

Pollution Incident Response Management Plan for Kinnears Quarry Operations

Version 5, November 2021

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Revision Summary

First Issue	Issue Date		Implementation Requirements	Approved By
1.0			Prepared to comply with the new requirements introduced by the <i>Protection Legislation Amendment Act 2011 (POEO Act)</i>	Manager Works
Version No.	Revision Date	Clause No	Revision Details	Approved By
2.0	10 Sept.2015	5.0, 8.0	Change to staff titles due to restructure	
2.0	10 Sept.2015	8.0	Adjustment of errors in table 4 and 5	
3.0	12 Jan 2017	Throughout document	Updating of contact details, clarification of roles and reporting, consistency of terminologies, corrections to formatting and grammar.	Manager ID
4.0	28 Feb 2019	9.2.3	Addition of requirement to monitor the sampling point EPA3	
5.0	November 2021	Throughout document	Updating to ensure consistency of a response, and management of potential hazards	

Approval Position	Automatic Notifications
Manager (Infrastructure Delivery)	Technical Officer - Quarry Operations and Quality Control

Hard Copy Locations*	Associated Documents to be reviewed
Manager Infrastructure Delivery Emergency Recovery Case	
Technical Officer - Quarry Operations and Quality Control Office	
Operations Co-Ordinator – Infrastructure Delivery Depot Office	

*** Note no fixed facilities or staff situated on site to enable storage of documents and therefore alternative functional locations are listed.**



1.0 Overview

Kinnears Quarry (Lot 1 DP 706328) is located approximately 6 km west of Murwillumbah, northern NSW on Harry's Road, at North Arm.

Tweed Shire Council has operated this site for some 25 + years and at the time of writing this document, all quarrying of the site has ceased and rehabilitation has been undertaken. (See Appendix 1 for location details)

During its extraction life, excellent quality roadbases and aggregates were produced; however a seam of potentially acid forming rock (PAR) was intercepted during extraction giving rise to acid rock drainage (ARD).

To manage this ARD, the construction of a holding and treatment pond was undertaken and commissioned in July 2013.

This pond, even when only partially completed, satisfactorily contained a number of potential pollution events and has successfully enhanced the conditions of a nearby un-named creek into which waters from the quarry previously flowed un-treated.

2.0 Scope

This Pollution Incident Response Management Plan (PIRMP) has been prepared to formalise the way Tweed Shire Council pollution incidents are reported, managed and communicated to the general community, internal departments and regulatory agencies. This management plan applies to Kinnears Quarry ARD Treatment Operations which fall under the Environmental Protection Licence 20014.

3.0 Required Context

This PIRMP has been developed to describe Tweed Shire Council's response to a potential pollution incident and to meet requirements of the Protection of the Environmental Operations Act 1997 (POEO Act) Part 5.7 and 5.7A.

This plan is a mandatory document on all NSW projects issued with an Environmental Protection Licence. This plan covers Kinnears Quarry ARD operations as per Environmental Protection Licence Number 20014.

3.1 Definition of Pollution Incident

A pollution incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.

Notification of a pollution incident is required if there is a risk of 'material harm to the environment', which is defined in section 147 of the POEO Act as:

a) Harm to the environment is material if:-

- it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

- it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and

b) Loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

This includes the release of waters where the results of testing do not lie within the parameters of the EPL20014, Condition L2.4.

4.0 Purpose and Objectives

This Pollution Incident Response Management Plan (PIRMP) has been developed to satisfy pollution reporting obligations under the Protection of the Environmental Operations Act 1997 (POEO ACT). This plan outlines the classification, testing, reporting and management requirements of an environmental pollution incident.

The objectives of this plan is to ensure an occurrence of significant environmental pollution incidents is communicated to all relevant groups and individuals, to prevent, minimise and control the risk of an environmental pollution incident, and also, appropriately establish and maintain the plan. This plan covers description of potential hazards and actions to be taken to prevent additional environmental harm for Tweed Shire Council.

5.0 Responsibilities

Personnel carrying out work under this Procedure must be familiar with and comply with it in full.

Table 1: Roles and responsibilities

<p>Manager (Infrastructure Delivery)</p>	<ul style="list-style-type: none"> • Follow Emergency Response Management Plan (as required) • Ensure compliance in accordance with POEO Act • Notify Director Engineering • Notify Communications and Customer Services (as required)
<p>Technical Officer - Quarry Operations and Quality Control</p>	<ul style="list-style-type: none"> • Attend the pollution incident site • Notify Manager (Infrastructure Delivery) • Activate PIRMP • Notify Department of NSW Trade and Investment • Complete Mine Notification of Incident form and arrange for General Manager signoff • Inform required government agencies of the pollution incident • Complete government notification of environmental incident form • Prepare investigation report • Notify Environmental Scientists (if required) • Notify Tweed Laboratory Centre (if required) • Liaise with Operations Coordinator Infrastructure Delivery regarding staff / plant
<p>Site Supervisor</p>	<ul style="list-style-type: none"> • Notify Technical Officer - Quarry Operations and Quality Control or in his absence, Manager (Infrastructure Delivery). • Activate PIRMP.

6.0 Hazards and Risk Management

Potential pollution incidents identified at Kinnears Quarry include:-

- Air Pollution Incident: escape of significant dust to atmosphere
- Water Pollution incident: Significant sediment, ARD, hydrocarbons/fuel off site to a watercourse or groundwater
- Noise pollution: Significant noise impacts on neighbouring residences.
- Land Pollution incident: Escape of sediment,

Specific details of potential environmental hazards likely to be encountered at Kinnears Quarry are outlined in Table 2.

Risk Rating Matrix

Consequences	Likelihood				
	1 Rare	2 Unlikely	3 Possible	4 Likely	5 Almost certain
5 Catastrophic	Medium	Very High	Extreme	Extreme	Extreme
4 Major	Medium	High	Very High	Extreme	Extreme
3 Moderate	Low	High	High	Very High	Extreme
2 Minor	Low	Medium	High	High	Very High
1 Insignificant	Low	Low	Low	Medium	Medium

Table 2: Kinnears Quarry Environmental Hazards

No.	Hazard / Non Compliance	Risk Level Before Controls	Controls / Corrective Action	Risk Level After Controls
1	Uncontrolled Release of Polluted Waters Due to Rainfall Event >85mm (low pH)	High	Reduction of held water levels (largest possible freeboard in ponds)	Low
2	Uncontrolled release of Polluted Water Due to Rainfall Event (Sediment)	Medium	Continued Maintenance of drainage, roads and sediment control measures.	Low
3	Chemical Spillage	Low	No storage of chemicals on site, suitable quantities taken to site for works; no fuel or oil storage at site; use in accordance with manufacturers guidelines and / or best practice	Low
4	Airborne dust	Medium	Watering and maintenance of roadways, covering of stored dried sludge prior to disposal.	Low
5	Noise	Medium	Ensure appropriate operation of vehicle, Use of sound barriers with pumps	Low
6	Breach of Wall of containment Pond	Medium	Regular inspection of earth wall etc.	Low
7	Controlled release of unsuitable waters	Medium	Following the test, approval, and release procedures.	Low

7.0 Inventory of Pollutants

An inventory of all chemicals utilised on site is maintained in the computer program ChemAlert. If any new chemicals have to be brought to site other than the one already approved in ChemAlert, a chemical risk assessment of the new substance and MSDS are to be submitted.

