Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

Level 16, 288 Edward St • Brisbane, Queensland • GPO Box 2771 • QLD 4001 •AUSTRALIA
Telephone (07) 32251827 • Facsimile (07) 3247 3278 • www.env.qld.gov.au/environment/business/contaminated

14 November 2007

Site ID: 62244
File Number: BNE30402
Enquiries to: Contaminated Land Unit
Telephone: (07) 322 58487

R J PROJECT PTY LTD AS TTE
PO BOX 785
SPRINGHILL QLD 4004

CERTIFICATE OF APPROVAL OF A SITE MANAGEMENT PLAN

This document provides written notification that, in accordance with the *Environmental Protection Act 1994 (EP Act)*, a site management plan has been approved for the parcel of land described below, which is recorded on the Environmental Management Register (EMR). A copy of the suitability statement and the site management plan is attached.

Lot: 3 Plan: RP137762
BRISBANE CITY COUNCIL

248 NEW CLEVELAND ROAD
TINGALPA 4173

The owner may apply to the Environmental Protection Agency (EPA) to amend the site management plan in accordance with section 418 of the *EP Act.*

Under section 434 of the *EP Act,* a person must not contravene a site management plan.

The owner may apply for a review of, and appeal against, the decision to approve the site management plan within 14 days after receipt of this notice in accordance with sections 521 and 531 of the *EP Act.*

In accordance with the land being recorded on the EMR, the following requirements apply under section 421 of the *EP Act*:

If the owner proposes to dispose of the land to someone else, the owner must, before agreeing to dispose of the land, give written notice to the buyer:
if the particulars of the land are recorded in the EMR - that the particulars are recorded in the register; and
if the land is subject to a site management plan, details of the plan.

For further information regarding this notice please contact the Contaminated Land Unit, EPA on telephone (07) 322 58487.

sch4p4(6) Personal information

Delegate of Administering Authority
Environmental Protection Act 1994

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SUITABILITY STATEMENT

DATE PRINTED: 14/11/2007

OWNER

R J PROJECT PTY LTD AS TTE
PO BOX 785
SPRINGHILL QLD 4004

DATE OF ISSUE : 13/11/2007

PROPERTY DESCRIPTION

LOT : 3 PLAN : RP137762
248 NEW CLEVELAND ROAD
TINGALPA 4173

BRISBANE CITY COUNCIL
EMR Site ID: 62244 FILE REFERENCE: BNE30402

STUDIES UNDERTAKEN BY APPLICANT OR REQUESTED BY DIRECTOR

Stage 1 and Stage 2 Environmental Site Assessment. Proposed Commercial/Industrial Development. 248 New Cleveland Road, Tingalpa, prepared for Landpartners Pty Ltd by Butler Partners Pty Ltd, dated June 2007, (Doc.No. Project No. 07133 & 07133A).

STATEMENT OF SUITABILITY

On the basis of the information supplied to this Department, the subject site is suitable for the following use(s) providing the site is used and managed as per the Site Management Plan attached as Annexure 1.

Suitable for industrial/commercial use including premises such as shops, offices and industrial buildings (but excluding uses where regular soil access by children is possible).

Other specific uses may be suitable for the site, please contact this Department for further advice. The suitability statement provides information on appropriate land uses at the date of effect. Subsequent uses of the site for notifiable activities or for situations where a hazardous contaminant is released into the soil may result in the need to review suitable uses or amend the attached site management plan.

ENVIRONMENTAL MANAGEMENT REGISTER

LOT : 3 PLAN : RP137762 is recorded on the Environmental Management Register with a Site Management Plan. A copy of the Site Management Plan is attached as Annexure 1.

sch4p4(6) Personal information

Delegate of Administering Authority
Environmental Protection Act 1994

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ANNEXURE 1 - SITE MANAGEMENT PLAN

LOT : 3 PLAN : RP137762 FILE REF : BNE30402 PRINTED: 14/11/2007

DATE OF EFFECT : 13/11/2007

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the western portion of the site has been used as a panel beaters and spray painters.

Contaminant	Maximum Concentration (mg/kg)
Cu	51,300
Pb	8,700
Hg	1.1
Zn	18,200
Total Petroleum Hydrocarbons (TPH)	
C_{10} - C_{14}	1,740
C_{15} - C_{28}	41,800
C_{29} - C_{36}	44,500

The SMP includes a Remediation Action Plan (RAP) as an appendix.

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2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 *Responsibility* To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

3.2 *Site Use* The site is currently vacant and must remain vacant until the attached RAP has been implemented. Following implementation of the RAP, the site will be suitable for commercial/industrial land use (including shops and offices as well as factories and industrial). The new use of the site must not commence until the attached RAP has been fully implemented, a Validation Report under Chapter 7 Part 8 Division 4 of the *Environmental Protection Act 1994* has been submitted to the Administering Authority and a Suitability Statement (which may include a revised SMP) has been issued by the Administering Authority.

3.3 *Provision of SMP to Appropriate Persons.* The site owner must provide all persons involved in

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building design and planning and all contractors and lessees conducting building and/or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 *Surface Capping and Protective Barriers.* Until remediation works described in the attached RAP commence, the existing concrete, soil and grass cover must remain over the entire site to maintain a barrier between the contamination and individual site users. The existing cover layer must be maintained in sound condition at all times.

3.5 *Service Trenches.* Where underground service trenches are constructed in contaminated areas, the trenches must be surrounded by a minimum of 0.3m of uncontaminated fill for minor services (<100 mm in diameter), and 0.5m of uncontaminated fill for services greater than 100 mm in diameter.

3.6 *Soil Excavation & Removal.* Any soil excavated on the site must be assessed for contaminants of concern to determine if the material is contaminated and to identify appropriate management and disposal/re-use options. No contaminated material is to be removed from the site without the prior approval of the Administering Authoring under section 424 of the *Environmental Protection Act 1994.*

3.7 *Unexpected Contamination.* If, during any site earthworks or excavation, offensive or noxious odours and/or evidence of gross contamination not previously detected are observed, site works are to cease in that area and action taken to immediately abate the environmental harm. The administering authority is to be notified in writing within 2 business days of detection and advised of appropriate remedial action. Contaminated soil which is excavated and temporarily stored on site must be managed such that environmental harm is prevented.

Any remedial action is to be developed by an appropriately qualified and experiencedperson in accordance with Section 381 of the *Environmental Protection Act 1994.*

3.8 *General Environmental Protection.* All earthworks are to comply with general environmental protection measures to avoid unwanted migration and deposition of soil. These measures include the control of dust, noise, stormwater runoff, sediment, erosion, spillage from haulage trucks and odour releases involving the handling or movement of contaminated material.

