorporated in the emergency response plan for the site.

6. DOCUMENTATION

Appendix 1 - General Guidelines for Treatment of Spills
Appendix 2 - General Guidelines for Treatment of Leaks

APPENDIX 1

GENERAL GUIDELINES FOR THE TREATMENT OF SPILLS

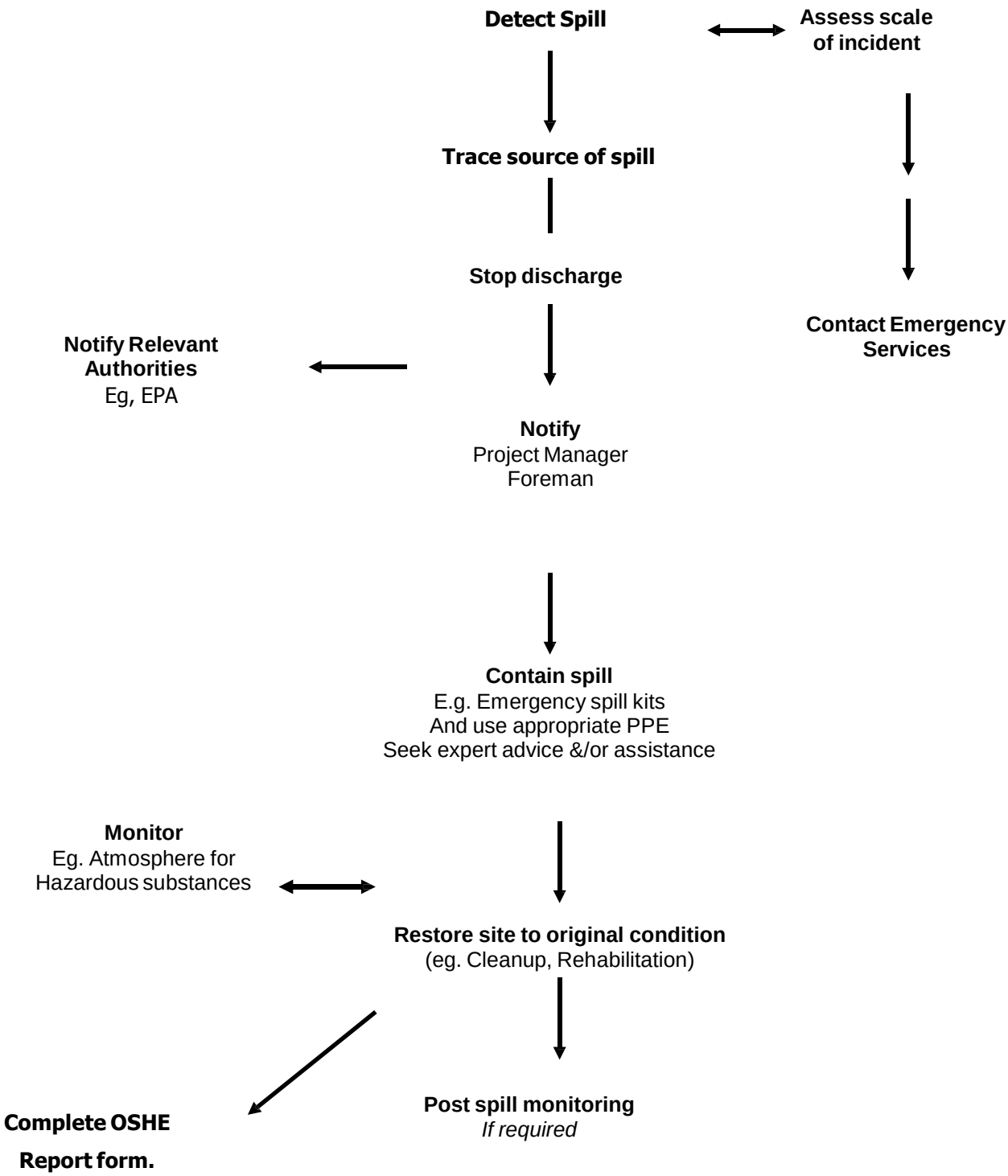
1. Refer to the SDS before attempting to clean up the spill
2. Remove people from the area, at the very least the spill will provide a slip hazard
3. Ventilate the area and isolate sources of ignition if appropriate
4. Put on appropriate PPE. This should at least be safety glasses or goggles and impervious gloves. Disposable coveralls such as Tyvek overalls may be used if required.
5. For a small spill, eg around one litre, cover the material with inert absorbent material and shovel into drums or bags for disposal (Note: if the material is flammable, use a non sparking shovel for this). Label the container as spill material for disposal.
6. For a spill larger than 1 litre, the area should be bunded with sand or earth and the material pumped into drums and labelled for disposal, the residue being treated as for item 5 above.
7. Spills greater than 20 litres are required to be notified to the regulator as a dangerous occurrence.

APPENDIX 2

GENERAL GUIDELINES FOR THE TREATMENT OF LEAKS

1. Refer to the SDS before approaching the area of the leak.
2. Remove people from the area, as at the very least the leaked material could provide a slip hazard.
3. Ventilate the area and isolate sources of ignition if appropriate.
4. Put on appropriate PPE. This should at least be safety glasses or goggles and impervious gloves and apron.
5. If it is a leaking pipe, shut of the flow of material and if it safe to do so, drain the material into clean drums for re-use where appropriate, or disposal if required. Inform maintenance of the leak so that it can be fixed after the area is decontaminated.
6. Treat the leak area as for spills.
7. For a leaking drum, decant as much as possible into a drum for re-use or disposal.
8. Treat the leaked material as for spills.
9. Spills greater than 20 litres are required to be notified to the regulator as a dangerous occurrence

SPILL CONTINGENCY PLAN



WARNING Substances may be hazardous. Refer to the relevant Material Safety Data Sheet or seek emergency advice before exposing yourself to hazards.

Environment Management Plan – Sub-Plan

CULTURAL HERITAGE

1.0 OBJECTIVE

Main objectives of this sub-plan are to:

- Ensure Indigenous cultural heritage values in the Cultural Heritage Management Plan(s)(CHMPs) areas affected by the project are managed in accordance with the provisions of the Aboriginal Cultural Heritage Act 2003
- Avoid or minimise disturbance or loss of cultural heritage values for significant cultural heritage sites, places or structures during construction on site and immediately adjacent to the site.
- The project area will be managed in accordance with the Aboriginal CHMPs prepared in consultation with the traditional land owners, this EMP sub-plan and the requirements of the Aboriginal Cultural Heritage Act 2003.

2.0 SUMMARY OF IMPACT

General cultural heritage (indigenous and non-indigenous) impacts caused from construction works can include:

- Loss of cultural heritage artefact or location of importance.
- Loss of cultural heritage values.

Project specific details of potential erosion and sedimentation impacts are to be outlined. Please note, additional mitigation measures may need to be included due to site specific conditions.

As outlined in Clause 52 of the MRTS 51.1 Annexure, all project sites are considered to represent a 'high risk' of harming Aboriginal Cultural Heritage. No works may be undertaken on these sites until agreements with traditional owners are obtained and clearance is given by the Principal.

3.0 STATUARY OBLIGATIONS

Works shall be carried out in accordance with the Aboriginal Cultural Heritage Act 2003 and the Main Roads Cultural Heritage Manual.

4.0 PERFORMANCE CRITERIA

The performance criteria for managing cultural heritage impacts include:

- Protect both Indigenous and non-Indigenous heritage sites and places from harm wherever possible;
- Relevant development approvals and exemptions are in place prior to construction affecting registered areas of cultural heritage significance;
- Consultation with government stakeholders, as required, including Local Councils and EPH;
- Monitor and manage the effects of potential settlement and vibration on places of cultural heritage significance.

5.0 MITIGATION MEASURES

- All Probuild Civil (QLD) Pty Ltd project staff with undertake a general cultural heritage induction prior to the commencement of works conducted by North Coast Regional Council Project Office Environmental Officer.
- All construction staff shall be briefed on cultural heritage management requirements for the site through the site induction;
- Clearing and grubbing works are to be undertaken in the presence of a Cultural Heritage Monitor
- Where items of potential cultural heritage significance are discovered,
    - Probuild Civil (QLD) Pty Ltd shall immediately stop work within a 150m radius of the find and notify the Principal. Where the Principal is unavailable, Probuild Civil (QLD) Pty Ltd shall notify appropriate Cultural Heritage Coordinator;
    - Further construction works will be undertaken in coordination with the Cultural Heritage Monitor.
- In the event that works are planned to occur outside the scope, (outside the road reserve), compliance with the Duty of Care under the Aboriginal Cultural Heritage Act 2003.
- The area shall temporarily be cordoned off pending inspections and further assessment;
- The Principal shall promptly arrange for the site to be inspected and assessed for cultural heritage significance. The Principal may declare the object and or area an exclusion zone for a period of time;
- Probuild Civil (QLD) Pty Ltd shall erect appropriate barriers, to define exclusion zones and preclude access to those areas;
- Probuild Civil (QLD) Pty Ltd shall notify site personnel of the exclusion zone prior to commencing further work in the a rea;
- A collection permit would be required to remove such indigenous or archaeological material from site;
- If a roadside memorial is discovered and is required to be removed, approval from DTMR is to be be sought and must be reinstated at the same location.
- It is recommended should such an event occur, a qualified cultural heritage practitioner be contacted to oversee the works;
- Probuild Civil (QLD) Pty Ltd shall notify all Site personnel of the object and/or area and proposed management of that object and/or area as soon as possible, but prior to commencing work on the next working day.
- In the case of discovering human remains, police are to be notified promptly.

6.0 MONITORING

Daily monitoring during clearing operations and stripping topsoil to ensure any cultural heritage materials discovered are being managed appropriately.

7.0 REPORTING

- If requested any results from site inspections and actions to resolve any non-conformances identified during the month shall be tabled at the monthly meeting.
- Any changes in the scope of works during construction must be communicated with the North Coast Regional Project Office Environmental Management Officer or the DTMR North Coast Cultural Heritage Officer.

- All complaints or enquiries from members of the public shall be recorded in the complaints register with the resulting follow up investigation and actions recorded to be presented at the monthly meeting.

8.0 CORRECTIVE ACTIONS

- In the event that monitoring identifies practices that infringe upon the above performance criteria or statutory obligations relating to cultural heritage, appropriate actions will be undertaken to remedy the situation as quickly as possible. Where applicable, non-conformance and corrective action notices are to be prepared and actioned promptly.
- In the event that non-conformance has occurred as a result of poor work practices, personnel on site will be made aware of the problem and informed of acceptable work practices in accordance with the Contractor's internal processes. Should poor work practices recur, appropriate counselling measures will be implemented

Appendix A – Cultural Heritage Assessment

Appendix B
Cultural Heritage Response Plan

Category 1—Activities involving *no surface disturbance*

Activities with a low risk of harming Aboriginal or Torres Strait Islander cultural heritage include:

- walking
- driving along existing roads
- aerial surveys.

Category 2—Activities causing *no additional surface disturbance*

Activities with a low risk of harming Aboriginal or Torres Strait Islander cultural heritage include:

- cultivating a pre-existing cultivated area
- grazing cattle on an area currently being grazed
- using and maintaining existing roads within the existing alignment.

Category 3—*Developed areas*

Activities with a low risk of harming Aboriginal or Torres Strait Islander cultural heritage include:

- using and maintaining existing roads within the existing alignment
- using and maintaining services and utilities where they are currently provided.

Category 4—Areas previously subject to *significant ground disturbance*

Despite an area having been previously subject to significant ground disturbance, the area may still have cultural heritage significance. Therefore, it is important to be informed about cultural heritage significance, and take extra care prior to proceeding with any activity that may cause additional surface disturbance.

Examples of activities with a risk of harming Aboriginal or Torres Strait Islander cultural heritage include:

- new postholes
- drilling for a bore
- new infrastructure causing significant surface disturbance.