A summary of significant pollutants used at Kinnears Quarry is provided in the Table 3.

Table 3: Significant pollutants used at Kinnears Quarry

Material Name	Quantity	Onsite Usage
Hydrated Lime	120kg (max)	Treatment of ARD in basins
Diesel	60 litres	Pumps
Unleaded petrol	60 litres	Pumps

8.0 Notification

All pollution incidents should be reported immediately as required by the POEO Act. The notification list of all relevant regulatory authorities and project personnel to be notified of any pollution incident for the Kinnears Quarry is provided in Tables 4 and 5.

Table 4: Government notifications of incidents

Compulsory	Contact	Phone Number
Yes	Tweed Shire Council (within 24 hours)	See Table 5
Yes	NSW Environment Protection Authority (EPA)	EPA Hotline 131 555
Yes	NSW Resources Regulator	1300 136 888
As Determined	WorkCover	131 050
As Determined	Ambulance	000
As Determined	NSW Fire and Rescue	1300 729 579

Table 5: Tweed Shire Council contact details

Compulsory	Name Position	Contact Number
Yes	Tweed Shire Council Hotline	(02) 6670 2400 business hours 1800 818 326 after hours
Yes	Manager (Infrastructure Delivery) – Tim Mackney	(02) 6670 2477, 0408 563 584
Yes	Technical Officer - Quarry Operations and Quality Control – Athol Kiem	(02) 6670 2716, 0421 362 767
YES	Operations Coordinator Infrastructure Delivery – Frank Castellano	(02) 6670 2703, 0420 962 988
As Determined	Director Engineering – David Oxenham	(02) 66702470, 0438 642 740
As Determined	Enterprise Risk & Emergency Management Officer - Doreen Harwood	(02) 6670 2622, 0427 078 119
As Determined	Senior Planning Applications Officer - David Hannah	(02) 6670 2528, 0410 031 775
As Determined	Tweed Laboratory Centre - Dr. Paul Wright	(07) 5569 3101

9.0 Pollution Incident Response Procedures

9.1 Introduction

Section 6.0 has identified a number of potential pollution events that may occur at the site. In general, it is considered that the potential for these incidents to occur is minimal and if an incident occurred, it would be small in nature and easily containable.

The response actions to a pollution incident at the Kinnears Quarry can be divided into the following categories:-

- Pre-emptive actions and provision of safety equipment at the site
- Initial Response
- Containment or Control
- Communication

9.2 Pre-emptive actions

A number of appropriate management tools have been implemented to reduce the risk of occurrence.

9.2.1 Health Safety and Environment System

Council's Health Safety and Environment System establishes an effective systematic process and framework for the overall management of work health, safety and environmental planning, implementation and review in line with legislation and organisational requirements. It includes documented Standard Operating procedures and Safe Work Method Statements, and requires work site risk assessment on a daily basis when works are being undertaken.

9.2.2 Emergency Equipment

Some emergency equipment is available and stored on the vehicles and plant that visit the site. No items are stored at this site. Items required are available at the Murwillumbah Depot

Hazard cones, mesh bunting and flashing lights are available at the Murwillumbah Depot, Buchanan Street, Murwillumbah to assist in delineating an incident area.

Access to the Quarry can be controlled via two sets of gates. The first is one set of gates (secondary entry) are located on Harry's Road approximately 475m from the intersection of Harrys Road and Numinbah Road and a second set of gates is located at the main entry to the site approximately 50m from the first set of gates .(Refer to Kinnears Quarry Layout in Appendix A).

9.2.3 Monitoring

Staff monitor weather predictions and undertake regular inspection of the Quarry.

Monitoring and inspections are undertaken by appropriately trained staff members and involves traversing the majority of the site. The entry gates are secured on exit of the site (i.e. typically end of day). In the event that anything unusual is noted, these inspections allow staff to pre-empt incidents and introduce appropriate mitigation measures to reduce the likelihood of pollution incidents.

Additional to the requirement to the inspection of the Kinnear's Quarry site, is the need to monitor the water level and sediment of a pond at the sampling point EPA 3 (pond to the western side of the culvert on Harrys Road approximately 120m from Numinbah Road / Harrys Road intersection.)

During periods of very low rainfall and high temperatures, the pond could possibly dry which could lead to the possible release of a mono sulfidic black ooze and acidic sediments upon the occurrence of heavy rains within the catchment.

These inspections are recorded at the following location in Council's Intranet system [Q:\Quarries\Quarries - Council\Kinnears Quarry\Kinnears ARD Works\ARD Pond Management\Dosing and discharge](#) . Any issues arising from the site inspections are to be passed to the Technical Officer – Quarry Operations and Quality Control who, upon receipt of advice, will decide the appropriate course of action to contain or improve issues raised including the enactment of the provisions of this PIRMP.

9.2.4 Communication

All communication will be carried out as per Council's Standard Operating Procedure "Communication".

9.2.5 Stormwater Management

A stormwater collection system has been installed at the Quarry and is managed by the Acid Rock Drainage Management Plan (July, 2011). The quarry floor drains inwards to the lower Stormwater and Seepage Collection basins (refer Appendix A, Overall Site Plan).

Captured water is tested for various water quality parameters as per the EPA Licence 20014, L2.4.

Treatment of the waters occurs when the water quality does not meet that of the licence conditions and normally consists of dosing with hydrated lime and aerating. Once water quality requirements are met, the waters are released into an existing un-named creek via discharge point EPA6, located to the north of the site.

Treatment is undertaken on an as needs basis. Treatment is triggered by the collected water volume or water quality results. This process ensures sufficient storage capacity in the upper basins to receive 85mm of rainfall falling over 5 days consecutively and treat collected water without overtopping. To assist with the determination of the volume of waters held and the need to treat and discharge a chart has been developed. (See Appendix "E")

All other stormwater including from bench 3, is diverted to avoid the exposed acidic rock and flows overland to the creek.