Following soil disturbance, the surface layer or protective barrier must be reinstated.

3.9 *Workplace Health and Safety.* A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* is to be developed for any site excavation works in contaminated areas. The WH&S plan must specifically address contaminants of concern and appropriate safety measures for site workers and the general public.

4.0 MONITORING AND REPORTING

Records are to be kept of all inspections, any soil excavation in contaminated areas, disposal permits and site management plan compliance for review by the administering authority from time to time. A biennial inspection is to be undertaken to ensure that capping and protective barriers remain in sound condition at all times in accordance with section 3.4.

The biennial period is to commence from the effective date of this plan.

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This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to an appendix titled Remediation Action Plan (RAP) that is available the administering authority if required.

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Remediation Action Plan

Lot 3 on RP137762.

1.0 INTRODUCTION

1.1 PURPOSE

The lot has been an industrial site located at 248 New Cleveland Road, Tingalpa. The site has historically been used for industrial purposes including heavy manufacturing, a foundry, general workshops and more recently a panel beater and spray painter at the western portion of the site. Re-development as a landscaping yard and general light industrial sheds is proposed.

Historical site use has resulted in heavy metal and hydrocarbon contamination across some parts of the site. This Remediation Action Plan (RAP) has been prepared in accordance with the Queensland Environmental Protection Agency's (EPA's) *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland, 1998* and accepted industry standards to provide a technical framework for the management of contaminated soil on the site.

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1.2 SITE OVERVIEW

The site is bounded by commercial/industrial properties to the south and south-east with mixed commercial and residential properties to the west and north with vacant land adjoining the property to the north and north-east.

1.3 PURPOSE OF THE RAP

The purpose of the RAP is to provide the framework for redevelopment works within the site.

1.4 OBJECTIVES

The primary objectives of the remediation program at the site are:

- To make the site safe for planned future use as detailed below.
- To prevent the potential long-term generation and release of contaminated water and soil impacting on the environment of adjoining land and aquifers.
- To ensure the protection of the community and local environment.

This RAP:

- Summarises the current status of the site; and

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- Provides strategies to remediate or manage impact on the site in a manner that protects human health and the environment and ensures the site is suitable for the proposed redeveloped land use.

Contaminated soil must be removed from the site, treated on-site or stored on-site in accordance with this RAP.

This RAP provides a strategy to manage contaminated soils being excavated during redevelopment in a manner that protects human health and the environment and which ensures that the site is suitable for the proposed commercial/industrial land use and:

- to ensure Regulatory Compliance during site development works;
- to complete the program expediently; and
- to comply with the principles of reducing waste to landfill supported by the EPA.

2.0 BACKGROUND

2.1 TOPOGRAPHY

The current site ground level is generally sloping downwards from south to north at a similar level to New Cleveland Road (approximately RL8mAHD to RL5.5mAHD).

2.2 GEOLOGY

Reference to the Geological Survey of Queensland's 1:31 680 Series City of Brisbane Sheets, indicates that the site is located in an area mapped as underlain by Tingalpa Formation comprising carbonaceous shale, lithic sandstone with minor conglomerate and coal.

2.3 HYDROGEOLOGY

A detailed study of the hydrogeology of the site has not been conducted. However, it is assumed that the hydrogeology of the area is dominated by Bulimba Creek located approximately 2 km to the south-west and north-west of the site.

2.4 PREVIOUS INVESTIGATIONS

This work follows investigative work undertaken by Butler Partners Pty Ltd, which has been reported in the following:

Stage 1 and 2 Environmental Site Assessment
Proposed Commercial/Industrial Development
248 New Cleveland Road
Tingalpa
June, 2007

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2.5 CURRENT IMPACT

Results from previous investigations have indicated that the soil contaminants requiring remediation or management are generally in fill soils at the surface and extending to a depth of up to 1.8 m.

The specific contaminants requiring management are as follows:

- Heavy metals (Cu, Pb, Hg and Zn) in fill and surface soils; and
- Total Petroleum Hydrocarbons in soil at the ground surface.

The distribution of these contaminants in soil is shown on the attached figure 1.

This RAP provides details of the proposed methods to address contamination across the site.

3.0 ENVIRONMENTAL GUIDELINES

The purpose of this RAP is to provide guidelines for the redevelopment works to be undertaken on the site. It is intended that the site be redeveloped in a manner such that it will be suitable for commercial/industrial land use. The remediation criteria is based on the Queensland EPA's *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland, May 1998* (The Guidelines) and *Draft Investigation Thresholds for Underground Storage Tanks – January 1999* and the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (National Environment Protection Council).

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3.1 CLEAN FILL CRITERIA

The clean fill criteria for the site are as follows:

Heavy Metals	
Arsenic	100mg/kg
Cadmium	3mg/kg
Chromium	100mg/kg
Copper	200mg/kg
Lead	300mg/kg
Nickel	60mg/kg
Mercury	1mg/kg
Zinc	400mg/kg

Organic Substances	
TPH C_6-C_9	100mg/kg
TPH C_{10}-C_{14}	100mg/kg

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TPH C_{15}-C_{28}	1000mg/kg
TPH C_{29}-C_{36}	1000mg/kg

3.3 IMPORTED FILL

Imported fill may be required if the excavated soil is not suitable or if filling quantities exceed excavated quantities. This material must meet the clean criteria identified in the Environmental Guideline Section.

4.0 REDEVELOPMENT STRATEGIES

4.1 REDEVELOPMENT GOALS

The redevelopment goal is to excavate contaminated soil exceeding the remediation criteria and either:
- remove it from site under a Disposal Permit issued by the administering authority under Section 424 of the *Environmental Protection Act 1994*; or
- place the material in containment cells and install management protocols such that at the completion of redevelopment works the site will be suitable for commercial/industrial land use as provided in Section 1.4 of this RAP and in accordance with an amended SMP.

4.2 EXTENT OF CONTAMINATION

Based on the Stage 1 and 2 Environmental Site Assessment (ESA), heavy metal results reported included concentrations of copper, lead, mercury and zinc above the clean criteria for soils with copper and lead above HIL-F criteria for soils. TPH impacts in soils were reported exceeding the Queensland EPA sensitive land use criteria.

4.3 SUITABLY QUALIFIED PERSONS TO CONDUCT / SUPERVISE WORKS

A person qualified in accordance with S.381 and S.395 of the *Environmental Protection Act 1994* must conduct all investigations, supervise all remediation works and compile report/s required to remediate the site.