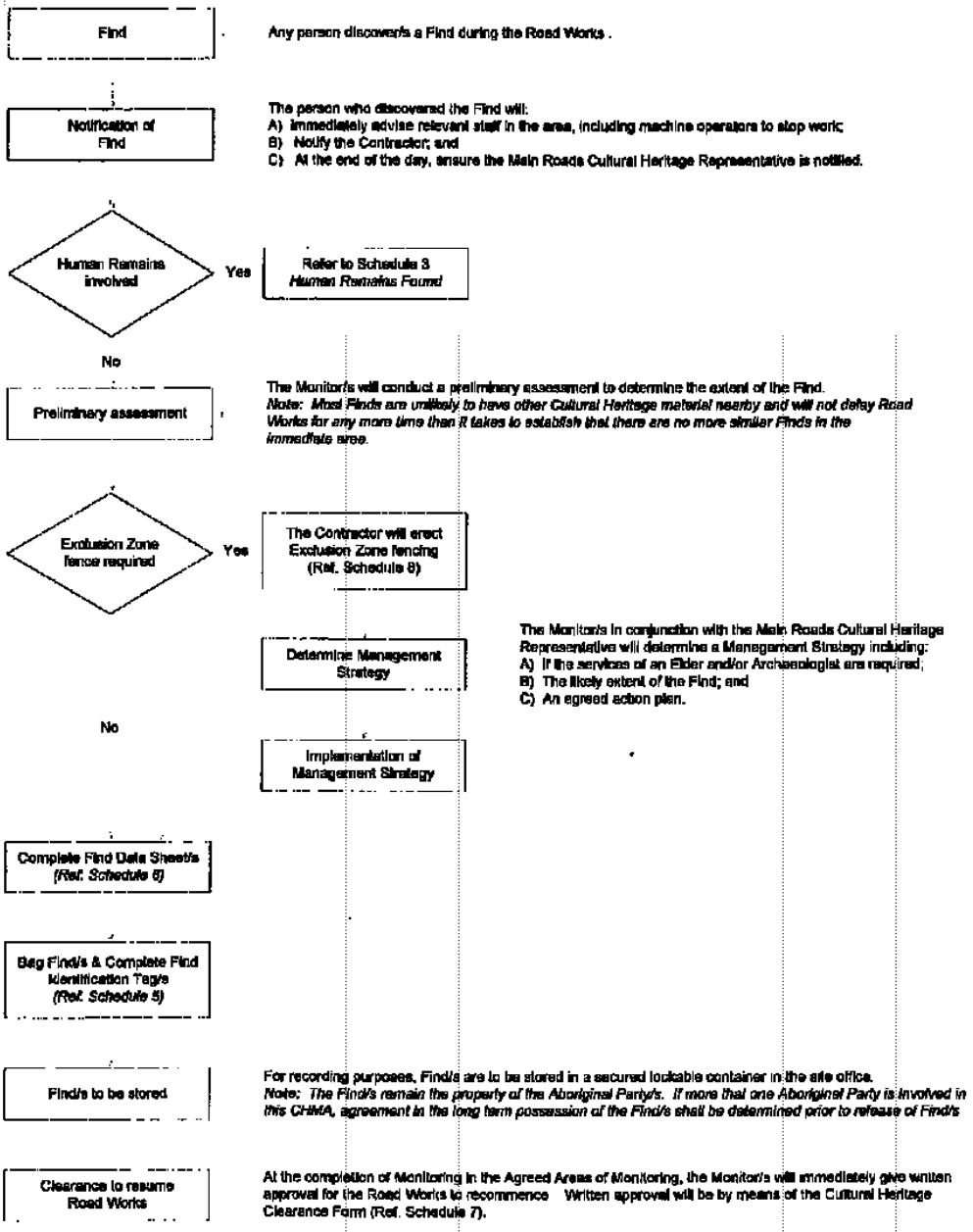
Category 5—Activities causing *additional surface disturbance*

As there is generally a high risk that an activity causing additional surface disturbance could harm Aboriginal or Torres Strait Islander cultural heritage, such activities should not proceed without consultation with the Aboriginal party for the area. Examples of such activities could include:

- felling mulga to feed stock (fodder harvesting of native vegetation)
- cultivating in previously grazed areas
- establishing a new firebreak.

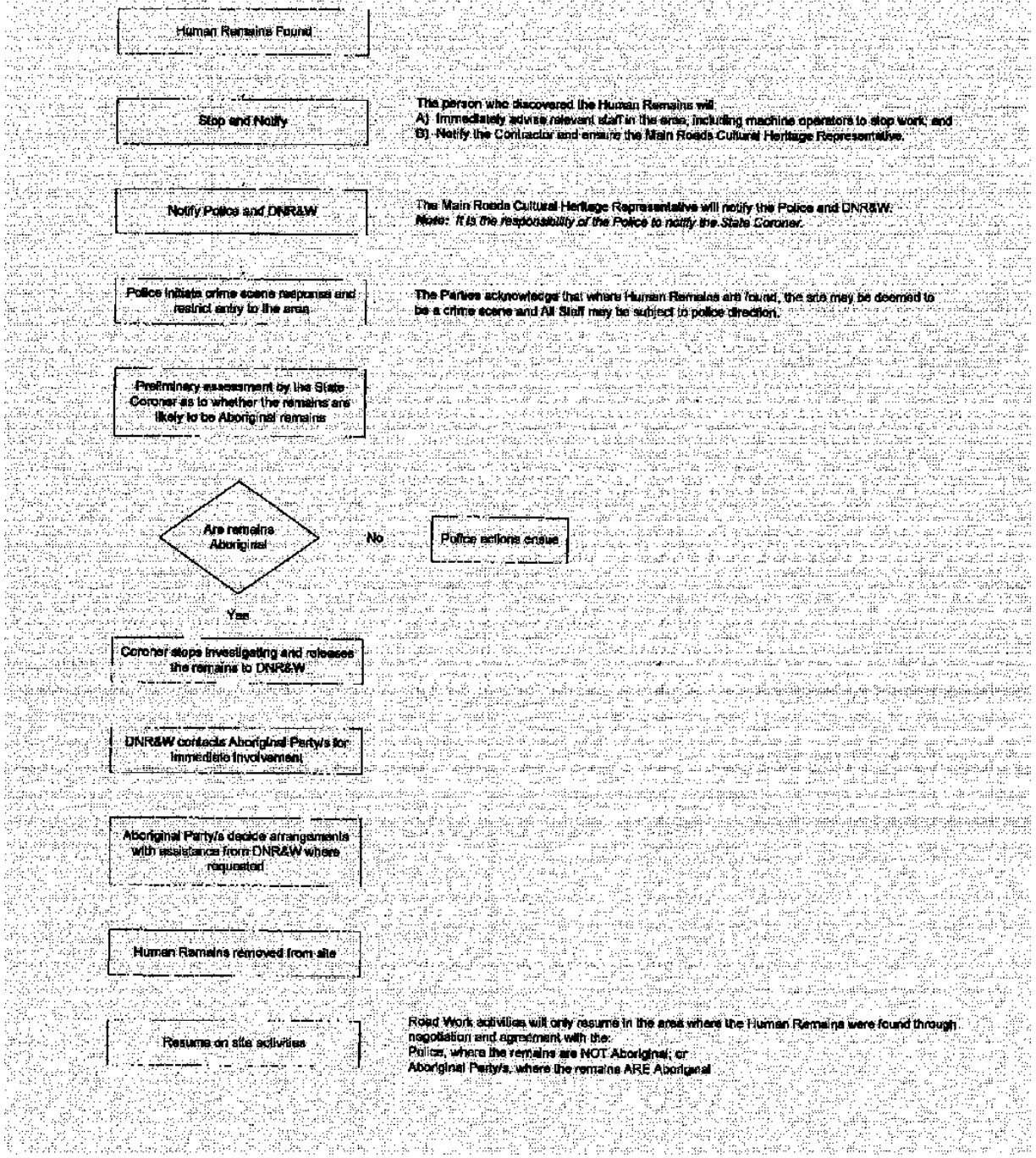
Appendix C
Cultural Find Procedure

Schedule 2 Procedure for a cultural heritage find



Appendix D
Human Remains Finds Procedure

Schedule 3 Procedure if suspected human remains are found



Schedule 5 Template find identification tag

✂.....

FIND IDENTIFICATION TAG (Please place inside bag)

JOB NUMBER: ..... PROJECT NAME: .....

.....

BAG NUMBER: ..... DESCRIPTION OF FIND: .....

.....

.....

LOCATION (GPS CO-ORDINATES & CHAINAGE): .....

.....

REPRESENTATIVE'S NAME: ..... DATE: .....

REPRESENTING: .....

SIGNATURE OF MONITOR: .....

✂.....

Schedule 6 Find data sheet

Queensland Government
Department of Main Roads

JOB NUMBER: ..... PROJECT NAME: .....

.....

BAG NUMBER: ..... LOCATION (GPS COORDINATES & CHAINAGE): .....

.....

SITE TYPE Artefact Scatter ☐ Art Site ☐ Fish Trap ☐
Isolated Find ☐ Scarred Tree ☐ Shell Midden ☐
Rock Shelter ☐ Quarry ☐ Other ☐ (Please Describe)

.....

ARTEFACT TYPE Flake ☐ Blade ☐ Hammer Stone ☐
Debitage ☐ Core ☐ Axe ☐
Grindstone ☐ Other ☐ (Please Describe)

.....

RAW MATERIALS Silcrete ☐ Basalt ☐ Quartz ☐
Chert ☐ Quartzite ☐ Other ☐ (Please Describe)

.....

PRESERVATION Poor ☐ Fair ☐
Good ☐ Excellent ☐

ENVIRONMENT/LANDSCAPE: .....

.....

SITE DESCRIPTION: .....

.....

REPRESENTATIVE'S NAME: .....

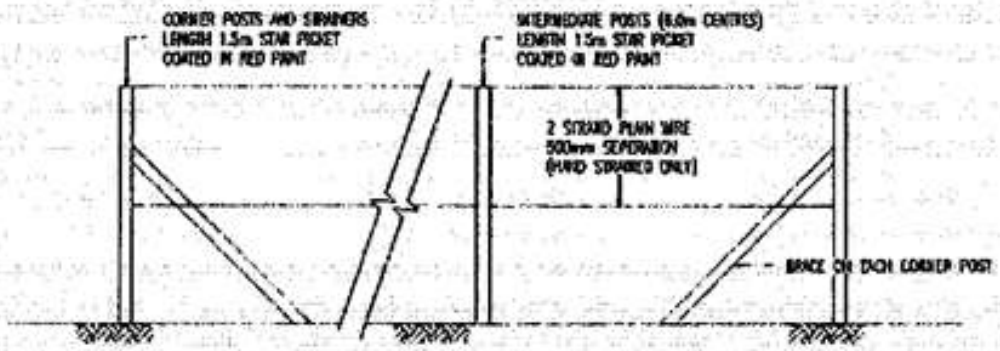
REPRESENTING: .....

SIGNATURE: ..... DATE: .....

PLEASE ATTACH PHOTOGRAPH OF FIND.

FORWARD THIS FORM TO THE MAIN ROADS CULTURAL HERITAGE OFFICER.

Schedule 8 Example of an exclusion zone fence



TYPICAL EXCLUSION ZONE
FENCING ARRANGEMENT

The Aboriginal party in consultation with the Superintendent, Main Roads Cultural Heritage Officers and the Contractor will determine the size of the Exclusion Zone. There can be both temporary and permanent Exclusion Zones.

Environment Management Plan – Sub-Plan

FLORA AND FAUNA PROTECTION

1.0 OBJECTIVE

Effective management of native flora and fauna during clearing and surrounding the project site during Construction works. Probuild Civil (QLD) is responsible for the management of vegetation within the site and to minimise disturbance and preserve current condition.

2.0 SUMMARY OF IMPACT

Flora surveys have been undertaken for each work site by the Principal. A species list is included in the *Environment and Heritage Development Phase Handover Report* for each road.

As outlined in Clause 11.1 of MRTS 51.1 Annexure, Probuild Civil (Qld) shall comply with the requirements of DTMR Least Concern Protected Plant Exemption under the *Nature Conservation Act 1992* (NC Act), including the undertaking an ecological assessment by suitably qualified person prior to any clearing and providing clearing report to the Principal's Representative Delegate.

In addition, all conditions under the DTMR Protected plant exemption under section 89 of the Nature Conservation Act 1992 and section 41 (1)(a)(ii) of the Nature Conservation Act (Protected Plants) Conservation Plan 2000 (2/11) will be adhered to.

Only grass groundcover may be disturbed for the establishment of a site office, storage areas, parking areas and stockpile sites. No trees or shrubs are to be disturbed for the establishment of these areas unless approved by the Principal's Representative Delegate.

Unauthorised clearing shall be rehabilitated to the satisfaction of the Principal with all costs borne by the Contractor. Unauthorised clearing is defined as clearing outside of the marked clearing limits without prior written approval being obtained from the Principal's Representative Delegate. It is the responsibility of Contractor to comply with NC Act.

Known declared weed species are outlined in the *Environment and Heritage Development Phase Handover Report* for each road.

Should any clearing occur outside these limits the Contractor shall immediately cease works in that area, notify the Principal's Representative Delegate who shall notify RPO Environmental Officer.

3.0 STATUARY OBLIGATIONS

Works shall be carried out in accordance with the requirements

- Environmental Protection Act 1994,
- Environmental Protection and Biodiversity Conservation Act 1999,
- Nature Conservation Act 1992,
- Nature Conservation (Protected Plants) Conservation Plan 2000,

- Vegetation Management Act 1999,
- Lands Act 1994 and the Land Protection (Pest and Stock Route Management) Act 2002,
- MRTS04 – General Earth Works

4.0 PERFORMANCE CRITERIA

The performance criteria for managing flora and fauna impacts include:

- Minimal habitat loss (if any);
- Minimal removal of remnant vegetation (where present);
- Minimal disruption to the connectivity of wildlife corridors due to project activities;
- Minimal disturbance of fauna by project activities;
- Minimal spread of environmental weeds (especially C2 and C3 species) or pests due to project activities; and
- Prevent fauna injury or mortality due to project activities.