9.2.6 Traffic Control

As the quarry is usually not operational, little traffic enters the site. The entry gates are secured by a padlock which thereby minimises access to authorised personnel only. Planned maintenance and water treatment are managed by the Technical Officer - Quarry Operations and Quality Control.

9.2.7 Staff/Contractor Training

All staff and contractors at the Kinnears Quarry undergo as part of their induction a review of all Safety procedures. Information provided to staff and contractors is detailed in Council's WHS Level 2 Work Activity Induction for Quarries. Training received by staff under this document includes

Emergency Preparedness and Response Procedure and various Safe Work Method Statements relating to the activities to be undertaken at the site.

9.2.8 Safety Equipment

Appropriate Personal Protective Equipment (PPE) is carried to site by staff as no storage facilities are available on site. Spill kits are carried by the gang undertaking work at the site. A water truck for dust suppression is available by contacting the Operations Coordinator Infrastructure Delivery.

A summary of the above PPE is provided below.

Hazard	Suitable PPE
Sun radiation	Wide brimmed hat. hard hat, sunscreen
Noise	Ear protection e.g. muffs or plugs.
Deep water	Buoyancy ring with rope

9.3 Incident Response

The Incident Response Procedure is summarised in the PIRMP Flowchart (Appendix D).

9.3.1 Initial Incident Assessment

Council staff responding to the incident shall proceed in the following manner (after ensuring all personnel are safe at all times):-

- Activate the PIRMP
- Provide a description of the incident to the persons or departments nominated in the PIRMP.

The default *Incident Supervisor* will be the Technical Officer - Quarry Operations and Quality Control.

If after hours, the On-Call Works Supervisor will be the *Incident Supervisor* unless relieved by the Technical Officer - Quarry Operations and Quality Control

For after-hours response, “Call Out” staff will attend the scene, make an immediate initial assessment), and report back to the On-Call Supervisor to determine the appropriate action.

An initial visual assessment of the incident scene will determine the actions to be implemented and be directed to:-

- Saving lives
- Attending to any injured persons
- Isolating the location
- Identifying additional hazards to human health or the environment
- Determining the actions necessary to prevent further threat to human life, property or environment
- Calling for appropriate help (i.e. Emergency services, Council, EPA, NSW Health, WorkCover, Fire and Rescue) – refer Section 8 for contact details.

An Incident Assessment Form (Appendix B) is to be completed to assist in assessing the situation and to record necessary information that is to be provided to the EPA and other authorities (refer Part 5.7 as per the requirements of Section 150 of the POEO Act).

An initial assessment of a pollution incident by a suitably trained staff member using the Incident Assessment Form will allow the incident to be classified and appropriate actions implemented. Incidents can be classified as follows:-

Priority 1: Immediate, indicating very high risk/critical to human health and the environment whereby pollutants will enter the environment (e.g. via waterways or airborne). The incident is immediate and threatening and immediate disruption of normal operations of the quarry will occur. This PIRMP is to be actioned immediately.

Priority 2: Indicating medium to high risk to human health and the environment whereby pollutant(s) are likely to enter the environment (e.g. via waterways or airborne). The incident is likely to cause disruption to the operations at the quarry. Implementation of this PIRMP may be required if containment procedures fail. Close monitoring of the incident and containment procedures is required and actioning of this PIRMP immediately, if required.

Priority 3: Indicating low to medium risk to human health and the environment whereby pollutant(s) may enter the surrounding environment (e.g. via waterways or airborne). Incident is unlikely to disrupt the operation of the quarry and can be managed under normal site incident response procedures. This PIRMP is unlikely to be implemented.

9.4 Containment or Control

Depending on the initial assessment classification of the incident, the incident containment or control will be either in-house or by emergency services.

9.4.1 In House Response

Having completed the initial assessment of the incident, additional resources and actions should be directed towards the following:-

1. Exchange mobile phone numbers; establish two-way radio protocol with the Incident Supervisor and responders.
2. Provide (or continue to provide) first aid assistance to injured person(s). Call 000 as necessary.
3. The Incident Supervisor is to implement (either personally or by delegation) the notification protocol (refer 9.5).
4. In the event of a pollution incident, the Incident Supervisor will assess the situation to determine actions to be taken including the need to evacuate the site if required. While unlikely, individuals from the general public may also be at the site at the time of the incident and procedures will be followed to ensure these individuals are evacuated.
5. Where possible or practicable, place warning indicators (e.g. flashing lights, breakdown triangles etc.) to warn responders to the Quarry of the impending incident site. The only responders to the site may be Council staff or contractors who are present due to an as needs basis for maintenance or stormwater management purposes. If any members of the public are on the site, they will be evacuated from the site as soon as practically possible to do so safely. Additional Council staff, relevant contractors and/or emergency services may still arrive to the site to provide assistance
6. Close the Quarry site. This is undertaken by way of closing Harrys Road near Numinbah Road by use of traffic control signage and persons. (Refer to Kinnears Quarry Layout in Appendix A). It may also be required to close access to the site (i.e. at the property boundary gate) and

this is undertaken by way of stationing a staff member to inform incoming vehicles of the site's closure and their requirement to depart the area. The exit gates are to remain open and clear of vehicles to allow evacuation of staff and individuals from the site and to allow authorised vehicles (e.g. emergency services) to enter the site. The staff member stationed at the entry gates will carry both a two-way radio and mobile phone to ensure communication with the Incident Supervisor is possible at all times.

7. Restrict access to the incident area. This can be achieved with the use of temporary bunting and closure of gates described above. Most importantly this will be achieved by way of clear communication between the Incident Supervisor and Staff (and contractors). All staff will carry two-way radios and mobiles. The Incident Supervisor is to conduct regular communication checks throughout the incident to ensure staff (and relevant contractors) safety and that instructions have been completed.
8. If required and safe to do so, the Incident Supervisor is to initiate action(s) to prevent further threat to human life, property or the environment. Actions can include (but are not limited to):
 - Use of earthmoving plant to establish bunds and smother fires,
 - Use of water truck for extinguishing fires and suppressing dust,
 - Removal of plant and equipment (e.g. vehicles) to a safe venue,
 - Move materials that may result in the deterioration of the incident (e.g. spreading of fire due to presence of flammable material).
9. The Incident Supervisor is to collect details of person(s) involved, time line logging of incident details and other related information (e.g. Incident Assessment form; Appendix A).
10. The Technical Officer - Quarry Operations and Quality Control (with assistance from the on-call Incident Supervisor as applicable) will provide full briefing of incident and actions to date to Manager, Infrastructure Delivery.
11. Council is to maintain effective communications with the local community in the vicinity of the incident site and relevant authorities as required.
12. Facilitate or assist with the recovery phase.