4.4 STRATEGIES APPLIED

The following strategies are to be applied during the redevelopment of the site:

- Utilise data already collected remove soil exceeding the remediation criteria established in Section 3.1 above and as required for validation as described in Section 8 of this RAP from Areas 1 to 11 on the attached figure 1;
- Soil in Areas 1-5 will be placed in Area A;

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- Soil in Areas 6-11 will be placed in Area B following the excavation of Areas 1-5
- Areas A and B will be surveyed in terms of depth and area/extent so that they can be plotted on a figure for inclusion in the final SMP; and
- Install surface barriers in accordance with Section 5.2 of this RAP.

Alternatively, the identified contaminated soil will be excavated from Areas 1 to 11 on Figure 1 and disposed directly to landfill under a Disposal Permit issued by the administering authority.

No contaminated soil shall be removed from site without a Disposal Permit issued pursuant to Section 424 of the Environmental Protection Act 1994.

4.5 SITE CAPPING

It is a requirement of the Site Management Plan (SMP) that areas identified to be contaminated that are to remain on-site are to be appropriately managed by placement of an appropriate capping layer as described in Section 5.2 of this RAP.

5.0 REMEDIATION PROGRAM

5.1 SITE EXCAVATION

Site excavation will be undertaken based on the information provided on the attached figure 1. Excavation for remediation will be undertaken concurrently with site earthworks including cut and fill. Where on-site management of contaminated soil will be adopted, the excavation sequence will be as follows:

1. Remove contaminated material from Areas 1 and 2 and stockpile on Area 4;
2. Excavate and remove validated clean but geotechnically uncontrolled fill from Area A either off site or to on site stockpile;
3. Remove contaminated material from Areas 1-5 and place in Area A and compact to geotechnical specification allowing sufficient space to accommodate the surface capping;
4. Excavate and remove validated clean but geotechnically uncontrolled fill from Area B either off site or to on site stockpile; and
5. Remove contaminated material from Areas 6-11 and place in Area B and compact to geotechnical specification, allowing sufficient space to accommodate the surface capping.

Where soils impacted with heavy metals require off-site disposal to landfill, their landfill disposal classification will be determined based contaminant concentration and on TCLP analysis.

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No contaminated soil (including hydrocarbon impacted soil) will be removed from site without a Disposal Permit issued pursuant to Section 424 of the Environmental Protection Act 1994. Sampling and analysis must be supervised by a person suitably qualified in accordance with Section 381 of the *Environmental Protection Act 1994.*

5.2 SITE DEVELOPMENT

Excavation of contaminated soil will occur concurrently with bulk earthworks associated with the redevelopment works. Excavation is to occur in areas where previous investigation work has identified concentrations of contaminants in soil exceeding the clean fill criteria. Where ongoing on-site management of contaminated soils will be undertaken the following procedure will be adopted. Contaminated material in Areas 1 and 2 on Figure 1 will be temporarily stockpiled on site. Stockpiling of contaminated material must be conducted in a manner and location such that it is not easily spread by wind or rain action. If adverse weather conditions are anticipated, or if the stockpile is to remain for an extended period, stockpiles must be covered and moisture levels monitored and maintained to prevent wind blown dust. The areas in which contaminated soil will be excavated are shown on the attached figure 1. The handling of contaminated soils should only be undertaken following the development of an appropriate Workplace Health and Safety plan as described in Section 10 of this RAP, all workers must be inducted into this plan prior to commencing work on site. Validation will be undertaken in accordance with the requirements of Section 8.1 of this RAP.

Site surface capping over contaminated areas, following remediation, must comprise one of the following as a minimum:

- Concrete slab/brick paving of minimum 100 mm thickness; or
- Bitumen/asphalt paving over a minimum 150 mm compacted road base; or
- A minimum of 500 mm of compacted clay (i.e. low permeability clay/silty clay) placed over a worked layer.

All remediation and validation works (including excavation and disposal of contaminated material) must be supervised by a person suitably qualified in accordance with Section 381 of the *Environmental Protection Act 1994.*

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6.0 WORK PROCEDURES

This section of the RAP provides and overview of the procedures to be undertaken during redevelopment works.

Tracking and Documentation

Movement of materials both on-site and off site will be tracked as follows:

- a manifest will be maintained for every truckload of contaminated soil relocated on-site.

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- a manifest will be maintained for every truckload of contaminated soil removed from site;
- the landfill will provide a weighbridge print-out for the received contaminated soil; and
- weighbridge print outs will be compared with the manifest of contaminated soil removed from site.

7.0 OPERATIONAL CONTROL

The contractor responsible for the remediation works shall prepare a Construction Environmental Management Plan (CEMP) that shall be reviewed and approved by the TPR prior to the commencement of on-site works. Specific issues to be addressed are discussed in the following sections.

7.1 STORMWATER MANAGEMENT

Remediation works must comply with requirements for stormwater management as outlined in Schedule B(9) of the NEPM. This includes stockpiling excavated soil in a manner that shall prevent contamination from being transported off-site by stormwater.

Management of the stormwater shall be undertaken in accordance with Brisbane City Council (BCC) Stormwater Management Codes entailing soil and sediment erosion issues and runoff consideration.

7.2 SOIL AND SEDIMENT CONTROL

Soil and sediment control will be managed in accordance with BCC Erosion and Sediment Control Standard which assesses land-disturbing activities against specific performance criteria. Key issues from the standard for the specific development include:

- The need to plan carefully for adequate erosion and sediment control by preparing a separate Erosion and Sediment Control (ESC) Plan setting out the required measures for the site over all stages of development/construction;

- The ESC Plan must address all key phases of construction, not just one point in time; and

- Develop plans showing the layout and sequencing of controls including bulk earthworks and refuse processing.

Measures to limit the generation of sediment runoff from on-site soil stockpiles include:

- Covering stockpiles to limit erosion (as well as odour and visual concerns); and

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- Surround stockpiles by an appropriate sediment fence to limit ability to become mobile.

The requirements for the management of sediment and soil described in Schedule B(9) of the NEPM (from which the above control measures are drawn) must be complied with during remedial works.

7.3 GROUNDWATER

If groundwater is encountered during the excavation works or de-watering is required due to stormwater run off entering the excavations. Adequate water samples must be collected to characterise the water prior to off-site disposal. The characterisation of the water will determine the fate of either disposal stormwater in accordance with BCC water quality guidelines, to sewer in accordance with BCC Sewer acceptance criteria or disposal to a licensed facility as liquid waste.

7.4 NOISE CONTROL

The potential for noise and vibration impacts from the remediation works will result from the:

- preparation of the site;
- movement of construction vehicles as they traffic local roads;
- the operation of plant and activities on site, and
- traffic movements on public roads associated with the site.

In relation to noise emissions from the site, the sensitive receptors that may potentially be impacted by the site works include:

- the adjacent residences; and
- neighbouring light industrial and commercial facilities.