5.1 MITIGATION MEASURES

5.2 General

- During the site induction process all construction staff will be briefed on the vegetation and fauna management requirements of the site.
- Prior to commencement of works, the contract is to be reviewed for site specific requirements for Fauna, Vegetation and Pest Management.
- Appropriately sized and truck will be source for the works.
- Upon nomination in the pre-works phase for the site office, agreement with the Principal or their nominated representative must be obtained.
- Using pre-disturbed site for ancillary activities, if possible.
- No animals are to be taken onto site.
- Excluding access into areas with significant vegetation.
- The management of due care and prevention of harm to fauna will be through a combination of preliminary assessment, site inspection pre-clearing and grubbing, site induction, the setting of site speed limits, barriers, exclusion zones, toolbox talks and daily site inspections and reporting.
- No areas are to be disturbed unless demarcated as a result from site surveys to be disturbed.
- Clearing within the construction zone is to be limited to the engineering design / drawings and within the limits designated and delineated.
- Hollow timber which is identified as suitable habitat logs for fauna is to be relocated and re-established.
- Side tracks where used, will be in areas that are to be cleared for the permanent works. This will limit the extent and duration of damage to exposed areas and to assist a rapid recovery for the ground vegetation cover once landscaping is completed.
- Promotion of natural revegetation and weed control.
- All declared pests (flora and fauna) within the worksite shall be managed by preventing their spreading on and off the site. Particular attention will be paid to species outlined in Part 4.7 Environmental conditions and approvals (Contract Documents).
- Staff training on flora and fauna issues such as fauna movement and fauna habitats.

5.3 Clearing

All clearing is to be minimized through survey control and daily monitoring by site staff to ensure that over clearing does not take place i.e. site clearance boundaries are not encroached. A maximum of 1 metre either side of the footprint will also be observed. The clearing and grubbing procedure will include the following:

- Prior to clearing vegetation, a fauna survey will be undertaken by a qualified fauna spotter on the day of clearing and prior to any clearing of trees. Trees identified as containing fauna will be marked and not cleared until fauna have left the area or, if necessary, been removed by an appropriately qualified person. All desktop and field works is to be completed buy a suitably qualified ecologist. These areas should then be fenced off with exclusion fences.
- Prior to clearing, a survey for controlled weeds will be conducted by a qualified Pest Control Expert.
- Ensuring access to an authorised person to relocate fauna if so directed.
- Allow adequate facilities for fauna movement through the site.
- Marked habitat trees are to be dismantled carefully using a cherry picker. Where possible, the clearance of habitat trees shall be undertaken in the afternoons so that any captured fauna which is not injured can be immediately released at dusk near the point of capture.
- Prior to the felling of identified and marked habitat trees, the trees shall be shaken or nudged to disturb any fauna and encourage them to vacate the tree. If koalas, bat colonies or glider dens are observed in the habitat trees works shall cease in the immediate vicinity and moved into a different area to allow time for the fauna to move out. Where possible these trees shall be left overnight, given the fauna will become more active during the night and should move off.
- The fauna specialist will carry out a check of the habitat trees to check for fauna and nests after trees have been felled. Should any fauna be found, these shall be allowed to move on of their own accord or if trapped shall be captured by the fauna specialist and located to a suitable area with similar vegetation communities and habitat.
- Felling of habitat trees shall be supervised by the fauna specialist and advice given as to the correct angle of felling dependent on the location of hollows. Hollow limbs and/or trunks should be left on the ground adjacent to the Project (or relocated to within areas of remnant vegetation) to provide habitat for ground-dwelling fauna.
    - Where cleared material cannot be used for terrestrial habitat (preferable action), cleared material may be mulched and be stockpiled and re-used later for sediment stabilisation activities. Any cleared material not deemed suitable for mulch will be removed from site and disposed of as required.
- Clearing will be carried out sequentially outwards from the proposed alignment in order to avoid isolating fauna within the construction footprint.
- Clearing limits must be clearly marked onsite before clearing commences. The limits shall be in accordance with design drawings. The marked limits must remain visible for the duration of clearing and grubbing. Where practical the clearing limits shall remain visible during earthworks operations.
- Where possible, vegetation drip-lines will be protected from shelter or compaction. .
- Where possible, ancillary activities will be located within existing disturbed areas to prevent further disruption.
- Where possible prior to clearing, all nests and local habitats shall be safely removed from trees through the use of a cherry picker prior to trees being felled.
- Prior to clearing, consideration will be given to the sediment control measures such as silt fences and rock check dams which may be installed. If this action is not immediately possible all controls will be installed by the end of the working shift after the area has been cleared. Consideration must be given to selecting appropriately sized clearing equipment for the work .i.e. select machinery that

is capable of clearing the largest trees but not too large as to cause excessive damage to flora and fauna. This will be agreed with the sub-contractor prior to commencing on site.

- The footprint of the work shall be clearly pegged. A joint inspection with the Principal shall be held to confirm the location and extent of the fencing to Exclusion Zones. Consideration will also be given to escape paths available to disturbed fauna.
- Pruning, lopping or clearing of natural vegetation is limited to the footprint areas. This point will be reinforced during toolbox meetings. If it becomes necessary to clear outside those zones, Probuild Civil (QLD) Pty Ltd will seek the approval of the Principal.
- Clearing shall be staged to allow the progressive movement of fauna from the area. Clearing will be performed from the outside inwards so as not to cut of the escape path for any fauna.
- Any habitat logs, rock or other shelters encountered during clearing that can be reserved shall be relocated to the adjacent vegetated area.
- Prioritise using native vegetation (existing and seeded) for re-vegetation.

5.4 Fauna

The procedures for caring for injured wildlife are as follows:

- When an injured animal is located on site, an informal risk assessment will be performed to decide if the animal can be handled safely by site staff. If this is not the case, then handling of the animal will be done by National Parks & Wildlife Service's staff. All plant and personnel should leave the immediate area to limit the stress caused to the injured animal until the wildlife service's arrive to site.
- If a risk assessment determines that the injured animal can be handled safely it will only be done if the animal is in danger. If necessary gloves and/or a towel will be used and the animal placed in a quiet shady spot. Attention will be paid to the possibility of sharp teeth and claws.
- Report to Wildlife Ranger Southern Team Leader (07 3330 5258) any injured fauna requiring rescue and / or rehabilitation within North Burnett Regional Council.

5.5 Weed Management

The procedures for weed management are as follows:

- Prior to clearing operations commencing, a survey of the area for declared pests including weeds (especially C2 and C3), is to be conducted by a suitably qualified pest inspector. If required a plan will be drawn up indicating the problem zones. These will then be treated as exclusion zones until the treatment for the area has been completed.
- Avoid areas of infestation, if possible.
- Treating infestations prior to the disturbance to the natural surface.
- Pest management requirements outlined in Clause 12.1 of MRTS51.1 include:
    - All declared and environmental weeds within and adjacent (up to 10m away) to the project area are to be controlled by the Contractor two (2) weeks prior to earthmoving. Any herbicide applied to the area should be undertaken by spot spraying in accordance with relevant DAFF pest fact sheet.
    - Machinery is to be clean and weed free. All plant and equipment on the site should be washed down prior to arriving on site, with a declaration stipulating that the plant and equipment is clean, in accordance with the Department of Agriculture Fisheries and Forestry (DAFF) 'Ways to prevent Weed Seed Spread' and the Weed Hygiene Declaration Forms'.
    - Weed control techniques will vary depending on species targeted and location. Within regrowth native vegetation, and in close proximity to waterways, selective removal

techniques (ie hand removal or spot application of non-residual herbicide such as roundup bioactive) shall be used.

  - Where poisoning of “non-intended” species occurs the Contractor should revegetate the area in accordance with MRTS16C to the satisfaction of the Principal’s Representative Delegate.
  - Reuse of existing topsoil is approved, subject to the material being free of weed species and weed seed. Where material is contaminated with weed species, or weed seeds germinate within the contract period, appropriate weed management should be undertaken at the Contractor’s cost.
  - DAFF declared weeds were noted on all of the project sites within this package of works;
  - Known declared weed species are outlined in the Environment and Heritage Development Phase Handover Report for each road
  - The Contractor shall report any sightings of declared plants (Class 1 or 2) to RPO Environmental Officer. Where declared plants are found these shall be controlled in accordance with DAFF recommendations.
- Only a Pest Controller with suitable qualifications will carry out the work. Early identification of infested areas should allow treatment before any contamination takes place.
- Specific sprays for each type of weed will be used as per the qualified pest inspector’s recommendations.
- The weeds will be treated to the recommended treatment schedule at the locations specified by the pest inspector
- All non-declared weeds will be managed as per the pest inspectors recommendations.
- Once an area has been sprayed, plants removed if required, clearing will begin as prescribed in the vegetation section.
- Daily inspections are to be undertaken to determine the effectiveness of the pest control strategies.
- All weed material if required will be disposed of at appropriate refuse sites, as agreed with council to reduce the spread of weeds throughout the site.
- Topsoil is to be managed in such a way that any contaminated areas that are stripped are stockpiled, separately to weed free areas to mitigate the spread of weeds.
- Whenever machinery is used on other locations on sites where there is no contamination, it will be ensured that the machinery is free of weeds/seeds before commencing work on that location. As all machinery will be washed down in contaminated areas
- If a wash down bay is required:
  - It is to be positioned that overland runoff cannot contaminate pest free areas and is 200m from a waterway. This can be done by constructing an earth bund around plant or machinery prior to wash down.
  - It is to be located in areas easily accessible for ongoing maintenance.
- Area that has been identified as having weeds should be treated and it should then be ensured that the stripped topsoil is put in a separate stockpile. The topsoil respread should occur in the same area.
- Delivery on site of any soil and/or mulches is to be controlled; declarations will be asked stating that the delivered items are weed (and fire ant) free. Any external fill material will be obtained from weed free sources.
- Probuild Civil (QLD) Pty Ltd shall undertake the following:
  - Use vendor declarations to certify that imported topsoil and mulches are weed free.
  - Certify that construction plant and vehicles used on site are weed free.
  - Visual site inspections to check for weeds

6.0 MONITORING

- Regular inspections for the presence or spread of environmental weeds will be conducted;
- Regular inspections of culverts, trenches and fencing to ensure adequate fauna movement.
- Probuild Civil (QLD) Pty Ltd daily site inspection shall consist of visual assessment of habitat preservation measures to ensure their integrity and vegetation management measures; and
- Visual inspections for injured and deceased fauna in the project area will be conducted.

7.0 REPORTING

- All complaints or enquiries from members of the public will be recorded in the complaints register with the resulting follow up investigation and actions recorded to be presented at the monthly meeting.
- Any injury or death of fauna within the construction zone will be included in the monthly report. Known cause of death of fauna will be reported (See site induction for procedures for handling hurt fauna).
- Injury or death of fauna known as rare, endangered or vulnerable will be reported immediately (within 24 hours) to the Principal;
- Records will be kept of any obvious animal breeding places and number of breeding places destroyed during the clearing activities.
- Monthly Reporting in the DTMR Environment and Sustainability Report. This will include
    - Clearing of whole protected plants (species, location, GIS info, dates)
    - Vegetation clearing mitigation activities (species, location, GIS info, dates)
- On completion of clearing, the fauna spotter shall forward to Principal's Representative Delegate and RPO Environmental Officer a copy of post clearing fauna spotter report detailing any dispersions, deaths and any breeding places noted, whether destroyed or not.

8.0 CORRECTIVE ACTIONS

- Native fauna accidentally killed or injured is an environmental incident. In any other case, knowingly killing or injuring native fauna, unless it is an authorized activity, is an offence under the Nature Conservation Act 1992. If any native fauna is injured or killed as a result of construction, Probuild Civil (QLD) Pty Ltd shall contact the Queensland Parks and Wildlife Service for advice on the procedure from thereon.
- In the event that monitoring identifies practices that infringe upon the above performance criteria or statutory requirements relating to essential habitat and state wildlife corridors, appropriate actions will be undertaken to remedy the situation as quickly as possible. Where applicable, non-conformance and corrective actions are to be prepared and actioned promptly.
- In the event that non-conformance has occurred as a result of poor work practices, personnel on site will be made aware of the problem and informed about acceptable work practices in accordance with the Contractor's internal processes. Should poor work practices reoccur, appropriate counselling measures will be implemented.

9.0 RELEVANT FORMS

ENV-EM-FORM-00160 Weekly Environmental Checklist

10.0 SUB-PLAN REVISION TABLE – FLORA AND FAUNA

Version Number	Revised By	Description of Amendments	Revision Date	Authorised By
1st	L. Reimers			
2nd	A.Masci	Format Change and Content Review	21/03/2013	A.M

Environment Management Plan – Sub-Plan

NOISE AND VIBRATION

1.0 OBJECTIVE

Effective management of noise and vibration impacts to the surrounding area during construction works.