9.4.2 Emergency Services Response

If the incident has triggered the implementation of this PIRMP and if the incident presents an immediate threat to human health or property and 000 has been contacted, staff are:-

- To evacuate the site of all non-authorised persons (i.e. members of the public). All staff are also to either evacuate the site, to the Emergency Assembly Area or as directed by the Incident Supervisor or emergency services.
- Await emergency services at the entrance of the site (Lundberg Drive) or if deemed safe by the Incident Supervisor undertake activities to protect life or property (e.g. continue first aid, move equipment to safe location).

On the arrival of emergency services personnel, responsibility for managing the incident will be transferred. This will include:-

- Assuming the initial command and control responsibilities
- Determining if additional resources may be required (e.g. HAZMAT team).

Council staff (and contractors) will fully co-operate with emergency services and provide:-

- An initial briefing of the events up to their arrival,
- Relevant documentation and information (e.g. completed Incident Assessment form).

This will assist emergency services to:-

- Assessment of the situation
- Identify hazard(s) that exist at the incident site and other areas of the quarry site.
- Formulate a response plan to the incident by identifying what resources and/or specialised assistance is required, and
- Contact and coordinate additional resources (if necessary) to respond to the incident.

Once control responsibilities have been assumed by the emergency services, all Council staff (and contractors) will follow and adhere to all directions and instructions issued by the appointed emergency services Incident Supervisor.

9.4.3 Recovery

The recovery phase will focus on:

1. Re-establishing normal Quarry activities (i.e. maintenance and stormwater management at time of writing).
2. Collecting and appropriately managing:
 - Leaked or spilt materials
 - Damaged equipment and plant.
3. Collecting any contaminated items and disposing of appropriately (e.g. PPE items such as clothing, spill kit consumables etc.).
4. Undertake staff debriefing, and provision by Technical Officer - Quarry Operations and Quality Control of a debriefing report to the Manager Infrastructure Delivery and government departments as required.
5. Technical Officer - Quarry Operations and Quality Control to undertake a complete review of the PIRMP within 1 month of the incident.

9.5 Communication

9.5.1 On-Site / Internal Communication

During emergency situations all internal communications are managed as detailed in the Communication Standard Operating Procedure (refer HSES).

9.5.2 Communicating with Neighbours and the Local Community

Communication with neighbours and the local community will follow procedures outlined in the Council's Media Policy and Procedure.

In the event of a pollution incident, an assessment of the requirement to notify neighbours and/or the local community will occur. The requirement to communicate is determined on the level of risk, being:-

Priority 1: Immediate, indicating very high risk/critical to human health and the environment whereby pollutants will enter the environment (e.g. via waterways or airborne). The incident is immediate and threatening and immediate disruption of normal operations of the site will occur. This PIRMP is to be actioned immediately. Priority is to contact neighbours as soon as possible and implement an isolation procedure of the area (i.e. Police involvement may be necessary to assist co-ordination).

Priority 2: Indicating medium to high risk to human health and the environment whereby pollutant(s) are likely to enter the environment (e.g. via waterways or airborne). The incident is likely to cause disruption to the operations at the site. Implementation of this PIRMP may be required if containment procedures fail. Close monitoring of the incident and containment procedures required and actioning of this PIRMP immediately. If required, immediate neighbours contacted directly and local community informed by media release as required.

Priority 3: Indicating low to medium risk to human health and the environment whereby pollutant(s) are unlikely to enter the surrounding environment (e.g. via waterways or airborne). Incident is unlikely to disrupt the operation of the quarry and can be managed under normal site incident response procedures. This PIRMP is unlikely to be implemented. Some precautions to avoid contact may be recommended in the short term (e.g. avoid swimming in local waterways etc.). The Incident Supervisor will communicate with individuals in the immediate area if necessary.

9.5.3 Community Engagement

Tweed Shire Council will notify immediately of any major pollution incidents which may have direct impact to the surrounding neighbours through telephone. Other moderate incidents will be notified as determined by Council's Media Policy.

A database is maintained on site with the names and contact details of the surrounding neighbours.

Preliminary notifications of major emergency pollution incidents will include the following information:

- When a pollution incident occurs
- Time, date and location of the pollution incident
- What steps are being taken to address the incident, both immediately and in the longer term
- What it means to their health, safety, community and environment
- What precautions or actions they need to take

A secondary or final notification will be made when the incident is officially over to provide an update on the above.

Community notifications will be made as determined by Council's Media Policy.

9.5.4 Stakeholder and Media Management

A nominated spokesperson is determined by the nature of the incident (e.g. business unit or site specific focus). Other employees may be nominated where a matter is of a technical or specialist nature.

Primary point of contact for stakeholder and media will be Council's Contact and Call Centre.

10.0 Training and Testing

10.1 Training

On implementation of this PIRMP and after any review that results in its amendment, all relevant staff will be trained progressively. Tool box talks will be presented to educate workers of preventative actions, controls, PIRMP updates, site issues and environmental pollution incidents involved in the site. The tool box meetings will present the chance for employees to raise any concerns or issues with the projects and PIRMP. All employees, subcontractors, suppliers and

visitors to the site will be notified via a site induction of the requirements on site for pollution prevention. Through tool box talks, site personnel and subcontractors will be educated on those aspects of environmental management as appropriate to the task assigned to them.

10.2 Testing

After preparation of the PIRMP, it will be tested via a mock pollution incident to ensure personnel are aware of the processes and responsibilities on site. All testing of this management plan and any supplementary amendments that are made are to be documented and stored to make it available to EPA when requested. The PIRMP will be reviewed and maintained to ensure information in the plan is accurate and up to date.

The PIRMP will be tested after each review (refer 11.0 below). Details of testing will be recorded in Appendix C - Record of Testing PIRMP.

11.0 Review

This Management Plan will be reviewed and updated annually or in the case of a significant operational change or an actual pollution incident. The review will include an assessment of the effectiveness of control measures and performance against the Plan's objectives and any changes resulting in revision of the PIRMP will be recorded in the Revision Summary. The PIRMP will be made available via Tweed Shire Council's website and will be updated in line with the legislative updates.