Remediation works will be performed in a manner to minimise unnecessary noise. All works will be carried out in accordance with Brisbane City Council regulatory limits for noise and vibration and the *Environmental Protection Regulation 1998.*

Noise mitigation measures which will be implemented at the site include:

- all remediation equipment used will comply with noise attenuation regulatory standards;

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- monitoring of equipment regarded by the site superintendent as being excessively noisy. If equipment is found to be excessively noisy, the contractor will be instructed to modify the equipment or remove it from the site;

- temporary acoustic barriers may be erected where required to minimize specific noise problems;

- preparation of a noise management plan (included in the CEMP) prior to construction to ensure all staff understand noise control measures. The management plan includes periodic monitoring to ensure continued compliance with the site's development conditions and operating licence;

- provision of a contact telephone number on the site fence to enable the community to contact the project team;

- investigation and response to any complaints received; and

- construction activities will be conducted in accordance with AS 2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites.

7.5 DUST CONTROL

Emissions resulting from the remedial works will consist primarily of particulate emissions generated by excavation and soil disturbance activities. Monitoring of the level of airborne particulates as well as good on-site management practices and controls will greatly minimise off-site impacts.

Compliance targets for dust levels will be selected based upon occupational health and safety levels, an assessment of risks for boundary receptors and review of local Air Quality Planning Scheme Policy. Compliance with Schedule B(9) of the NEPM, must be achieved, which is in addition to BCC and EPA requirements.

7.6 ODOUR CONTROL

The remedial works are not considered likely to generate significant offensive odours to off site receptors.

In the event that offensive odours at the excavation face will be left exposed for periods greater than 24 hours, a non-odorous cover material shall be placed over the exposed odour producing area. This cover material may comprise other fill material recovered at the site, mulch or other appropriate cover or odour masking material.

To minimise offensive odours resulting from odorous stockpiles, stockpiles should be covered with mulch or other appropriate cover to ameliorate the spread of odours. Measures such as moisture conditioning, misting sprays, odorants and masking agents may also be used to manage stockpile odours, should the need arise.

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7.7 PUBLIC CONSULTATION

Community consultation with regard to the proposed remediation process is not considered to be a primary concern due to the current nature and location of the site. However, in accordance with normal construction practice, a public complaints system should be established including the provision of a contact number on boundary fences and a register of complaints maintained on site.

Should significant issues be raised through the public complaints system, community consultation should be implemented to address these issues.

The potential issues of community concern that may arise during the remediation at the site may include:

- Increased traffic;
- Noise;
- Air quality and dust generation; and
- General concerns arising from the observed use of personnel protective equipment by remediation workers.

Appropriate measures to address the public consultation may include an information sheet distributed to local premises, community information sessions and/or appropriate signage. We note these processes may be required for development elements other than remediation.

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7.8 PUBLIC COMPLAINTS SYSTEM

Public complaints will be dealt with by provision of a contact number on the site fence, this will be available for the community to call 24hours a day. t. All complaints will be acted on immediately (within 2 business days) with investigations into the cause of the concern and prompt action taken to rectify the problem.

8.0 VALIDATION PROGRAM

8.1 VALIDATION SOIL SAMPLING

Validation of soils remaining in-situ has largely been undertaken by sampling and analysis undertaken as part of the Stage 1 and 2 ESA. However, in-fill sampling and analysis will similarly be required to ensure the base of the excavations have been validated at a rate of at least 10 m x 10 m areas. The walls of the excavations will be

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validated every 10 lineal metres with samples collected from the strata identified as being impacted, where these strata are greater than 500mm in thickness, one sample will be collected over each 500mm depth interval. Samples will be collected 100mm beyond the excavation face. Soils in each area must be validated in relation to the Clean Fill criteria in Section 3.1 of this RAP.

Validation samples will be analysed for analytes based on the contaminants of concern and will comprise halogenated aliphatic hydrocarbons, total recoverable hydrocarbons and heavy metals as appropriate within specific areas.

Any imported fill (other than a from a recognized quarry source) will also be sampled to demonstrate compliance with the clean fill criteria. The source of all imported materials will be documented and assessed. Imported fill (other than from a recognized quarry source) will be required to be sampled at a rate of 1 sample per $50m^3$ to confirm compliance with the clean fill criteria.

Sample Dispatch And Documentation

Samples will be placed in appropriately pre-treated sample jars, placed in an insulated container on ice and submitted to a NATA accredited laboratory for analysis. Sample movements will be documented using appropriate Chain of Custody forms.

Backfilling

Where required, areas from which material has been removed will be backfilled with clean fill following successful validation of the areas. Backfill material will be compacted to meet the engineering requirements of ongoing and future use of the area.

Quality Assurance Program

Quality assurance sampling will be conducted as outlined in AS4482.1-2005, namely

- collection and analysis of one blind replicate sample per twenty primary samples analysed (submitted to primary analysing laboratory under an individual sample name not identifiable with the primary sample);

- collection and analysis of one split sample per twenty primary samples analysed (submitted to secondary analysing laboratory under the same sample name as the primary sample); and

- one rinsate sample per day will be collected to ensure there is no cross-contamination of substances from the sampling equipment used.

Further quality control techniques that will be used include submission of a chain of custody documentation to track sample movements.

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9.0 DECONTAMINATION PROCEDURES

Decontamination procedures for sampling equipment, personnel and the general site must be in accordance with the Australian Standard AS 4482.1-2005 and the NEPM guidelines (Schedule B(9)).

10.0 HEALTH AND SAFETY

A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* will be developed for any site sampling or excavation works in potentially or known contaminated areas. The WH&S plan will specifically address contaminants of concern identified during investigation works on the site.

Prior to commencement of works all site workers must have undergone an appropriate induction to the site ensuring that they are aware of the contaminants present and the necessary occupational health and safety precautions that must be applied.

11.0 REPORTING REQUIREMENTS

A validation report must be prepared by a person qualified in accordance with S.5.3, and submitted to the administering authority for certification within 45 days of the completion of remediation and validation works. The report must be prepared and submitted in accordance with the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland May 1998*, the NEPM and the *Environmental Protection Act 1994.*

The report must document remediation and validation program activities including the results of any further excavation and/or validation required by the results of the initial validation analysis, an evaluation of the results against the remedial goals and an investigation demonstrating compliance with the conditions of this RAP.

The report must also include the results of the QA/QC program, and copies of documentation validating the appropriate handling, disposal and treatment of contaminated soil and water in accordance with administering authority requirements. The validation report must be submitted to the administering authority for review in accordance with the *Environmental Protection Act 1994* and the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland May 1998.*

A draft Site Management Plan for the ongoing management of the site must be prepared and submitted with the validation report if contaminated soil is to remain on-site within a constructed containment cell

If requested by the administering authority, progress reporting must be finalised and submitted to the administering authority within one business day.