2.0 SUMMARY OF IMPACT

General noise and vibration impacts caused from construction works can include:

- Impacts to local community recreation,
- Impacts to residents.
- Impacts to fauna.
- Potential property damage

Project specific details of potential noise and vibration impacts are to be outlined. Please note, additional mitigation measures may need to be included due to site specific conditions.

The condition survey must include the following information and be provided to the Principals Representative 5 days prior to works that cause vibration:

- Assessment of the current structural and architectural condition os buildings and structures;
- Record all cracks and other defects
- Include photographic support
- Be conducted by a registered structural engineer (REPQ)
- Approval from the home owner or owners representative;
-

3.0 STATUARY OBLIGATIONS

Environmental Protection Act 1994 and Environmental Protection (Noise) Policy 2008

4.0 PERFORMANCE CRITERIA

The performance criteria for managing noise and vibration impacts include:

- Minimal disruption to fauna by project-related noise.

- Target for Zero complaints from the public or regulatory authorities regarding noise or vibration associated with the project works. Monitoring and investigations shall be triggered in the event of complaints.
- At all times, minimize noise and vibration levels at properties adjacent to the road which may be adversely affected through construction controls.
- Construction activities are only permitted to occur between 7am to 6pm Monday to Friday and 7am to 3pm Saturdays.
- Minimisation of noise and vibration at all times where possible so as not to cause environmental nuisance or harm.
- Maintain regularly serviced plant & machinery and in good working order

5.0 MITIGATION MEASURES

- Prior to commencing any activity, a risk assessment shall be carried out to evaluate any potential damage to nearby premises, (i.e. buildings and structures that may be affected by vibration):
    - If buildings are identified as being not at a safe distance, a condition survey shall be performed by a qualified and experienced surveyor and verified by a Registered Professional Engineer of Queensland.
- Hours of operation prescribed by the Environmental Protection Regulation 2008 / Environment Protection (Noise) Policy 2008 for noise sensitive areas shall be observed. The allowable hours for regulated devices in sensitive areas is 7:00am to 6:00pm Monday to Friday, 9:00am to 3:00pm on Saturday and no work on Sunday or a public holiday. Any construction or earthworks activities outside of the above specified hours must only occur with the prior written approval of the Principal.
- Equipment and vehicles used during construction are to be adequately maintained and serviced to ensure that noise levels associated with operation are as low as can reasonably be achieved.
- Stationary noise sources such as compressors, generators and lighting units should be positioned as far as practicable from residences.
- Where possible, activities shall be orientated to minimise noise.
- A complaints and community contact register will be implemented that clearly logs the date, time and nature of the complaint, the nominated representative of the Construction Contractor responsible for addressing complaints, the outcome and the date of the outcome.
- Noise monitoring event to be undertaken, if deemed appropriate and effective. If noise monitoring is to be undertaken, noise to be undertaken as per the Environmental Protection Agency's Noise Measurement Manual 2000;
- Probuild Civil (QLD) Pty Ltd have considered the noise management for all construction works of the project:
    - Advising community of expected noise;
    - Implementation practices; of alternate work. If compaction equipment is generating adverse vibration the following may be implemented;
    - Change compaction plant that resonates at a frequency that does not adversely amplify the vibration;
    - Limit early morning compaction close to premises;
    - Silencing or dampening; servicing or replacement of plant and machinery;
    - Bunding, enclosures and screening;
    - Advising the neighbouring community of expected construction noise especially of high vibration events (in conjunction with the Community Liaison Officer);
    - Locating noisy equipment away from noise sensitive areas;
    - Staging of the works to minimise noise and to provide noise protection;

- Possibility of accelerating work in problem areas; and
- Avoid dropping material from great heights including onto trucks (i.e. concrete rubble).
- If required, temporary relocation of complainants/adversely affected noise recipients/

- In managing vibration effects in nearby structures, Probuild Civil (QLD) Pty Ltd shall comply with the following:-
    - Air blast overpressure limits given in Environmental Protection Regulation 2008;
    - Ground vibration values listed in **Table 1** below; and
    - Provide the community with suitable notice of any out of the ordinary noisy construction works 72 hours in advance.

Table 1 Ground Vibrations Values

	Particle Velocity (VRm) for Construction Activity	**Particle Velocity (VRmax) for Single Blasting Event**	**Method**
Historical buildings, monuments and buildings of special value or significance	2.0 mm/s	2.0 mm/s *	AS2187.2
Houses and low rise residential buildings, commercial buildings not included below	5.0 mm/s *	10.0 mm/s **	AS2187.2
Commercial and industrial buildings or structures of reinforced concrete or steel construction including bridges	5.0 mm/s *	25.0 mm/s **	AS 2187.2

* Source: Main Roads Technical Notes 3: Measurement of Ground Vibrations and Air blast
Source: AS2187 N.b Only Vibration values will apply as no blasting will occur on site.

Table 2 Noise Limits **

Sensitive Location	**Time of Day**	**Acoustic quality objectives (measured at the receptor), dB(A) (LAeq,adj,1hr / LA10, adj, 1hr / LA1,adj,1hr)**
Dwelling (for outdorrs)	Standard construction hours	50 / 55 / 65
Dwelling (for indoors)	Standard construction hours	30 / 40 / 45
Library and educational institution (for indoors)	When open for business or classes are being offered	35 / na / na
Childcare centre or kindergarten (for indoors)	When open for business other than when the children usually sleep	35 / na / na
Childcare centre or kindergarten (for indoors)	When the children usually sleep	30 / na / na
School or playground	When the children usually play outside	55/ na / na
Hospital, surgery or other medical institution (for indoors)	Visiting hours	35 / na / na
Commercial and retail activity	When open for business	45/ na / na
Park or gardens for use other thank sport or organised entertainment	Anytime	The level of noise that preserves the amenity of the existing park or garden

** Source: QLD Environment Protection (Noise) Policy 2008

6.0 MONITORING

- Daily site inspections will be undertaken by the site supervisor to ensure noise and vibration mitigation measures are effective.
- Once a noise or vibration complaint is received the following procedure will be followed (as outlined in Clause 6.1 in the MRTS51.1 Annexure):
    - Investigate the cause of the complaint through consultation with the complainant. Review and log the type, location and duration of the site activity, meteorological conditions and other extraneous noise events occurring at the time of the complaint;
    - Within 14 days of the receipt of the noise complaint, report the results of investigation and the actions taken to "close out' the complaints to DTMR and the complainant.

- Where directed by Principal's Representative Delegate the Contractor shall in event of valid noise complaint, perform noise monitoring at the location from which the complaint arose (or a representative location) during a representative period to determine construction noise levels at the location of the complainant. Monitoring shall be conducted in accordance with the Noise Measurement Manual, EPA 2000; and
- Analyse the results of the monitoring and compare to levels specified in **Table 1** and **Table 2** of this sub-plan;
- Take corrective action within 48 hours of the complaint and /or implement management strategy if required; and
- Analyse the results of noise monitoring and use this data to assist with the assessment of impact and in the development and implementation of appropriate work procedures or mitigation measures to minimise further noise impacts.
- Immediately report the complaint to the principal;

- It is noted that noise sensitive receivers shall be those as defined by the Environmental Protection (Noise) Policy 2008 as a noise sensitive place. This shall include but not be limited to dwellings, schools and health care facilities.
- Spot noise monitoring is to occur at representative noise sensitive receivers located within.
- Condition Surveys of the affected properties shall be undertaken by a qualified and experienced surveyor and verified by a Registered Professional Engineer (QLD).

7.0 REPORTING

Any complaints received from the community or regulatory authorities will be incorporated into Probuild Civil (QLD) Pty Ltd complaints register and checklists together with the remedial actions undertaken.

8.0 CORRECTIVE ACTIONS

- In the event that monitoring identifies practices that infringe upon the above performance criteria or statutory obligations relating to noise, appropriate actions will be undertaken to remedy the situation as quickly as possible. Where applicable, non-conformance and corrective action notices are to be prepared, then actioned promptly.
- In the event that non-conformance has occurred as a result of poor work practices, personnel on site will be made aware of the problem and informed of acceptable work practices in accordance with the Contractor's internal processes. Should poor work practices recur, appropriate counselling measures will be implemented.

9.0 SUB-PLAN REVISION TABLE – NOISE AND VIBRATION

Version Number	Revised By	Description of Amendments	Revision Date	Authorised By
1st	L. Reimers			
2nd	A.Masci	Format Change and Content Review	21/03/2013	A.M

Environment Management Plan – Sub-Plan

WASTE AND SITE CLEAN-UP

1.0 OBJECTIVE

To minimise all forms of waste generated from construction activity during and after project completion.

2.0 SUMMARY OF IMPACT

Probuild Civil (QLD) Pty Ltd shall be responsible for the management of wastes generated during construction. General office waste i.e. paper, food wrappers and other construction related scraps are expected to be generated. Site wastage can include containers used for storage of materials, grease guns, paint spray cans, steel, timber, plastic and concrete.

The waste generation expected to occur on site from construction related activities will be from formwork, demolition and removal of existing assets (i.e. bridge work and kerb removal). Typical site waste will be removed from site by a licensed waste contractor.

3.0 STATUARY OBLIGATIONS

Works shall be in accordance with the Environmental Protection (Waste Management) Policy 2000 and Environmental Protection (Waste Management) Regulation 2000.

4.0 PERFORMANCE CRITERIA

The performance criteria for managing waste generation include:

- To prevent any adverse impacts from construction wastes
- Adoption of the waste hierarchy of:
    - waste avoidance
    - waste reuse
    - waste recycling
    - energy recovery from waste
    - waste disposal.
- Collection and disposal of non-reusable construction wastes at licensed landfill sites, subject to the approval of the landfill operator
- Containment of construction wastes not immediately disposable
- On-site toilets will need to comply with relevant standards and be located within a designated maintenance and/or storage area. This will involve a storage tank suitable for storage of sewerage and disposal by an authorized agent or direct connection into the local authority sewer system, once permission has been given.
- Probuild Civil (QLD) Pty Ltd will adopt a waste management hierarchy of waste avoidance, re-use, recycling, energy recovery from waste and waste disposal.
- No complaints received in relation to waste management during or post construction.

5.0 MITIGATION MEASURES

- Cleared vegetative material must not be burnt on site
- Any domestic waste dumped within the construction site shall be removed and disposed of at licensed landfill in accordance with Local Council requirements
- Purchase materials and products that have a recycled content wherever cost - and performance-competitive and environmentally preferable to non-recycled alternatives – e.g. concrete, asphalt and steel reinforcement.
- Order goods in bulk to minimise packaging waste and plan deliveries to facilitate return of packaging material to supplier, where practicable.
- Consider using unused construction materials on other parts of the project.
- Waste must not be buried on site
- The site will be regularly cleaned and all rubbish removed from the site. Material which can be economically recycled (eg steel and oil) shall be sent to recyclers, all other rubbish shall be disposed of at a licensed landfill in accordance with Local Council requirements
- If at any point in time Probuild Civil intends to dispose of spoils, unsuitable material, sediments, green wastes on-Site, approval from the Principals Representative must be obtained in regards to the disposal site.
- Any liability associated with any waste disposal shall be borne by Probuild Civil.
- Bins shall be provided to ensure that all rubbish and waste (which includes earth and fill materials) is suitably contained on site until disposal. Liquid wastes including oils, fuels and chemicals shall be managed on site in accordance with AS1940-2000. Waste and rubbish shall be prevented from permeating into bushland, creeks, stormwater, and/or neighbouring properties.
- Trackable wastes as outlined in Schedule 1 of the Environment Protection (Waste management) Regulation, which could be potentially generated in construction activities include:
    - Oil and water mixtures or emulsions, or hydrocarbons and water mixtures or emulsions (J120)
    - Lead acid batteries (D220)
    - Waste from the production, formulation and use of organic solvents (G160)
    - Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives (F110)
    - Waste from the production, formulation and use of inks, dyes, pigments, paints lacquers and varnish (F100)
    - Used tyers (T140)
- Trackable waste and Regulated Waste will be separated from the regular waste streams and sent for storage, recycling, treatment or disposal at an appropriate location via an authorised transporter with due regards for its hazardous properties. .
- All bins will be fitted with lids and serviced prior to being filled to capacity
- The site will be maintained free of litter as much as possible
- All vehicles hauling material to and from the site will be suitably covered (as required)
- If a contaminated site is discovered on the project, Probuild Civil (QLD) Pty Ltd will
    - Immediately notify the principal
    - Notify the EPA as per the requirements of the EP Act
    - Prevent spread of contamination
    - Manage as directed by the principal
- At the completion of the works the site will be cleared of all rubbish and waste and left in a clean and tidy state.