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LIST OF APPENDICES

Appendix A

Kinnears Quarry Location Map
Kinnears Quarry Layout
Kinnears Quarry Operational Layout
Kinnears Water Monitoring Locations

Appendix B

Incident Assessment Form

Appendix C

Record of Testing PIRMP

Appendix D

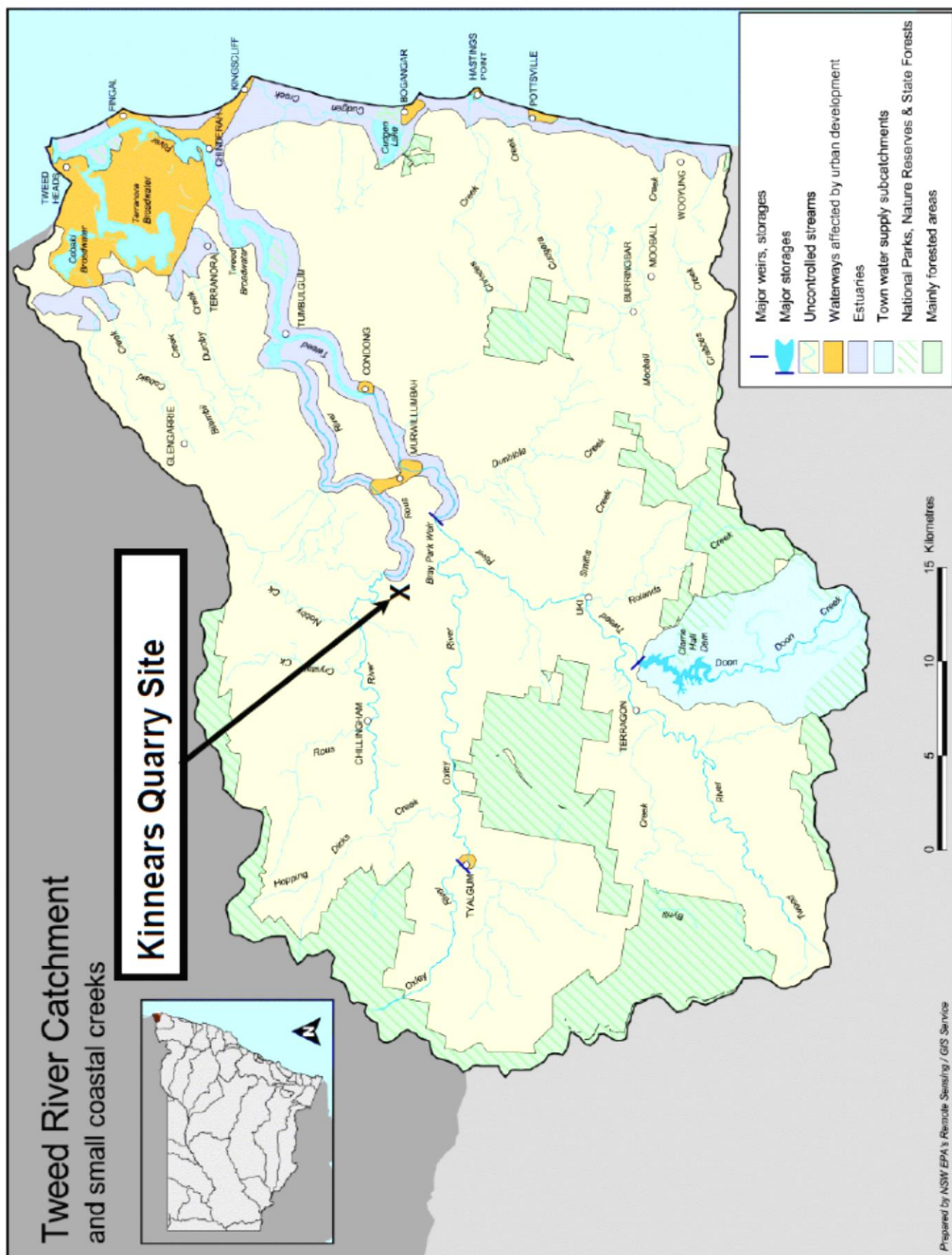
PIRMP Flowchart

Appendix E

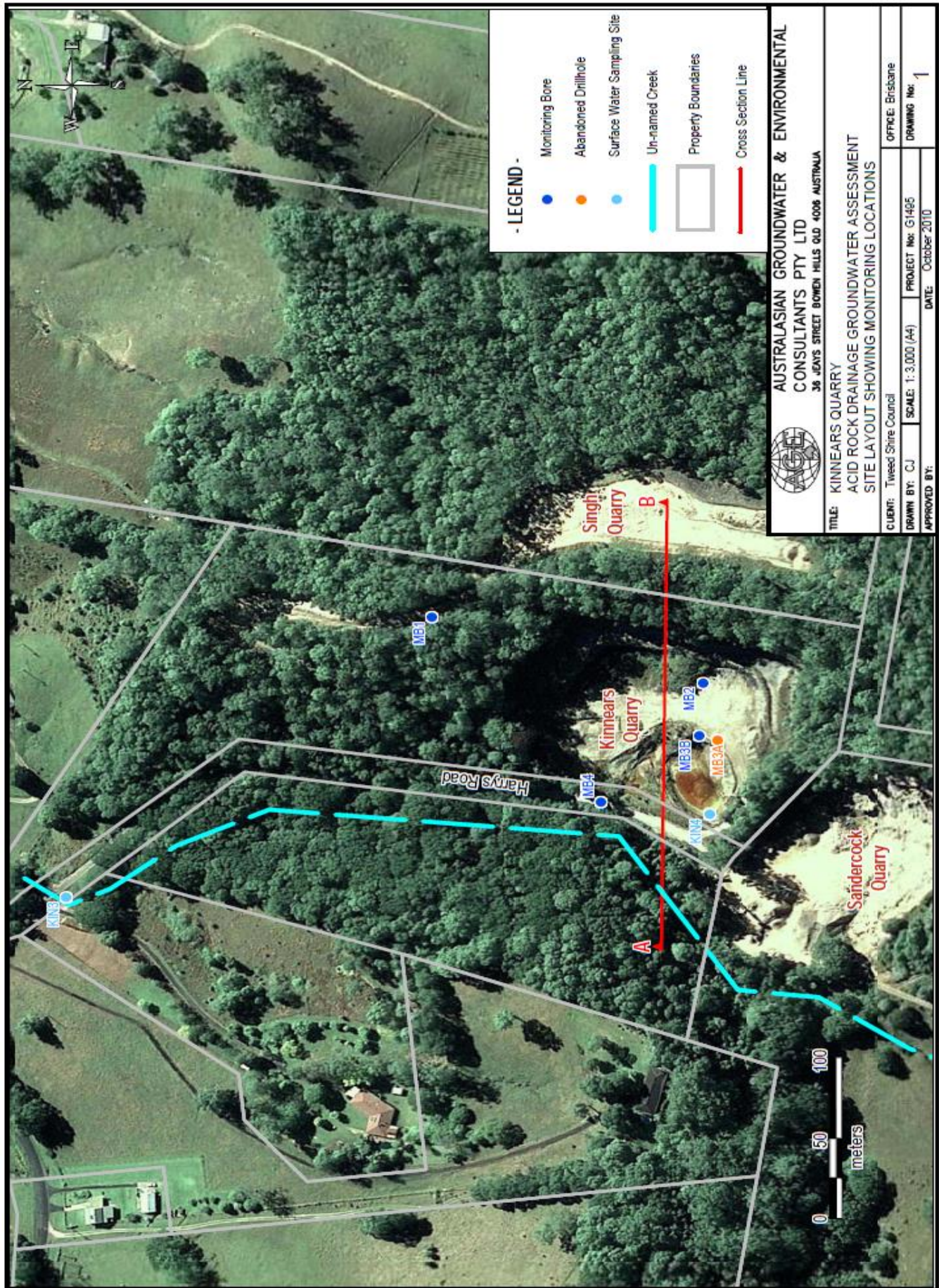
Pond Volumes inc Airspace October 2021 ver.2