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12.0 STATEMENT OF SUITABILITY

Prior to commencement of the land use proposed by the material change of use, a Statement of Suitability must be obtained from the administering authority. The Statement of Suitability must specify that the site is suitable for the intended use(s) with an approved SMP or removal from the EMR as required.

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SITE MANAGEMENT PLAN
248 New Cleveland Road, Tingalpa
Date: 9 November, 2007

EPA File Reference Number: BNE30402

RPD: Lot 3 on RP137762

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the western portion of the site has been used as a panel beaters and spray painters.

Contaminant	Maximum Concentration (mg/kg)
Cu	51,300
Pb	8,700
Hg	1.1
Zn	18,200
Total Petroleum Hydrocarbons (TPH)	
C_{10}-C_{14}	1,740
C_{15}-C_{28}	41,800
C_{29}-C_{36}	44,500

The SMP includes a Remediation Action Plan (RAP) as an appendix.

2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 Responsibility To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

3.2 Site Use The site is currently vacant and must remain vacant until the attached RAP has been implemented. Following implementation of the RAP, the site will be suitable for commercial/industrial land use (including shops and offices as well as factories and industrial). The new use of the site must not commence until the attached RAP has been fully implemented, a Validation Report under Chapter 7 Part 8 Division 4 of the *Environmental Protection Act 1994* has been submitted to the Administering Authority and a Suitability Statement (which may include a revised SMP) has been issued by the Administering Authority.

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3.3 Provision of SMP to Appropriate Persons. The site owner must provide all persons involved in building design and planning and all contractors and lessees conducting building and/or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 Surface Capping and Protective Barriers. Until remediation works described in the attached RAP commence, the existing concrete, soil and grass cover must remain over the entire site to maintain a barrier between the contamination and individual site users. The existing cover layer must be maintained in sound condition at all times.

3.5 Service Trenches. Where underground service trenches are constructed in contaminated areas, the trenches must be surrounded by a minimum of 0.3m of uncontaminated fill for minor services (<100 mm in diameter), and 0.5m of uncontaminated fill for services greater than 100 mm in diameter.

3.6 Soil Excavation & Removal. Any soil excavated on the site must be assessed for contaminants of concern to determine if the material is contaminated and to identify appropriate management and disposal/re-use options. No contaminated material is to be removed from the site without the prior approval of the Administering Authoring under section 424 of the *Environmental Protection Act 1994*.

3.7 Unexpected Contamination. If, during any site earthworks or excavation, offensive or noxious odours and/or evidence of gross contamination not previously detected are observed, site works are to cease in that area and action taken to immediately abate the environmental harm. The administering authority is to be notified in writing within 2 business days of detection and advised of appropriate remedial action. Contaminated soil which is excavated and temporarily stored on site must be managed such that environmental harm is prevented.

Any remedial action is to be developed by an appropriately qualified and experienced person in accordance with Section 381 of the *Environmental Protection Act 1994*.

3.8 General Environmental Protection. All earthworks are to comply with general environmental protection measures to avoid unwanted migration and deposition of soil. These measures include the control of dust, noise, stormwater runoff, sediment, erosion, spillage from haulage trucks and odour releases involving the handling or movement of contaminated material.

Following soil disturbance, the surface layer or protective barrier must be reinstated.

3.9 Workplace Health and Safety. A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* is to be developed for any site excavation works in contaminated areas. The WH&S plan must specifically address contaminants of concern and appropriate safety measures for site workers and the general public.

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4.0 MONITORING AND REPORTING

Records are to be kept of all inspections, any soil excavation in contaminated areas, disposal permits and site management plan compliance for review by the administering authority from time to time. A biennial inspection is to be undertaken to ensure that capping and protective barriers remain in sound condition at all times in accordance with section 3.4.

The biennial period is to commence from the effective date of this plan.

This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to an appendix titled Remediation Action Plan (RAP) that is available the administering authority if required.

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Remediation Action Plan

Lot 3 on RP137762.

1.0 INTRODUCTION

1.1 PURPOSE

The lot has been an industrial site located at 248 New Cleveland Road, Tingalpa. The site has historically been used for industrial purposes including heavy manufacturing, a foundry, general workshops and more recently a panel beater and spray painter at the western portion of the site. Re-development as a landscaping yard and general light industrial sheds is proposed.

Historical site use has resulted in heavy metal and hydrocarbon contamination across some parts of the site. This Remediation Action Plan (RAP) has been prepared in accordance with the Queensland Environmental Protection Agency's (EPA's) *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland, 1998* and accepted industry standards to provide a technical framework for the management of contaminated soil on the site.

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1.2 SITE OVERVIEW

The site is bounded by commercial/industrial properties to the south and south-east with mixed commercial and residential properties to the west and north with vacant land adjoining the property to the north and north-east.

1.3 PURPOSE OF THE RAP

The purpose of the RAP is to provide the framework for redevelopment works within the site.

1.4 OBJECTIVES

The primary objectives of the remediation program at the site are:

- To make the site safe for planned future use as detailed below.
- To prevent the potential long-term generation and release of contaminated water and soil impacting on the environment of adjoining land and aquifers.
- To ensure the protection of the community and local environment.

This RAP:

Task	Tick	Initial & Date
Check owner		
Check site address (QVAS)		
Check applicant		
Queue officer signed off on Stat dec.		
Update blue sheet		
Fill out SMP audit Folders		
Make green/blue copies		
Sign blue sheet		

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- Summarises the current status of the site; and

- Provides strategies to remediate or manage impact on the site in a manner that protects human health and the environment and ensures the site is suitable for the proposed redeveloped land use.

Contaminated soil must be removed from the site, treated on-site or stored on-site in accordance with this RAP.

This RAP provides a strategy to manage contaminated soils being excavated during redevelopment in a manner that protects human health and the environment and which ensures that the site is suitable for the proposed commercial/industrial land use and:

- to ensure Regulatory Compliance during site development works;
- to complete the program expediently; and
- to comply with the principles of reducing waste to landfill supported by the EPA.

2.0 BACKGROUND

2.1 TOPOGRAPHY

The current site ground level is generally sloping downwards from south to north at a similar level to New Cleveland Road (approximately RL8mAHD to RL5.5mAHD).

2.2 GEOLOGY

Reference to the Geological Survey of Queensland's 1:31 680 Series City of Brisbane Sheets, indicates that the site is located in an area mapped as underlain by Tingalpa Formation comprising carbonaceous shale, lithic sandstone with minor conglomerate and coal.