6.0 MONITORING

- Probuild Civil (QLD) Pty Ltd daily site inspection will consist of a visual assessment of the site to determine the effectiveness of waste management controls;
- The site and surrounding land will be visually inspected for rubbish on a weekly basis;
- At the completion of the works a final check will be performed to ensure the site and adjoining areas are cleared of all rubbish and that all bins have been removed; and
- Ensure waste is being separated and recycled as appropriate.

7.0 REPORTING

Probuild Civil (QLD) Pty Ltd will maintain a register of all waste which is transported from the site. At the completion of the project, a copy of these records will be provided to the Principal's Representative. The waste register will consist of:

- Type and quantity of waste generated
- When and where the waste is recycled, reused or disposed of
- Waste transporters details (including company name, licensed operator name and licence number). See **Appendix A** for waste tracking register.

A copy of all documents issued in relation to waste transportation and disposal process will be retained.

8.0 CORRECTIVE ACTIONS

- The site must be kept cleaned and on completion be cleaned up and to the Principal Representative's satisfaction. In the event that the environmental safeguards have not been implemented or are not working correctly, the Construction Contractor shall take whatever measures are necessary on-site to rectify the situation. If this is not practical or achievable the Construction Contractor shall contact the Principal's Representative for further advice.
- In the event that the environmental safeguards have not been implemented, or are not working correctly, the Construction Contractor shall take whatever measures necessary to remedy the situation. If this is not practical or achievable the Construction Contractor shall contact the Principal's Representative for further advice.

9.0 SUB-PLAN REVISION TABLE – WASTE AND SITE CLEAN UP

Version Number	Revised By	Description of Amendments	Revision Date	Authorised By
1st	L. Reimers			
2nd	A.Masci	Format Change and Content Review.	21/03/2013	A.M

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OHS - Form

Disposal of Substance Form

Project No: **Project Name:**

Date	Vehicle Reg. No	Vehicle Type	Hazard Y / N	Product Name	Class	Quantity	Destination

Appendix "A" Waste Tracking Form

Environment Management Plan – Sub-Plan

WATER AND SOILS

1.0 OBJECTIVE

Outline control measures and management practices that is to be employed during construction of the project to minimise the potential for water and soil impacts.

2.0 SUMMARY OF IMPACT

General water and soils impacts caused from construction works can include:

- Increased suspended solids and turbidity in storm water run-off during construction.
- Reduced suspended solids and turbidity in storm water once construction is complete.
- Increase in number of point sources and quantity of pollutants.
- Increase in number and quantity of concentrated flows.
- Increased water ponding which may provide opportunities for mosquito breeding with potential health risks.
- Increased potential for spillages arising from accidents occurring on or near roads.
- Temporary hydraulic changes within the waterway during culvert extensions.

Carrying out works and operating machinery in and near waterways and wetlands can impact on:

- Eroding stream beds and banks
- Affecting riparian and wetland vegetation
- Smothering aquatic vegetation
- Affecting aquatic animals
- Affecting water
- Exacerbating flooding

Project specific details of potential erosion and sedimentation impacts are to be outlined. Please note, additional mitigation measures may need to be included due to site specific conditions.

3.1 STATUARY OBLIGATIONS

Key legislation for erosion and sediment control are the Environmental Protection Act 1994 and Water Act 2000.

The Environmental Protection (Water) Policy 2009 is the governing legislation for soil and water management on-site during construction. In particular the policy indicates that it is an offence to release storm water run-off into a roadside gutter, storm water drain or water body that results in the build-up of sand, silt or mud in the gutter, drain or water.

It is also an offence under this policy to deposit sand, silt or mud into a roadside gutter, storm water drain or a water body; or in a place where it could reasonably be expected to move or be washed into a roadside gutter, storm water drain or water and result in a build-up of sand, silt or mud in the gutter, drain or water.

The quality of storm water discharges from the site is also subject to the requirements of the Environmental Protection (Water) Policy 2009. The policy indicates that water discharges from the site should comply with the requirements of Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ 2000).

For working in waterways, compliance to the Fisheries Act 1994 is required with the construction of barriers in waterways.

4.0 PERFORMANCE CRITERIA

The performance criteria for managing flora and fauna impacts include:

- The absence of visible signs of water quality deterioration in receiving water bodies;
- No complaints from the public or regulatory authorities regarding water quality;
- No worsening of existing hydrological conditions and minimal alteration of water flows;
- Sediment and control measures implemented that comply with the QDMR's Drainage Design Manual;
- Reduce contamination possibility of waterways by suitable handling and containment of toxic or hazardous chemicals on-site.; and
- Control storm water run-off water from the road and associated batters.

Water Quality Objectives have been sourced from the TMR MRTS51.1 Environmental Management for the specific parameters outlined in **Table 1** below.

Table 1 – Water Quality Objectives

Parameters	Unit	Maximum Increase	Maximum Decrease
Turbidity	NTU	10% from upstream	NA
Oils and hydrocarbons	Visible sheen	No visible sheen film on surface water	NA
pH	pH unit	0.5 from upstream (6.5-8.0)	0.5 from upstream (6.5-8.0)
Waste	Litter and waste units	No visible waste	NA

5.1 MITIGATION MEASURES

5.2 Water

- Fuels, oils, chemicals or other hazardous liquids shall be stored well away (>30 metres) from any waterways or water bodies;
- Areas for the storage of fuels, oils, chemicals or other hazardous liquids will have an impervious base and be surrounded by an impervious bund to contain any spillage in accordance with AS1940 – 2004 or be put in a bunded pallet;
- Any spillage of fuels, oils or other hazardous liquids must be contained immediately. Absorbent material must be used to soak up excess liquid. All contaminated soil and absorbent material must be picked up immediately and stored in a sealed container prior to disposal. This must be reported to the site supervisor immediately;
- Probuild Civil (QLD) Pty Ltd shall remediate any contamination resulting from spills and leaks to the Principal's satisfaction. Probuild Civil (QLD) Pty Ltd shall pay all costs associated with remediation;
- Refuelling of machinery shall conform to the following requirements:
    - No fuelling within 30 meters of a watercourse or drainage line;
    - Fuelling activity to be supervised at all times ;
    - Hoses to be fitted with a stop valve at the nozzle end; and
    - It is planned to use mobile tankers to refuel plant.
- Machinery shall be maintained and inspected daily to minimize the leakage of oil, fuel, hydraulic and other fluids. Unless there is a machine breakdown any major plant servicing shall be offsite;
    - Machine breakdown servicing must be done with spill kits to hand and supervised by the Site Supervisor to ensure that no spillages occur;
- Maintain the quality of water discharged from the site during construction to that of the receiving watercourse (i.e. the watercourses flowing through the culverts) using temporary erosion and sediment control structures such as sediment fences, rapid revegetation of the site, and minimising areas of disturbance;
- Maintain drainage discharge and runoff away from and/or diverted away from contaminated areas to a more stable area for release;
- As a general rule no cleaning of construction vehicles is to occur on-site. All vehicles are to arrive on site clean. For cleaning vehicles contaminated with weeds see Flora and Fauna sub –plan. Please note that cleaning of weed infected vehicles will be done at least 30m away from watercourses or drainage lines. Silt fences will be set up if required to contain any water run off in that immediate area. Alternatively earth bunds may be used;
- Surface disturbances should be kept to as a minimum necessary to undertake the works in an efficient manner and earthworks are to be completed and permanent protection placed over exposed soils as quickly as possible;
- Avoid the use of herbicides/pesticides near waterways (defined or otherwise) and drains;
- At completion of the works the area will be cleared of potentially polluting materials;
- Work shall be scheduled to ensure that temporary erosion control works are in place by the end of work each day or if rain is imminent;
- All stockpiles including soil and mulch and storage areas shall be located a minimum of 30 metres, away from drainage lines and not within riparian zones. Silt fences or catch banks to be located at the toe of all batters and stockpiles to prevent sediment entering drainage lines;
- Visual monitoring of water crossing will be undertaken when construction activities have the potential to contaminate waterways due to the work front/activities being located within 200m of water crossings; and

5.3 Waterways and Wetlands

- Any activities to be undertaken in waterways will be discussed with the Principal to verify Native Title limitations or notification requirements.
- Timing of works to coincide with periods of low flow and completed as quickly as possible. Work

should be stopped if conditions are not suitable, such as during and after heavy rain.

- Ensure damage to the ground cover is minimised and confined to the work area. Avoid blading and grubbing of the banks and the adjacent areas where possible.
- Notification of works to the Principals Representative will be undertaken prior to works to ensure any unique Native Title constraints are addressed.
- Access tracks width should be minimised across the waterway.
- Avoid mechanical clearing of vegetation on unstable and erodible banks. Where possible, any trees to be felled should be felled away from the waterway.
- Select heavy machinery and attachments appropriately suited for the site and the activity.
- Machinery should be kept on dry and stable areas within the works site and out of the waterway wherever possible.
- Minimise disturbance from equipment crossing the waterway by carefully walking across the stream. Where it is necessary to cross multiple times, a temporary crossing should be made by laying a pad of clean rock at a shallow point of the waterway (the rock is to be removed when construction is complete).
- The flow should be diverted and the work site isolated when excavation and construction is taking place within the waterway.
- A temporary diversion structure to divert the stream should be built using non-erodible material. Sandbags, clean rock or precast concrete barriers may be used to act as a temporary berm.
- The excavated material should be placed well away from the waterway to minimise erosion back into the stream.
- Fill should not be pushed into the waterway or stored in flood-prone areas.
- Clearing, placement of fill and removal of fill within a waterway shall be done in accordance with the provisions of the Water Act 2000 and subordinate guidelines.
- Surface and sub-surface flows at the site should be managed to minimise erosion and sedimentation of the waterway or wetland.
- Sediment fences should be used to stop sediment entering the waterway. They should be installed along stream banks and around wetlands adjacent to cleared areas, as necessary.
- Any runoff from the work site should be diverted away from the waterway through a sediment trap to stop sediment entering the waterway or wetland. The sediment trap should be large enough for area being drained and the volume of water being treated.

5.4 Soil

- Brief all construction staff on the measures to be taken to control erosion and sedimentation on the site during the site induction. Also instruct all personnel that no erosion control measures are to be demolished, altered or changed without the permission of the Site Supervisor;
- Ensure ESC controls divert upstream flow from disturbed areas;
- All vehicle routes within the construction site as well as entrance and exit points are to be shown on the Traffic Management Plan;
- Surface disturbances should be kept to a minimum necessary to undertake the works in an efficient manner and earthworks should be completed and permanent protection placed over exposed soils as quickly as possible;
- Works that require temporary erosion controls should not be started during a work shift if the Supervisor determines that adequate erosion and sediment controls cannot be put in place prior to the end of the shift or earlier if rain is pending;
- The following staged procedure will take place during clearing and embankment construction to ensure that erosion & sediment controls are implemented and flora is protected:
    - Survey set out to determine extent of the clearing operation (Hold point). The set-out must be approved prior to clearing operations commencing. Survey set out may have to

be staged due to the denseness of the flora and to ensure that the extents of clearing are accurately surveyed. This will progress as clearing progresses.

- Clearing operations to be commenced as per Flora & Fauna sub-plan Section 5.2.
- "No-go zone" fencing is to be erected to establish limit of works.
- As early as possible and where required, the sediment control measures should be constructed to direct and store overland water flows. Erosion control measures will be implemented prior to earthworks. This shall be a **HOLD POINT**.
- Silt fence is to be erected in a staged process as soon as practicable, to follow the clearing process. If required silt fences or bunds will also be constructed to ensure that clean water flows are diverted away from the cleared construction site.
- Progressive stabilisation and revegetation of disturbed areas should be implemented as soon as possible. As distinct areas are completed the works shall be permanently rehabilitated including the completion of final landscaping. If construction works are to proceed over an extended period before final landform is to occur (i.e. in excess of six weeks) this site shall be temporarily stabilised.
- Topsoil stripping and stockpiling must be managed to enable reuse in construction. Topsoil will be stockpiled in non-hazardous areas of the site away from direct entry into water ways and other drainage lines. Stockpiles will be protected by silt fences and temporarily revegetated with an annual crop cover if undisturbed stockpiles remain for more than one month.

- E&SC measures will be installed and removed at appropriate stages during the construction program, e.g. progressive installation of sediment fences as the work front moves forward and removal once the area has been stabilized.
- Temporary erosion and sedimentation control structures will be maintained until the protected area is stabilised to the satisfaction of the Principal's Representative. The control structures shall be removed once the area is protected unless they are nominated for retention.

- Ensure run-off from all disturbed areas pass through sediment retention devices (e.g. sediment fences) and do not contact contaminated areas. The flow should be directed/diverted to stable areas for release.
- Erosive potential of run-off on disturbed areas must be reduced through use of appropriate measures (e.g. banks, bunds, drains across the contour) with the intent of reducing the distance of overland flow and conveying water to stable drainage lines at non-erosive velocities.
- Sediment removed from sediment retention devices may be used in landscaping or as an embankment material, if considered suitable by the Principal's Representative. If unsuitable and approved by the Principal's Representative, alternative disposal options shall be considered.
- Soil or mud deposits on the adjacent road network due to truck movements to and from the site is to be avoided by the provision of sealed approaches or shake down grids if required. Any such deposits must be cleaned up immediately, to minimize their dusting potential. Management of excavated material (e.g. balancing of cut and fill material) shall use Main Roads approved haul roads for all spoil transport.
- Ensure adequate sediment control devices are available in preparedness for inclement weather.