Appendix A

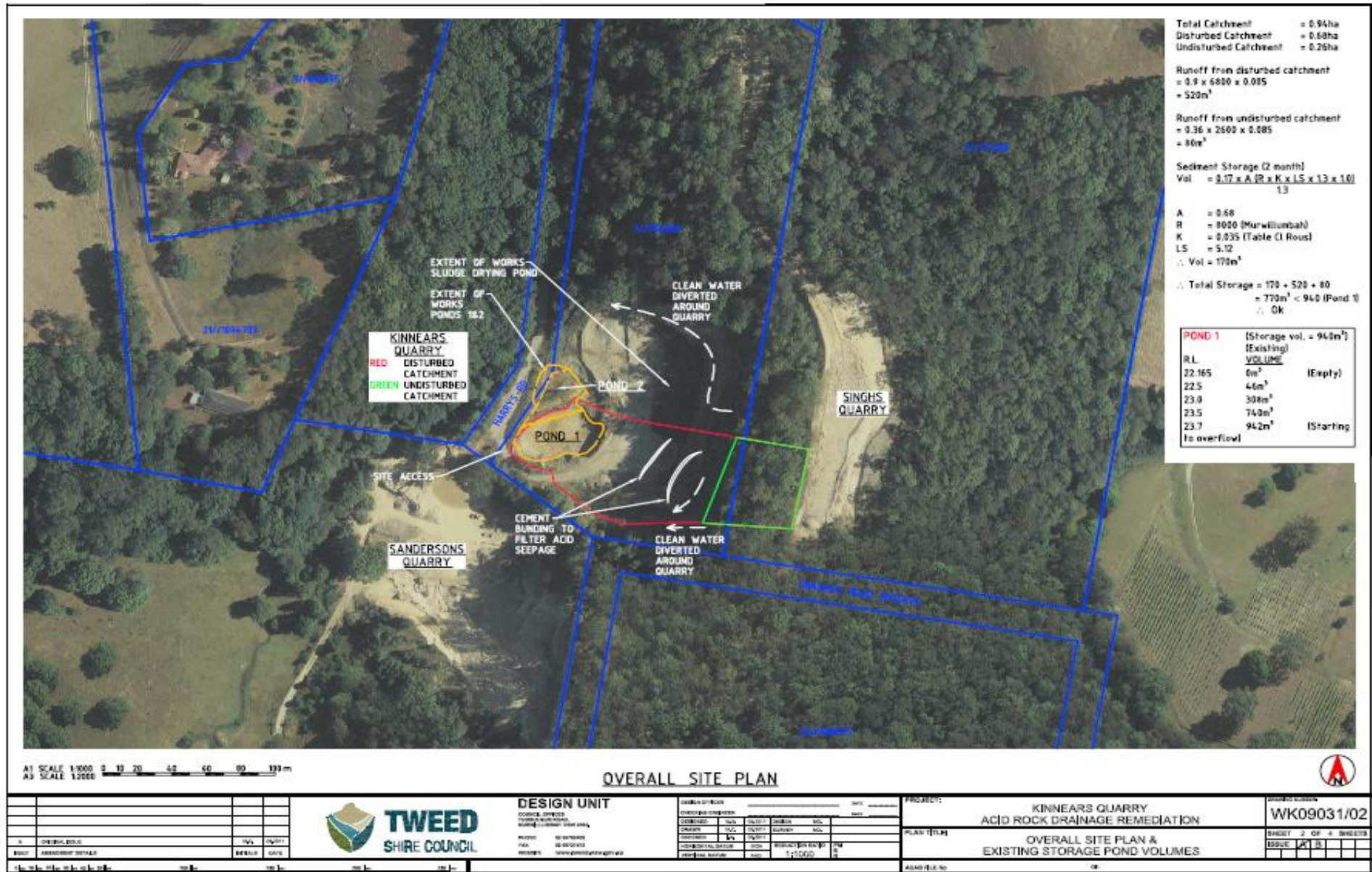
Kinnears Quarry Location Map

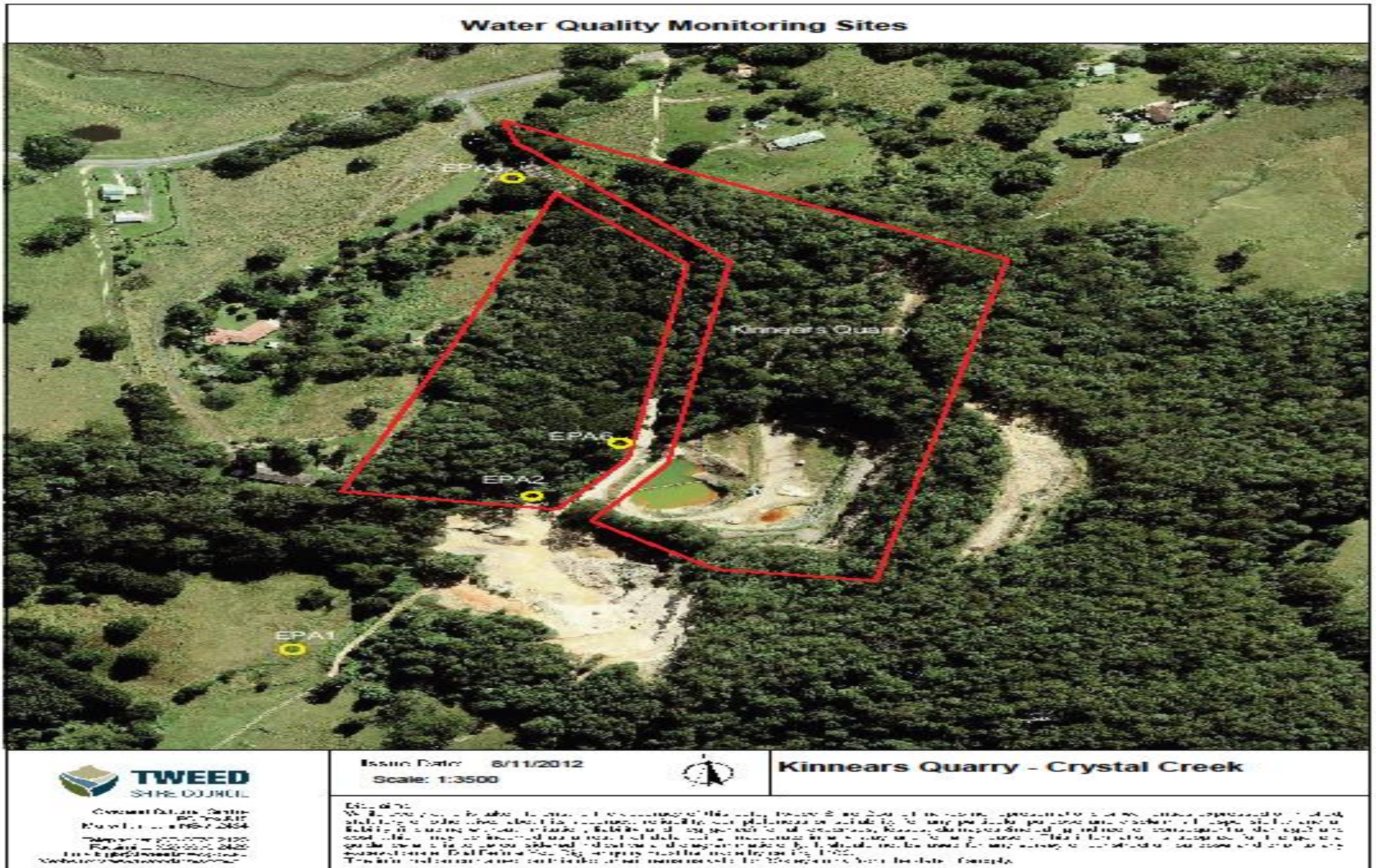


Kinnears Quarry Layout



Operational Layout





Appendix B

INCIDENT ASSESSMENT FORM

To be completed by the Incident Supervisor (Quarry Manager or Site Supervisor)

Date and Time		Initials
<u>INITIAL RESPONSE PHASE</u>		
<p>1. Provide short description of Incident - including Nature, and Location.</p> <p>Circle relevant incident:-</p> <ul style="list-style-type: none"> a) Uncontrolled Discharge b) Stormwater c) Noise d) Dust e) Fire f) Other <p>Notes: Location - record of the place where pollution incident is occurring or is likely to occur (i.e. record possible migration path, as best possible)</p> <p>Nature - record estimated quantity or volume and concentration of any pollutants involved (if known)</p>	<p>The information recorded here is to allow a initial (or brief) assessment of the risk to help determine the likely impacts, implementation of the PIRMP and/or relevant actions to be undertaken</p>	

Date and Time				Initials
2. Perform Brief/Initial Risk Assessment	Fill out below sections as best possible. Some points may not be applicable depending on nature of pollution incident			
3. Identify spilt material/pollutants etc. (if possible)	List chemicals/materials/pollutants (if possible)			
4. Determine (i.e. best estimate) quantity of spilled material				
5. Evaluate hazards at the location				
6. Obtain a copy of relevant MSDS (if chemical spill)				
7. Evaluate the RISK and determine if the pollution incident is a high or low pollution risk and whether trivial or not. (Circle appropriate risk category)	<p>CRITICAL/PRIORITY 1</p> <p>Implementation of PIRMP required.</p> <p>If incident is immediate and threatening for human health - Dial 000</p>	<p>MEDIUM/ PRIORITY 2</p> <p>Implementation of PIRMP may be required, monitor pollution incident.</p> <p>If containment efforts fail, implement PIRMP.</p>	<p>LOW/ PRIORITY 3</p> <p>Unlikely PIRMP is to be implemented.</p> <p>Monitor pollution incident and containment activities.</p>	

Date and Time		Initials		
<u>ACTIONS</u>				
<u>Emergency Services Response Phase</u>				