2.3 HYDROGEOLOGY

A detailed study of the hydrogeology of the site has not been conducted. However, it is assumed that the hydrogeology of the area is dominated by Bulimba Creek located approximately 2 km to the south-west and north-west of the site.

2.4 PREVIOUS INVESTIGATIONS

This work follows investigative work undertaken by Butler Partners Pty Ltd, which has been reported in the following:

Stage 1 and 2 Environmental Site Assessment
Proposed Commercial/Industrial Development
248 New Cleveland Road

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2.5 CURRENT IMPACT

Results from previous investigations have indicated that the soil contaminants requiring remediation or management are generally in fill soils at the surface and extending to a depth of up to 1.8 m.

The specific contaminants requiring management are as follows:

- Heavy metals (Cu, Pb, Hg and Zn) in fill and surface soils; and
- Total Petroleum Hydrocarbons in soil at the ground surface.

The distribution of these contaminants in soil is shown on the attached figure 1.

This RAP provides details of the proposed methods to address contamination across the site.

3.0 ENVIRONMENTAL GUIDELINES

The purpose of this RAP is to provide guidelines for the redevelopment works to be undertaken on the site. It is intended that the site be redeveloped in a manner such that it will be suitable for commercial/industrial land use. The remediation criteria is based on the Queensland EPA's *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland, May 1998* (The Guidelines) and *Draft Investigation Thresholds for Underground Storage Tanks – January 1999* and the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (National Environment Protection Council).

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3.1 CLEAN FILL CRITERIA

The clean fill criteria for the site are as follows:

Heavy Metals	
Arsenic	100mg/kg
Cadmium	3mg/kg
Chromium	100mg/kg
Copper	200mg/kg
Lead	300mg/kg
Nickel	60mg/kg
Mercury	1mg/kg
Zinc	400mg/kg

Organic Substances

TPH C_6-C_9	100mg/kg
TPH C_{10}-C_{14}	100mg/kg
TPH C_{15}-C_{28}	1000mg/kg
TPH C_{29}-C_{36}	1000mg/kg

3.3 IMPORTED FILL

Imported fill may be required if the excavated soil is not suitable or if filling quantities exceed excavated quantities. This material must meet the clean criteria identified in the Environmental Guideline Section.

4.0 REDEVELOPMENT STRATEGIES

4.1 REDEVELOPMENT GOALS

The redevelopment goal is to excavate contaminated soil exceeding the remediation criteria and either:
- remove it from site under a Disposal Permit issued by the administering authority under Section 424 of the *Environmental Protection Act 1994*; or
- place the material in containment cells and install management protocols such that at the completion of redevelopment works the site will be suitable for commercial/industrial land use as provided in Section 1.4 of this RAP and in accordance with an amended SMP.

4.2 EXTENT OF CONTAMINATION

Based on the Stage 1 and 2 Environmental Site Assessment (ESA), heavy metal results reported included concentrations of copper, lead, mercury and zinc above the clean criteria for soils with copper and lead above HIL-F criteria for soils. TPH impacts in soils were reported exceeding the Queensland EPA sensitive land use criteria.

4.3 SUITABLY QUALIFIED PERSONS TO CONDUCT / SUPERVISE WORKS

A person qualified in accordance with S.381 and S.395 of the *Environmental Protection Act 1994* must conduct all investigations, supervise all remediation works and compile report/s required to remediate the site.

4.4 STRATEGIES APPLIED

The following strategies are to be applied during the redevelopment of the site:

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- Utilise data already collected remove soil exceeding the remediation criteria established in Section 3.1 above and as required for validation as described in Section 8 of this RAP from Areas 1 to 11 on the attached figure 1;
- Soil in Areas 1-5 will be placed in Area A;
- Soil in Areas 6-11 will be placed in Area B following the excavation of Areas 1-5
- Areas A and B will be surveyed in terms of depth and area/extent so that they can be plotted on a figure for inclusion in the final SMP; and
- Install surface barriers in accordance with Section 5.2 of this RAP.

Alternatively, the identified contaminated soil will be excavated from Areas 1 to 11 on Figure 1 and disposed directly to landfill under a Disposal Permit issued by the administering authority.

No contaminated soil shall be removed from site without a Disposal Permit issued pursuant to Section 424 of the Environmental Protection Act 1994.

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4.5 SITE CAPPING

It is a requirement of the Site Management Plan (SMP) that areas identified to be contaminated that are to remain on-site are to be appropriately managed by placement of an appropriate capping layer as described in Section 5.2 of this RAP.

5.0 REMEDIATION PROGRAM

5.1 SITE EXCAVATION

Site excavation will be undertaken based on the information provided on the attached figure 1. Excavation for remediation will be undertaken concurrently with site earthworks including cut and fill. Where on-site management of contaminated soil will be adopted, the excavation sequence will be as follows:

1. Remove contaminated material from Areas 1 and 2 and stockpile on Area 4;
2. Excavate and remove validated clean but geotechnically uncontrolled fill from Area A either off site or to on site stockpile;
3. Remove contaminated material from Areas 1-5 and place in Area A and compact to geotechnical specification allowing sufficient space to accommodate the surface capping;
4. Excavate and remove validated clean but geotechnically uncontrolled fill from Area B either off site or to on site stockpile; and
5. Remove contaminated material from Areas 6-11 and place in Area B and compact to geotechnical specification, allowing sufficient space to accommodate the surface capping.

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Where soils impacted with heavy metals require off-site disposal to landfill, their landfill disposal classification will be determined based contaminant concentration and on TCLP analysis.

No contaminated soil (including hydrocarbon impacted soil) will be removed from site without a Disposal Permit issued pursuant to Section 424 of the Environmental Protection Act 1994. Sampling and analysis must be supervised by a person suitably qualified in accordance with Section 381 of the *Environmental Protection Act 1994*.

5.2 SITE DEVELOPMENT

Excavation of contaminated soil will occur concurrently with bulk earthworks associated with the redevelopment works. Excavation is to occur in areas where previous investigation work has identified concentrations of contaminants in soil exceeding the clean fill criteria. Where ongoing on-site management of contaminated soils will be undertaken the following procedure will be adopted. Contaminated material in Areas 1 and 2 on Figure 1 will be temporarily stockpiled on site. Stockpiling of contaminated material must be conducted in a manner and location such that it is not easily spread by wind or rain action. If adverse weather conditions are anticipated, or if the stockpile is to remain for an extended period, stockpiles must be covered and moisture levels monitored and maintained to prevent wind blown dust. The areas in which contaminated soil will be excavated are shown on the attached figure 1. The handling of contaminated soils should only be undertaken following the development of an appropriate Workplace Health and Safety plan as described in Section 10 of this RAP, all workers must be inducted into this plan prior to commencing work on site. Validation will be undertaken in accordance with the requirements of Section 8.1 of this RAP.