Land Stabilisation

- Specific Land stabilisation actions will be compliant to the MRTS 16 and MRTS 16.1 as outlined in the MRTS 51.1 Annexure, which include:
    - Minimising the area of disturbance
    - Shaping the batters and drains to reduce stormwater flow velocity
    - Installing diversion drains and drainage blocks manage overland flow
    - Retaining and re-using topsoils
    - Instigating re-vegetation measures as soon as practicable after completion of works.

6.0 MONITORING

- All machinery will be inspected daily for leaks, with any leaks being immediately repaired as part of the operator's pre-start inspection.
- During construction, water quality samples will be taken after rainfall events greater than 10mm in 24 hour period, or as directed by the Principal's Representative and in accordance with the Monitoring and Sampling Manual 2009 (formerly the Water Quality Sampling Manual, EPA 1999)and Environmental Protection (Water) Policy 2009.
- Probuild Civil (QLD) Pty Ltd Contractor's daily site inspection shall consist of visual assessment of erosion and sediment control structures to verify their condition and effectiveness.
- Probuild Civil (QLD) Pty Ltd will inspect control structures weekly and after rainfall events greater than 10mm in a 24hr period, during the construction stage. Sediment shall be removed as necessary to ensure that at least 60% capacity is available to contain subsequent storm events.
- All site staff shall be briefed during toolbox meetings to look for signs of sediment release from the works area.
- The daily inspection will include the visual assessment of waters to determine the presence of sediment or chemical plumes.
- A monitoring regime form thereon shall be in place to prevent environmental harm to adjacent waters or downstream of the site.
- Site personnel will be trained on the specific requirements in regards to storm water quality monitoring;
- Further investigation on alert levels being triggered may include additional samples including laboratory samples, inspection of surrounding areas as well as upstream locations. Respective

supervisors would also be briefed to identify construction activities that may have contributed to the trigger levels being reached.

Table 2 – Water Quality Monitoring

Parameter	Measurement Type	Frequency
pH	In-situ	Weekly & event based
Oxygen saturation (%)	In-situ	Weekly & event based
Conductivity (µS/cm)	In-situ	Weekly & event based
Turbidity (NTU)	In-situ	Weekly & event based
Hydrocarbons & suspended solids	Observation	Daily & event based
	Sample for lab analysis	Discretionary (based on observation)

7.0 REPORTING

- Results from monitoring regime detailed in **Table 2** and its analysis, actions to resolve any non-conformances identified during the monitoring program shall be reported to the Superintendent on a within 2 days of the breach. An investigation is to be conducted outlining the breach and the corrective actions to be undertaken within 14 days.
- All complaints or enquiries from members of the public shall be recorded in the complaints register with the resulting follow up investigation and actions recorded to be presented at the monthly meeting.

8.0 CORRECTIVE ACTIONS

- In the event that any monitoring identifies practices that infringe upon the above performance criteria or statutory obligations relating to waterways and wetlands, appropriate actions will be undertaken to remedy the situation as rapidly as possible. Where applicable, non-conformance and corrective action notices are to be prepared and actioned promptly.
- In the event that non-conformance has occurred as a result of poor work practices, personnel on site will be made aware of the problem and informed of acceptable work practices in accordance with the Contractor's internal processes. Should poor work practices recur, appropriate counselling measures will be implemented.

9.0 RELEVANT FORMS

ENV-EM-FORM-00160 Weekly Environmental Checklist

10.0 SUB-PLAN REVISION TABLE – WATER AND SOILS

Version Number	Revised By	Description of Amendments	Revision Date	Authorised By
1st	L. Reimers			
2nd	A.Masci	Format Change and Content Review	21/03/2013	A.M

5. Appendix “E” Weekly Monitoring Checklists

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Environmental Management Procedure

ENVIRONMENT AND HERITAGE INSPECTION CHECKLIST

Project:	
Inspection By:	**Date:**

Environmental Representatives are required to complete a fortnightly/monthly inspection of a project (or more often depending on project requirements). At the completion of the inspection, the completed and signed form including the additional comments and corrective actions sheet is to be signed off by the Project Manager and filed.

TOPIC/ISSUE	STATUS			COMMENTS AND RECOMMENDATIONS
	Yes	No	N/A	
1 General				
1a Have all previous issues been actioned?				
1b All complaints correctly recorded and resolved?				
1c All employee Inductions completed?				
1d Environmental records in order?				
1e All licences and permits obtained, current and complied with				
1f Energy efficiency strategies implemented				
2 Water Quality Management				
2a Contaminated water/runoff contained/treated				
2b Recycled water controls applied				
3 Erosion and Sediment Control				
3a Unacceptable erosion/sediment risks avoided				
3b All controls in good order				
3c Sufficient E&S control materials on standby				
3d Revegetation commenced in available areas				
4 Cultural Heritage (CH)				
4a CH values protected and undisturbed				
5 Nuisance and Amenity				
5a No new noise/vibration/amenity risks				
5b Noise/vibration controls being implemented				
5c Dust controls are working effectively				
5d Plant appears in good operating order				
5e Site and compounds are being kept tidy				
6 Land Management				
6a Clearing has remained within allowable limits				
6b PASS/ASS management practices sufficient				
6c Actual/potential contaminated land issues - nil				
6d Declared plants identified and under treatment				
6e Weed hygiene controls implemented				
6f Unauthorised spoiling/stockpiling avoided				
7 Waste Management				
7a Waste stored and disposed correctly				
7b Are waste minimisation strategies applied?				
8 Chemicals and Fuels				
8a Bulk fuels/hazardous chemicals stored in bunded areas				
8b SDS Register readily accessible				

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Good News Stories: ……..
……
……
……
……
……

Additional Comments: ……
……
……
……
……
……

Topic/Issue ……
Corrective Action ……...
……
By: _____ Date: _____/_____/_____
Action Completed Yes No – Reason ……

Topic/Issue ……
Corrective Action ……...
……
By: _____ Date: _____/_____/_____
Action Completed Yes No – Reason ……

Topic/Issue ……
Corrective Action ……...
……
By: _____ Date: _____/_____/_____
Action Completed Yes No – Reason ……

Topic/Issue ……
Corrective Action ……...
……
By: _____ Date: _____/_____/_____
Action Completed Yes No – Reason ……

Topic/Issue ……
Corrective Action ……...
……
By: _____ Date: _____/_____/_____
Action Completed Yes No – Reason ……

Sign Off

Environmental Representative Name:…… Signature: ……
___/___/_____

Project Manager Name:…… Signature: ……
___/___/_____

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OHS - Form

Non Conformance Report

Contract No:	Contract / Organisation Name:	**Date:**
NCR Ref:	Location:	Lot No: (if applic)
Officer	**Report**	**Date Actioned:**
Reporting Officer	Nonconformance Details:	
		☐ Incidental
		☐ Minor
		☐ Major
Organisational Rep:	Corrective Action	**Accepted by:**
		Contractor:
		Probuild Civil:
		Superintendent:
Organisational Rep:	Action Taken to Prevent Future Nonconformance	**Accepted by:**
		Contractor:
		Probuild Civil:
		Superintendent:
		Accepted by:
		Contractor:
		Probuild Civil:
Organisational Rep:	Follow-up Actions/Close Out	Superintendent:
Includes Main Roads Department Queensland requirements		

7. Appendix "G" Complaints Form

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OHS - Form

INQUIRY / COMPLAINT FORM

CATEGORY

☐ Safety ☐ Environmental ☐ Work Hours ☐ Traffic Issue ☐ Noise ☐ Dust / Rock ☐ Other

INQUIF

LODGE

EXAMPLE

Date R	
How R	
Received By	

CONTACT DETAILS

Name			
Address			
Phone		Fax	
Email			

DETAILS OF INQUIRY / COMPLAINT

FOLLOW UP & CLOSE OUT

Action Taken By:

Action Was:

Completed:

Contact Person Advised	Yes / No	Name of Person you spoke to was?	
Date Advised		Time Advised	
How Advised	☐ Phone ☐ Fax ☐ Email ☐ In Person ☐ Other		

Name: Signed:
Date: / /

OHS-WHS-FORM- 120-3 Inquiry / Complaint Form 1 of 1 Rev 4, Version 1: 11/12/09
Probuild Civil (QLD) Pty Ltd

8. Appendix "H" Emergency Spill Procedure

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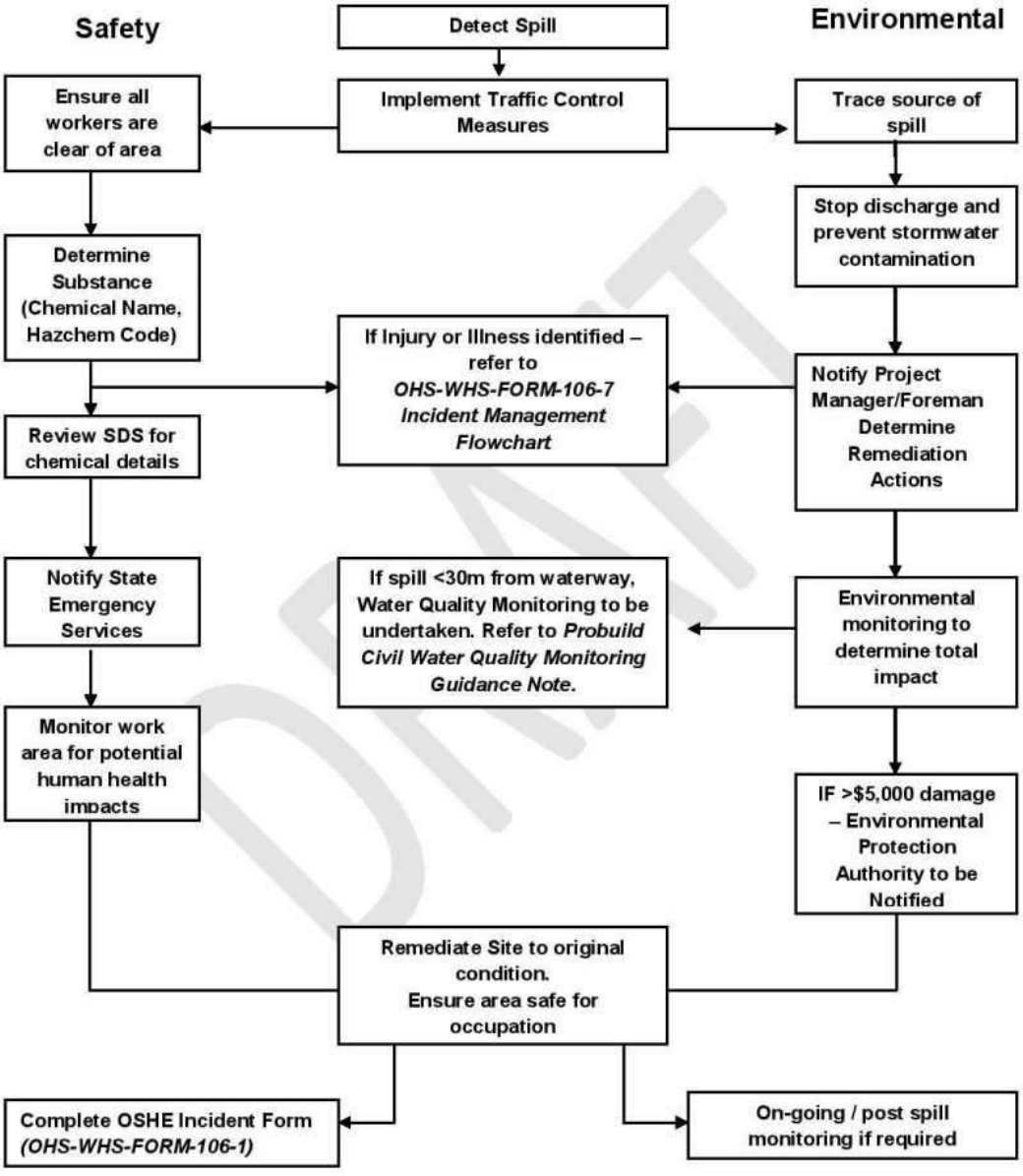
Appendix "A"

Emergency Spill Procedure



Note* - WARNING Substances may be hazardous. Refer to the relevant Safety Data Sheet and site risk assessment or seek emergency advice before exposing yourself to hazards.