<p>1. Clear affected area of personnel/individuals.</p> <p>If No, state why. For example, injured individual may not be able to be moved or Council staff may be able to implement containment activities (if deemed safe to do so)</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>			
<p>2. <input type="checkbox"/> Determine if evacuation of site is necessary</p> <p>If Yes, implement Emergency Evacuation Plan</p> <p>If No, record personnel or individuals remaining on site and for what purpose (e.g. assisting in containment activities)</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Name</td> <td style="width: 50%;">Purpose remaining on site</td> </tr> </table>	Name	Purpose remaining on site	
Name	Purpose remaining on site			
<p>3. Check individuals for injuries including contamination</p> <p>Note:- some individuals may not be aware of an injury and/or having been contaminated.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>			

Date and Time		Initials
<p>4. If required, administer First Aid, Decontaminate individuals (minimum 15 mins in Emergency Shower). Dial 000</p>	<p>Details: (include names of individuals and actions taken) (attach pages if necessary)</p> <p>Name Contact Details</p>	
<p>5. Contact EPA and other authorities of incident - Implement Notification Protocol (section 7)</p>	<p>Record personnel delegated to undertake this task:</p>	
<p>6. Record all information regarding incident in preparation for arrival of Emergency Services</p>	<p>Ensure above sections are completed as best possible and practicable due to incident situation.</p>	

Date and Time		Initials
Containment or Control Phase	Record actions as best possible including personnel delegated to tasks If 000 has been dialled, only proceed if deemed safe to do so. Cease works if incident worsens and dial 000.	
1. Determine appropriate actions to isolate/contain pollutants (if safe to do so) Ensure fire protection is available if risk of fire		
2. Contact relevant Council staff for assistance		
3. Contact EPA and other authorities if incident is not trivial - i.e. Implement Notification Protocol (section 7)	Record personnel delegated to undertake this task	
4. Monitor containment works		
5. Establish Secure Zone around incident area or evacuate and secure entire site		
6. Assign tasks to personnel		
7. Specify equipment and tools for clean-up including PPE		
8. Locate and control spilt material		