Site surface capping over contaminated areas, following remediation, must comprise one of the following as a minimum:

- Concrete slab/brick paving of minimum 100 mm thickness; or
- Bitumen/asphalt paving over a minimum 150 mm compacted road base; or
- A minimum of 500 mm of compacted clay (i.e. low permeability clay/silty clay) placed over a worked layer.

All remediation and validation works (including excavation and disposal of contaminated material) must be supervised by a person suitably qualified in accordance with Section 381 of the *Environmental Protection Act 1994*.

6.0 WORK PROCEDURES

This section of the RAP provides and overview of the procedures to be undertaken during redevelopment works.

Tracking and Documentation

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Movement of materials both on-site and off site will be tracked as follows:

- a manifest will be maintained for every truckload of contaminated soil relocated on-site.
- a manifest will be maintained for every truckload of contaminated soil removed from site;
- the landfill will provide a weighbridge print-out for the received contaminated soil; and
- weighbridge print outs will be compared with the manifest of contaminated soil removed from site.

7.0 OPERATIONAL CONTROL

The contractor responsible for the remediation works shall prepare a Construction Environmental Management Plan (CEMP) that shall be reviewed and approved by the TPR prior to the commencement of on-site works. Specific issues to be addressed are discussed in the following sections.

7.1 STORMWATER MANAGEMENT

Remediation works must comply with requirements for stormwater management as outlined in Schedule B(9) of the NEPM. This includes stockpiling excavated soil in a manner that shall prevent contamination from being transported off-site by stormwater.

Management of the stormwater shall be undertaken in accordance with Brisbane City Council (BCC) Stormwater Management Codes entailing soil and sediment erosion issues and runoff consideration.

7.2 SOIL AND SEDIMENT CONTROL

Soil and sediment control will be managed in accordance with BCC Erosion and Sediment Control Standard which assesses land-disturbing activities against specific performance criteria. Key issues from the standard for the specific development include:

- The need to plan carefully for adequate erosion and sediment control by preparing a separate Erosion and Sediment Control (ESC) Plan setting out the required measures for the site over all stages of development/construction;

- The ESC Plan must address all key phases of construction, not just one point in time; and

- Develop plans showing the layout and sequencing of controls including bulk earthworks and refuse processing.

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Measures to limit the generation of sediment runoff from on-site soil stockpiles include:

- Covering stockpiles to limit erosion (as well as odour and visual concerns); and
- Surround stockpiles by an appropriate sediment fence to limit ability to become mobile.

The requirements for the management of sediment and soil described in Schedule B(9) of the NEPM (from which the above control measures are drawn) must be complied with during remedial works.

7.3 GROUNDWATER

If groundwater is encountered during the excavation works or de-watering is required due to stormwater run off entering the excavations. Adequate water samples must be collected to characterise the water prior to off-site disposal. The characterisation of the water will determine the fate of either disposal stormwater in accordance with BCC water quality guidelines, to sewer in accordance with BCC Sewer acceptance criteria or disposal to a licensed facility as liquid waste.

7.4 NOISE CONTROL

The potential for noise and vibration impacts from the remediation works will result from the:

- preparation of the site;
- movement of construction vehicles as they traffic local roads;
- the operation of plant and activities on site, and
- traffic movements on public roads associated with the site.

In relation to noise emissions from the site, the sensitive receptors that may potentially be impacted by the site works include:

- the adjacent residences; and
- neighbouring light industrial and commercial facilities.

Remediation works will be performed in a manner to minimise unnecessary noise. All works will be carried out in accordance with Brisbane City Council regulatory limits for noise and vibration and the *Environmental Protection Regulation 1998.*

Noise mitigation measures which will be implemented at the site include:

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- all remediation equipment used will comply with noise attenuation regulatory standards;

- monitoring of equipment regarded by the site superintendent as being excessively noisy. If equipment is found to be excessively noisy, the contractor will be instructed to modify the equipment or remove it from the site;

- temporary acoustic barriers may be erected where required to minimize specific noise problems;

- preparation of a noise management plan (included in the CEMP) prior to construction to ensure all staff understand noise control measures. The management plan includes periodic monitoring to ensure continued compliance with the site's development conditions and operating licence;

- provision of a contact telephone number on the site fence to enable the community to contact the project team;

- investigation and response to any complaints received; and

- construction activities will be conducted in accordance with AS 2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites.

7.5 DUST CONTROL

Emissions resulting from the remedial works will consist primarily of particulate emissions generated by excavation and soil disturbance activities. Monitoring of the level of airborne particulates as well as good on-site management practices and controls will greatly minimise off-site impacts.

Compliance targets for dust levels will be selected based upon occupational health and safety levels, an assessment of risks for boundary receptors and review of local Air Quality Planning Scheme Policy. Compliance with Schedule B(9) of the NEPM, must be achieved, which is in addition to BCC and EPA requirements.

7.6 ODOUR CONTROL

The remedial works are not considered likely to generate significant offensive odours to off site receptors.

In the event that offensive odours at the excavation face will be left exposed for periods greater than 24 hours, a non-odorous cover material shall be placed over the exposed odour producing area. This cover material may comprise other fill material recovered at the site, mulch or other appropriate cover or odour masking material.

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To minimise offensive odours resulting from odorous stockpiles, stockpiles should be covered with mulch or other appropriate cover to ameliorate the spread of odours. Measures such as moisture conditioning, misting sprays, odorants and masking agents may also be used to manage stockpile odours, should the need arise.

7.7 PUBLIC CONSULTATION

Community consultation with regard to the proposed remediation process is not considered to be a primary concern due to the current nature and location of the site. However, in accordance with normal construction practice, a public complaints system should be established including the provision of a contact number on boundary fences and a register of complaints maintained on site.

Should significant issues be raised through the public complaints system, community consultation should be implemented to address these issues.

The potential issues of community concern that may arise during the remediation at the site may include:

- Increased traffic;
- Noise;
- Air quality and dust generation; and
- General concerns arising from the observed use of personnel protective equipment by remediation workers.

Appropriate measures to address the public consultation may include an information sheet distributed to local premises, community information sessions and/or appropriate signage. We note these processes may be required for development elements other than remediation.

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7.8 PUBLIC COMPLAINTS SYSTEM

Public complaints will be dealt with by provision of a contact number on the site fence, this will be available for the community to call 24hours a day. t. All complaints will be acted on immediately (within 2 business days) with investigations into the cause of the concern and prompt action taken to rectify the problem.