OHS-WHS-FORM- 107-12 Spills Checklist
Probuild Civil (QLD) Pty Ltd Page 4 of 4 Rev 4, Version 1: 11/12/09

9. Appendix "I" Site Training Register

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OHS – Training & Development

TRAINING ATTENDANCE FORM

Course Title: _____ Venue: _____

Date/s: _____ Duration: _____

Time: _____ Course Fee: _____

List all attendees at the course.

Name	Organisation	Signature

EXAMPLE

Trainer Name: _____ Date: _____

Trainers Signature: _____ _____

Once complete, please send a copy to the Systems Manager for review and to be stored on the employees personnel file.

OHS-WHS-FORM-105-13 Training Attendance Form 1 of 1 Rev 1, Version1: 11/12/09
Probuild Civil (QLD) Pty Ltd

10. Appendix “J” Site Specific Environmental Management Procedures

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Environmental Management Procedure

WORKING IN MARINE ENVIRONMENTS- N/A to this project

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the impact of construction on the marine environment
	To comply with the requirements of the DPI & Fisheries (DPI&F) Act
Management Strategy:	Administrative controls will be utilised to control the potential impact from working in marine environments.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Potential damage to marine environments	Project Manager and Site Foreman / Duration of construction phase.
	Breach of the DPI&F Act	
Control Actions	Any work below the High Astronomical Tide (HAT) level requires a permit from the DPI&F.	Project Manager and Site Foreman / Duration of construction phase.
	Complying to conditions outlined in the DPI&F permit	
	Demarcate trees to be protected and erect appropriate barricades to delineate the “no work” areas.	
Performance indicators:	Number of complaints / requests / incidents for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily / Weekly.
Reporting:	Any complaints or incidents shall be reported to the site manager, who shall record such incidents in the EMP(C) Complaints Register and report on corrective measures.	Project Manager and Site Foreman / Duration of construction phase.
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
Interfaces:	Individual contractors/sub-contractors EMP’s must address and accord with any other EMP outlined for the project.	The duration of construction phase.

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Environmental Management Procedure

CHEMICAL HAZARD AND GAS CYLINDER STORAGE

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the risk/possibility of contamination of surrounding areas and the risk of poisoning to workers and the public.
Management Strategy:	Administrative controls in place to reduce chemical storage hazards.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Soil and water contamination from potential spill and waste products	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	Chemicals to be stored in approved containers and contained in an approved area.	Project Manager and Site Foreman / Duration of construction phase.
	Gas cylinders to be stored in secure and approved area/facility.	
	All relevant MSDS to be available on site and HAZCHEM signs to be erected and maintained.	
	Fire extinguishers maintained, not obstructed and ready for use.	
	Spill kit on site located in across the site.	
Performance indicators:	Number of complaints / requests for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Daily monitoring of the work site shall occur (non-mechanical).	Site Foreman / Daily.
	Weekly inspection of spill kit to ensure there is no cross contamination from general waste and to ensure there is no missing items.	
Reporting:	Any complaints or incidents shall be reported to the site manager **Immediately**, who shall record such incidents in the EMP(C) Complaints Register.	Project Manager and Site Foreman / Duration of construction phase.
	Spill response procedure is to be followed. (OHS-WHS-FORM-107-12)	
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
	Revise and update SDS register as required.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

Environmental Management Procedure

FISH KILL MANAGEMENT

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

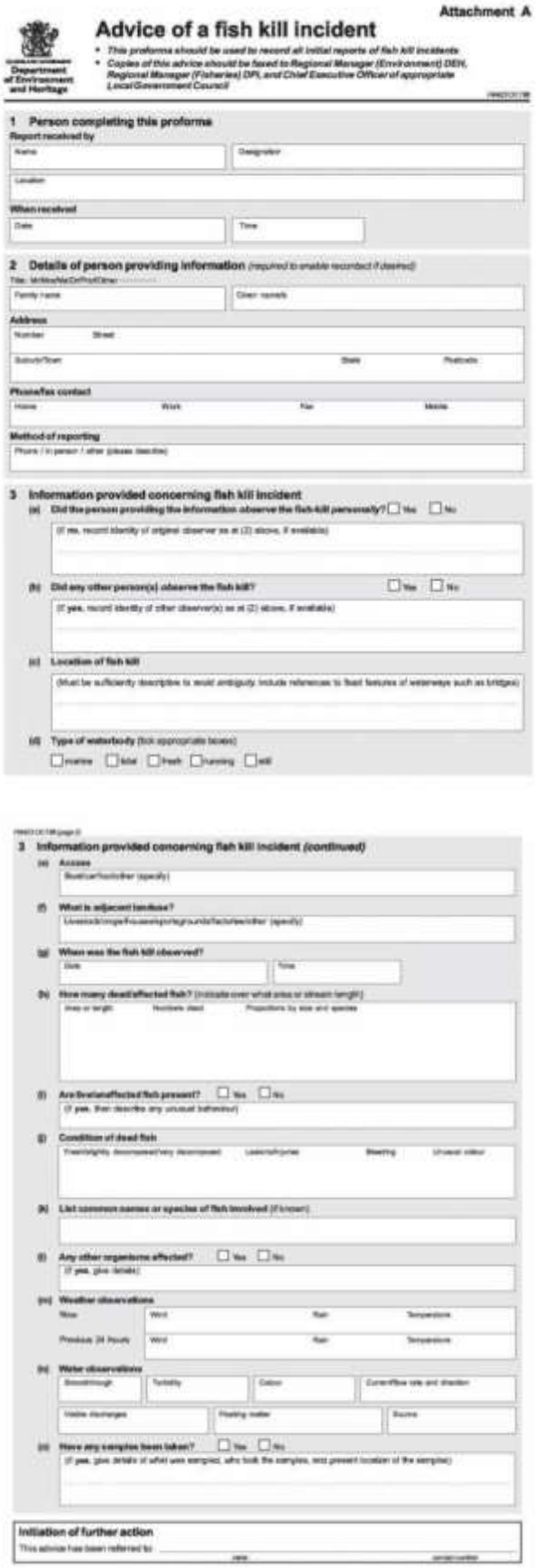
Strategic Focus

Objective:	To manage activities on site after discovering a fish kill potentially due to the project
Management Strategy:	Administrative and on site controls will be utilised to control the activities in the event of a fish kill.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Potential harm to environmental and human health due to fish kill.	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	Stop work immediately and notify site supervisor, who in his turn will notify the Client or Superintendent.	Project Manager and Site Foreman / Duration of construction phase.
	Clearly define no-go movement areas	
Performance indicators:	Number of complaints / requests / incidents for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily / Weekly.
Reporting:	Any complaints or incidents shall be reported to the site manager, who shall record such incidents in the EMP(C) Complaints Register and report on corrective measures.	Project Manager and Site Foreman / Duration of construction phase.
	Undertake investigation including completing EPH Fish Kill Incident Form attached as **Appendix A**	
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
	Remedial of the site in cooperation with the superintendent	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

Appendix A
EPH Fish Kill Incident Form



Attachment A

Advice of a fish kill incident

- *This proforma should be used to record all initial reports of fish kill incidents*
- *Copies of this advice should be faxed to Regional Manager (Environment) DEH, Regional Manager (Fisheries) DPI, and Chief Executive Officer of appropriate Local Government Council*

Department of Environment and Heritage

1 Person completing this proforma

Report received by

Name | Designation

Location

When received

Date | Time

2 Details of person providing information (required to enable recontact if desired)

Title: Mr/Mrs/Ms/Dr/Prof/Other

Family name | Given names

Address

Number | Street

Suburb/Town | State | Postcode

Phone/fax contact

Home | Work | Fax | Mobile

Method of reporting

Phone / in person / other (please describe)

3 Information provided concerning fish kill incident

(a) Did the person providing the information observe the fish kill personally? ☐ Yes ☐ No

(If no, record identity of original observer as at (2) above, if available)

(b) Did any other person(s) observe the fish kill? ☐ Yes ☐ No

(If yes, record identity of other observer(s) as at (2) above, if available)

(c) Location of fish kill

(Must be sufficiently descriptive to avoid ambiguity. Include references to fixed features of waterways such as bridges)

(d) Type of waterbody (tick appropriate boxes)

☐ marine ☐ tidal ☐ fresh ☐ running ☐ still

3 Information provided concerning fish kill incident *(continued)*

(e) Access

(Road/car/foot/other (specify))

(f) What is adjacent landuse?

(Livestock/crops/Pine/uses/reserves/grounds/factories/other (specify))

(g) When was the fish kill observed?

Date | Time

(h) How many dead/affected fish? (Indicate over what area or stream length)

Area or length | Numbers dead | Proportions by size and species

(i) Are live/unaffected fish present? ☐ Yes ☐ No

(If yes, then describe any unusual behaviour)

(j) Condition of dead fish

Fresh/slightly decomposed/very decomposed | Leeches/Parasites | Bleeding | Unusual odour

(k) List common names or species of fish involved (if known)

(l) Any other organisms affected? ☐ Yes ☐ No

(If yes, give details)

(m) Weather observations

Now | Wind | Rain | Temperature

Previous 24 hours | Wind | Rain | Temperature

(n) Water observations

Stream/creek | Turbidity | Colour | Current/flow rate and direction

Visible discharges | Floating matter | Scums

(o) Have any samples been taken? ☐ Yes ☐ No

(If yes, give details of what was sampled, who took the samples, and present location of the samples)

Initiation of further action

This advice has been referred to: _____

name | contact number

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Environmental Management Procedure

FIRE CONTROL

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the risk/possibility of fire on site
Management Strategy:	Administrative and on site controls will be utilised to control the potential for fire on the project site.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Excessive generation of waste from construction.	Project Manager and Site Foreman / Duration of construction phase.
	Site contamination due to ineffective waste management techniques.	
Control Actions	No open fires allowed on site.	Project Manager and Site Foreman / Duration of construction phase.
	Provide a clear working area if hot works are required on site	
	Fire extinguisher located in foreman's vehicle and all other esarthmoving equipment.	
	Dial 000 if fire occurs and clear the area for emergency vehicles.	
Performance indicators:	Number of complaints / requests / incidents for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily.
Reporting:	Any complaints or incidents shall be reported to the site manager, who shall record such incidents in the EMP(C) Complaints Register and report on corrective measures.	Project Manager and Site Foreman / Duration of construction phase.
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

Environmental Management Procedure

CONTAMINATED SITES

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site after discovering contamination on the site.
Management Strategy:	Administrative controls will be utilised to control the potential impact from discovering a contaminated site during project works..

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Potential to disturb contaminated soil and groundwater. Potential harm to environmental and human health.	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	Review EMR/CLR Register. Stop work immediately and notify site supervisor, who in his turn will notify the Client or Superintendent. Follow instructions from Client in regards to site investigation requirements. Clearly define no-go movement areas	Project Manager and Site Foreman / Duration of construction phase.
Performance indicators:	Number of complaints / requests / incidents for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily / Weekly.
Reporting:	Any complaints or incidents shall be reported to the site manager, who shall record such incidents in the EMP(C) Complaints Register and report on corrective measures.	Project Manager and Site Foreman / Duration of construction phase.
Corrective Action:	Investigate cause of incident. Implement any additional measures prior to the commencement of site works. Remedial of the site in cooperation with the superintendent	Project Manager and Site Foreman / Duration of construction phase.
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

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Environmental Management Procedure

DUST MANAGEMENT

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the impact of dust on site, adjacent properties and adjacent roads
Management Strategy:	Dust to be managed primarily through the watering down of haul roads and works associated with the excavation and movement of material.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Complaints from community in regards to construction dust.	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	All equipment used during the construction phase shall be regularly maintained by subcontractor/hire firm to ensure efficient operation.	Project Manager and Site Foreman / Duration of construction phase.
	A water truck will be on site at all times and will periodically water down roads and excavated material to prevent dust	
	Erect and maintain dust barriers.	
Performance indicators:	Number of complaints / requests for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily.
Reporting:	Any complaints or incidents shall be reported to the site manager **Immediately**, who shall record such incidents in the EMP(C) Complaints Register.	Project Manager and Site Foreman / Duration of construction phase.
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement corrective measures prior to the commencement of site works including increased water truck usage.	
	Possible rescheduling of the dust generating activities to reduce the effect of dust.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

Environmental Management Procedure

CULTURAL HERITAGE SITES

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the risk/possibility of disturbing European & Indigenous sites
Management Strategy:	Administrative and on site control will be utilised for Cultural Sites management

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Damage to European and Indigenous sites and artefacts from construction activities.	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	If a new site is disturbed works are to stop and Client notified **IMMEDIATELY**.	Project Manager and Site Foreman / Duration of construction phase.
	Traditional Owner Field Officers to be present during construction activities.	
	All staff to attend basic induction/awareness training session conducted by Traditional Owner Field Officers.	
Performance indicators:	Number of complaints / requests for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
	Traditional Owner Field Officers satisfied that no new areas uncovered	
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily.
Reporting:	Any incidents **Works to stop Immediately.**	Project Manager and Site Foreman / Duration of construction phase.
	Traditional Owner Field Officers to inspect area	
	Client to be informed immediately of discovery.	
	Cultural Heritage Find Report to be completed. Refer to Cultural Heritage Subplan.	
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