Date and Time		Initials
9. Neutralise and/or adsorb material		
10. Prepare residue for removal		
11. Verify area clear of contaminant		
12. Decontaminate reusable equipment		
13. Debrief personnel involved	<input type="radio"/> Yes <input type="radio"/> No	
14. Complete Incident Reports	<input type="radio"/> Yes <input type="radio"/> No	
15. Any Other information:		

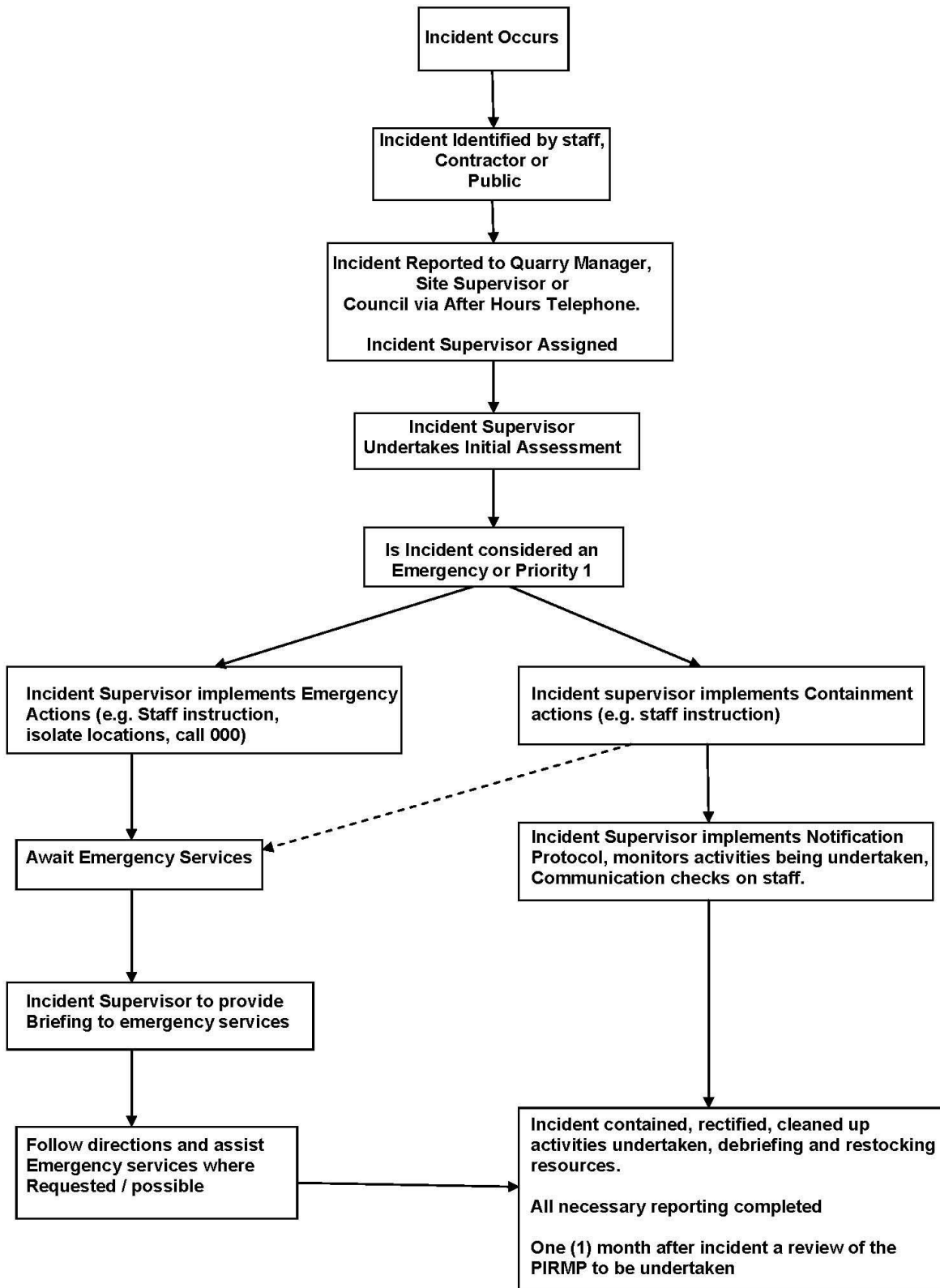
Appendix C

Record of Testing PIRMP

Testing Date	Details	Prepared / Tested By	Reviewed By

Appendix D

PIRMP Flowchart



Appendix E

Kinnears Quarry, ARD, Basin Volumes at Markers

	RL (m)	Notches Visible	Height on Marker (m)	Held Volume (m ³)			RL (m)	Notches Visible	Height on Marker (m)	Held Volume (m ³)	Freeboard (m ³)	Note: A 85mm rain event over 5 days will produce 520m ³ of runoff
Combined Volume when Wall Overtopped							23.88	1	3.00	2370	0	
							23.68	2	2.80	1800	570	
							23.48	3	2.60	1550	820	
							23.28	4	2.40	1300	1070	
							23.08	5	2.20	1200	1170	
Basin 1	23.00	Top of Wall	1.49	560	Separating Wall	Basin 2	23.00	Top of Wall	2.12	640		
	22.91	4	1.40	510			22.88	6	2.00	580		
	22.71	5	1.20	390			22.68	7	1.80	480		
	22.51	6	1.00	290			22.48	8	1.60	400		
	22.31	7	0.80	190			22.28	9	1.40	300		
	22.11	8	0.60	110			22.08	10	1.20	220		
	21.91	9	0.40	47			21.88	11	1.00	150		
	21.71	10	0.20	9			21.68	12	0.80	85		
	21.51	Floor	0	0			21.48	13	0.60	30		
							20.88	Floor	0.00	0		

To be used if water level < Height of centre wall			
EPA 4			
Water Level _____		Vol Held _____	
Freeboard (m ³)	560-Vol Held =		
EPA 5			
Water Level _____		Vol Held _____	
Freeboard (m ³)	640-Vol Held =		
Freeboard (m ³)			
EPA 4	EPA 5	Above Wall Vol.	Total m ³
		1170	

To be used if water level > Height of centre wall			
Combined			
Water Level _____		Vol Held _____	
Freeboard (m ³)	2370-Vol Held =		

I.L. of Wall Outlet Pipe	
RL (m)	Notches Visible
22.14	Between Notches '9 - 10

I.L. of Culvert Outlet Pipe	
RL (m)	Notches Visible
23.86	1