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Environmental Management Procedure

PREVENTING DAMAGE TO FLORA AND FAUNA

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to prevent or to reduce the risk/possibility of damage to existing Flora & Fauna.
Management Strategy:	Administrative and on site control will be utilised for Flora and Fauna Management.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Damage to flora and fauna from construction activities.	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	Outline exclusion zones on site that are demarcated with fencing and signage.	Project Manager and Site Foreman / Duration of construction phase.
	Fauna survey to be undertaken prior to any vegetation clearing.	
	No vehicles to travel off designated roads outside the contract area unless approval is granted.	
	Clearing to be staged to allow progressive movement of fauna from the area.	
Performance indicators:	Number of complaints / requests for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
	Unauthorised clearing undertaken.	
	Number of injured fauna	
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily.
Reporting:	Any complaints or incidents shall be reported to the site manager **Immediately**, who shall record such incidents in the EMP(C) Complaints Register.	Project Manager and Site Foreman / Duration of construction phase.
	Damaged or dead fauna: Contact the Qld Parks & Wildlife Service on the 24 hour hotline (07) 3202 0200 for native fauna and (07) 3299 1032 for sick or injured koalas	
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

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Environmental Management Procedure

FUEL AND SERVICING

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the risk/possibility of contamination of surrounding areas with oils, greases and fuel.
Management Strategy:	All servicing is to be done off site if possible. If required on site, servicing to be conducted in an approved area agreed with the Superintendent, preferably far away from any water sources. All waste materials to be removed from site by a registered waste disposal.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Soil and water contamination from potential spill and waste products	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	Waste materials to be stored in approved containers in a bunded area until removal	Project Manager and Site Foreman / Duration of construction phase.
	Ensure all staff is trained in spill response techniques	
	Spill Kit on site located in site office.	
	Assign designated areas on site for non-emergency servicing and re-fuelling.	
Performance indicators:	Number of complaints / requests for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily and Weekly.
	Weekly inspection of spill kit to ensure there is no cross contamination from general waste and to ensure there is no missing items.	
Reporting:	Any complaints or incidents shall be reported to the site manager **Immediately**, who shall record such incidents in the EMP(C) Complaints Register.	Project Manager and Site Foreman / Duration of construction phase.
	Spill response procedure is to be followed. (OHS-WHS-FORM-107-12)	
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
	Review appropriateness of site specific controls.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

Environmental Management Procedure

WASTE MANAGEMENT

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the waste generated and transported off site.
Management Strategy:	Administrative and on site controls will be utilised for waste management on the construction sites.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Excessive generation of waste from construction.	Project Manager and Site Foreman / Duration of construction phase.
	Site contamination due to ineffective waste management techniques.	
Control Actions	Provide areas for removal of excessive waste materials from site, i.e. skip bins	Project Manager and Site Foreman / Duration of construction phase.
	Co-ordinate regular services to remove full skips.	
	Provide bins with non-removable lids to prevent vermin from scavenging.	
	Trackable waste are separated and appropriately managed on site and transported off site.	
Performance indicators:	Number of complaints / requests for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
	Waste measurement and tracking records should be kept on site for inspection.	
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily.
Reporting:	Any complaints or incidents shall be reported to the site manager, who shall record such incidents in the EMP(C) Complaints Register and report on corrective measures.	Project Manager and Site Foreman / Duration of construction phase.
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

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Environmental Management Procedure

NOISE MANAGEMENT

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage noise impact of surrounding environment from site activities To comply to EPP (Noise) 2008
Management Strategy:	Noise management through administrative controls.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Complaints from community in regards to construction noise	Project Manager and Site Foreman / Duration of construction phase
Control Actions	All construction activities to be restricted to between 7:00 am and 6:00 pm in accordance with the project requirements.	Project Manager and Site Foreman / Duration of construction phase
	It will be considered to hire equipment with low noise characteristics.	
	All equipment used during the construction phase shall be regularly maintained by the subcontractor to ensure efficient operation.	
	Noise dampening equipment shall be used on equipment with excessive noise generating characteristics.	
	Risk assessments on excessive noise generating procedures will generate informing of the nearby community	
Performance indicators:	Number of complaints / requests for attention by Client staff.	The duration of construction phase.
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily and Weekly
Reporting:	Any complaints or incidents shall be reported to the site manager **Immediately**, who shall record such incidents in the EMP(C) Complaints Register.	Project Manager and Site Foreman / Duration of construction phase
Corrective Action:	Investigate cause of incident.	The duration of construction phase.
	If required, undertake noise monitoring as outlined in EPP (Noise) and Probuild Civil Environmental Guidance Note for Noise Monitoring	
	Implement corrective measures prior to the commencement of site works.	
	Possible rescheduling of the noise generating activities to reduce noise annoyance.	
Interfaces:	Individual contractors/sub contractors EMP's must address and accord with any other EMP contained for the project.	The duration of construction phase.

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Environmental Management Procedure

WATER RUNOFF AND EROSION CONTROL

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the risk/possibility of erosions and sedimentation transport on site. To comply with EPP (Water) 2009. To comply with the approvals / licenses issued for the development.
Management Strategy:	Administrative (ESC Plan) and on site engineering controls implemented to manage erosion impacts.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Water contamination due to erosion from site activities.	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	Development of a site based Erosion and Sediment Control Plan prior to the commencement of site activities. Key actions include:	Project Manager and Site Foreman / Duration of construction phase.
	Perimeter control measures on areas where grades are steeper than 1:20.	
	Upstream run off water diversion measures around site works where practicable	
	Measures of controlling transporting material off site via rumble strips crushed rock strips, etc.	
	Geofabric to be placed over field gullies during construction phase.	
	Existing outfalls from the site will be modified to limit concentration and velocity of site flows.	
Performance indicators:	Number of complaints / requests for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Specific ESC control inspection will be under taken after a rain event of 25mm in 24 hours	Site Foreman / Daily.
	Weekly inspections will be undertaken as part of the inspection checklist.	
	Refer to Probuild Civil Guidance Note for Weekly Checklist for specifics to inspections.	
Reporting:	Any complaints or incidents shall be reported to the site manager **Immediately**, who shall record such incidents in the EMP(C) Complaints Register.	Project Manager and Site Foreman / Duration of construction phase.
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
	Increase ESC measure to reduce potential for sediment deposition.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

Environmental Management Procedure
VIBRATION MANAGEMENT

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage vibration impact of surrounding environment from site activities
Management Strategy:	Vibration management through administrative controls.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Complaints from community in regards to construction vibration	Project Manager and Site Foreman / Duration of construction phase.
	Property damage	
Control Actions	All equipment used during the construction phase shall be regularly maintained by the sub-contractor to ensure efficient operation.	Project Manager and Site Foreman / Duration of construction phase.
	It will be considered to use/hire equipment with favourable vibration characteristics.	
	All equipment used during the construction phase shall be regularly maintained by the subcontractor to ensure efficient operation.	
	If required, dilapidation survey's to be conducted on surrounding properties.	
Performance indicators:	Number of complaints / requests for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily/ Weekly.
Reporting:	Any complaints or incidents shall be reported to the site manager **Immediately**, who shall record such incidents in the EMP(C) Complaints Register.	Project Manager and Site Foreman / Duration of construction phase.
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	If required, undertake vibration monitoring as outlined in the Probuild Civil Guidance Note for Vibration Monitoring	
	Implement corrective measures prior to the commencement of site works.	
	Possible rescheduling of the vibration generating activities to reduce vibration annoyance and property damage.	
	Vibration limits have been attached as **Appendix 1**.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

Appendix 1

Ground Vibrations Values

Property type	Particle Velocity (VRm) for Construction Activity	Particle Velocity (VRmax) for Single Blasting Event	Method
Historical buildings, monuments and buildings of special value or significance	2.0 mm/s	2.0 mm/s *	AS2187.2
Houses and low rise residential buildings, commercial buildings not included below	5.0 mm/s *	10.0 mm/s **	AS2187.2
Commercial and industrial buildings or structures of reinforced concrete or steel construction including bridges	5.0 mm/s *	25.0 mm/s **	AS 2187.2

* Source: Main Roads Technical Notes 3: Measurement of Ground Vibrations and Air blast
Source: AS2187 N.b Only Vibration values will apply as no blasting will occur on site.

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Environmental Management Procedure

PRESERVATION OF ADJACENT ROADS AND STRUCTURES

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the possibility of damaging adjacent structures and roads.
Management Strategy:	Administrative controls including visual inspection and recording of adjacent structure condition before construction activities commence.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Damage to roads and structures from Probuild Civil construction activities.	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	Undertake a pre-construction inspection to determine the condition of adjacent roads and structures before works commence.	Project Manager and Site Foreman / Duration of construction phase.
	All equipment used during the construction phase shall be regularly maintained by subcontractor/hire firm to ensure efficient operation.	
	Regular review and inspection of construction activities when near non-project roads and structures.	
Performance indicators:	Number of complaints / requests for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
	Damage to adjacent structures and/or roads	
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily.
Reporting:	Any complaints or incidents shall be reported to the site manager **Immediately**, who shall record such incidents in the EMP(C) Complaints Register.	Project Manager and Site Foreman / Duration of construction phase.
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
	Possible corrective action to ensure no further damage occurs	
	Repair of structure to owner's satisfaction.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

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Environmental Management Procedure

PREVENTION OF WEED SEED SPREAD

Project No:50094 **Project Name**: NBRC NDRRA Restoration Works

Strategic Focus

Objective:	To manage activities on site to reduce the risk/possibility of contamination of other areas with noxious weeds.
Management Strategy:	Administrative controls will be utilised to control the potential for the spread of weed seeds on the project site.

Operational Focus

Items	Details	Responsibilities / Timings
Risks	Spread of noxious weeds due to ineffective control on site activities.	Project Manager and Site Foreman / Duration of construction phase.
Control Actions	Ensure all machinery has been cleaned before leaving site. Voluntary Vendor Declaration (QLD) form filled out.	Project Manager and Site Foreman / Duration of construction phase.
	Provide weed identification training as part of the site induction program.	
Performance indicators:	Number of complaints / requests / incidents for attention by Client staff.	Project Manager and Site Foreman / Duration of construction phase.
Monitoring:	Daily site inspections of the work site shall occur (non-mechanical) and weekly checklist completed and entered in EMPC check lists.	Site Foreman / Daily.
Reporting:	Any complaints or incidents shall be reported to the site manager, who shall record such incidents in the EMP(C) Complaints Register and report on corrective measures.	Project Manager and Site Foreman / Duration of construction phase.
Corrective Action:	Investigate cause of incident.	Project Manager and Site Foreman / Duration of construction phase.
	Implement any additional measures prior to the commencement of site works.	
Interfaces:	Individual contractors/sub-contractors EMP's must address and accord with any other EMP outlined for the project.	The duration of construction phase.

11. Appendix "K" Time Base Implementation of EMP(C)

Time Base Implementation of the EMP(C)

Pre-start Phase

Obtain Approval for the site based EMP (C) and Release of Hold Point 1 from the Superintendent.

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Once approval is granted possession of time will be given.

Obtain Approval for site location and set up of site offices

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Induct all relevant site personnel with regards to EMP and Cultural Hertiage

Survey Site and hold internal meeting on how to best address environmental issues. Identify points that water will enter and discharge from the site during construction

Install any controls identified prior to earthworks construction commencing. (Including sediment and silt controls, Concrete wash out bays, fuel and chemical storage areas etc.)

Obtain any base line water test results required for monitoring during the project.

↓

Construction Phase

Stage 1 - Clearing and Grubbing

Prior to Clearing and Grubbing obtain a report from the following:

12. Appendix "L" Environment Policy

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ENVIRONMENTAL POLICY

Probuild Civil (QLD) Pty Ltd (Company) undertakes a wide variety of civil engineering construction projects and contracts to perform work as either the Principal Contractor or as a subcontractor.

The policy of Probuild Civil (QLD) Pty Ltd is to take all reasonable steps required by legislation, by the project documentation and other requirements, to prevent its construction activities from polluting and/or harming the environment.

To effect the policy the Company has undertaken to allocate resources, responsibilities and accountabilities throughout the organization, develop, establish and maintain an environmental management system based on AS/NZS/ISO 14001 for management of the environmental impact of its construction activities throughout all levels of the organization.

All subcontractors and suppliers on the various projects will work under the procedures described in this management system or their equivalent.

Through this management system, the Company will set and review environmental objectives and targets and implement an improvement program aimed at ensuring a framework of continuous improvement in the management of all its environmental affairs.

Our goal is to have zero harm to the environment in conducting our business activities.

Mark Angove
Managing Director

Date: 08/08/2012

Probuild Civil (QLD) Pty Ltd

Rev 5: 08/08/2012

Appendix M- Weekly Audit Checklist

Appendix N- Environmental Operating Procedures