8.0 VALIDATION PROGRAM

8.1 VALIDATION SOIL SAMPLING

Validation of soils remaining in-situ has largely been undertaken by sampling and analysis undertaken as part of the Stage 1 and 2 ESA. However, in-fill sampling and analysis will similarly be required to ensure the base of the excavations have been validated at a rate of at least 10 m x 10 m areas. The walls of the excavations will be validated every 10 lineal metres with samples collected from the strata identified as being impacted, where these strata are greater than 500mm in thickness, one sample will be collected over each 500mm depth interval. Samples will be collected 100mm beyond the excavation face. Soils in each area must be validated in relation to the Clean Fill criteria in Section 3.1 of this RAP.

Validation samples will be analysed for analytes based on the contaminants of concern and will comprise halogenated aliphatic hydrocarbons, total recoverable hydrocarbons and heavy metals as appropriate within specific areas.

Any imported fill (other than a from a recognized quarry source) will also be sampled to demonstrate compliance with the clean fill criteria. The source of all imported materials will be documented and assessed. Imported fill (other than from a recognized quarry source) will be required to be sampled at a rate of 1 sample per $50m^3$ to confirm compliance with the clean fill criteria.

Sample Dispatch And Documentation

Samples will be placed in appropriately pre-treated sample jars, placed in an insulated container on ice and submitted to a NATA accredited laboratory for analysis. Sample movements will be documented using appropriate Chain of Custody forms.

Backfilling

Where required, areas from which material has been removed will be backfilled with clean fill following successful validation of the areas. Backfill material will be compacted to meet the engineering requirements of ongoing and future use of the area.

Quality Assurance Program

Quality assurance sampling will be conducted as outlined in AS4482.1-2005, namely

- collection and analysis of one blind replicate sample per twenty primary samples analysed (submitted to primary analysing laboratory under an individual sample name not identifiable with the primary sample);

- collection and analysis of one split sample per twenty primary samples analysed (submitted to secondary analysing laboratory under the same sample name as the primary sample); and

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- one rinsate sample per day will be collected to ensure there is no cross-contamination of substances from the sampling equipment used.

Further quality control techniques that will be used include submission of a chain of custody documentation to track sample movements.

9.0 DECONTAMINATION PROCEDURES

Decontamination procedures for sampling equipment, personnel and the general site must be in accordance with the Australian Standard AS 4482.1-2005 and the NEPM guidelines (Schedule B(9)).

10.0 HEALTH AND SAFETY

A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* will be developed for any site sampling or excavation works in potentially or known contaminated areas. The WH&S plan will specifically address contaminants of concern identified during investigation works on the site.

Prior to commencement of works all site workers must have undergone an appropriate induction to the site ensuring that they are aware of the contaminants present and the necessary occupational health and safety precautions that must be applied.

11.0 REPORTING REQUIREMENTS

A validation report must be prepared by a person qualified in accordance with S.5.3, and submitted to the administering authority for certification within 45 days of the completion of remediation and validation works. The report must be prepared and submitted in accordance with the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland May 1998*, the NEPM and the *Environmental Protection Act 1994*.

The report must document remediation and validation program activities including the results of any further excavation and/or validation required by the results of the initial validation analysis, an evaluation of the results against the remedial goals and an investigation demonstrating compliance with the conditions of this RAP.

The report must also include the results of the QA/QC program, and copies of documentation validating the appropriate handling, disposal and treatment of contaminated soil and water in accordance with administering authority requirements. The validation report must be submitted to the administering authority for review in accordance with the *Environmental Protection Act 1994* and the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland May 1998*.

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A draft Site Management Plan for the ongoing management of the site must be prepared and submitted with the validation report if contaminated soil is to remain on-site within a constructed containment cell

If requested by the administering authority, progress reporting must be finalised and submitted to the administering authority within one business day.

12.0 STATEMENT OF SUITABILITY

Prior to commencement of the land use proposed by the material change of use, a Statement of Suitability must be obtained from the administering authority. The Statement of Suitability must specify that the site is suitable for the intended use(s) with an approved SMP or removal from the EMR as required.

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Remediation Action Plan

Lot 3 on RP137762.

1.0 INTRODUCTION

1.1 PURPOSE

The lot has been an industrial site located New Cleveland Road at Tingalpa. The site has historically been used for industrial purposes including heavy manufacturing, a foundry, general workshops and more recently a panel beater and spray painter at the western portion of the site. Re-development as a landscaping yard and general light industrial sheds is proposed.

Historical site use has resulted in heavy metal and hydrocarbon contamination across some parts of the site. This Remediation Action Plan (RAP) has been prepared in accordance with the Queensland Environmental Protection Agency's (EPA's) *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland, 1998* and accepted industry standards to provide a technical framework for the management of contaminated soil on the site.

1.2 SITE OVERVIEW

The site is bounded by commercial/industrial properties to the south and south-east with mixed commercial and residential properties to the west and north with vacant land adjoining the property to the north and north-east.

1.3 PURPOSE OF THE RAP

The purpose of the RAP is to provide the framework for redevelopment works within the site.

1.4 OBJECTIVES

The primary objectives of the remediation program at the site are:

- To make the site safe for planned future use as detailed below.
- To prevent the potential long-term generation and release of contaminated water and soil impacting on the environment of adjoining land and aquifers.
- To ensure the protection of the community and local environment.

This RAP:

- Summarises the current status of the site; and
- Provides strategies to remediate or manage impact on the site in a manner that protects human health and the environment and ensures the site is suitable for the proposed redeveloped land use.

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Contaminated soil must be removed from the site, treated on-site or stored on-site in accordance with this RAP.

This RAP provides a strategy to manage contaminated soils being excavated during redevelopment in a manner that protects human health and the environment and which ensures that the site is suitable for the proposed commercial/industrial land use and:

- to ensure Regulatory Compliance during site development works;
- to complete the program expediently; and
- to comply with the principles of reducing waste to landfill supported by the EPA.

2.0 BACKGROUND

2.1 TOPOGRAPHY

The current site ground level is generally sloping downwards from south to north at a similar level to New Cleveland Road (approximately RL8mAHD to RL5.5mAHD).

2.2 GEOLOGY

Reference to the Geological Survey of Queensland's 1:31 680 Series City of Brisbane Sheets, indicates that the site is located in an area mapped as underlain by Tingalpa formation comprising carbonaceous shale, lithic sandstone with minor conglomerate and coal.

2.3 HYDROGEOLOGY

A detailed study of the hydrogeology of the site has not been conducted. However, it is assumed that the hydrogeology of the area is dominated by Bulimba Creek located approximately 2 km to the south-west and north-west of the site.

2.4 PREVIOUS INVESTIGATIONS

This work follows investigative work undertaken by Butler Partners Pty Ltd, which has been reported in the following:

Stage 1 and 2 Environmental Site Assessment
Proposed Commercial/Industrial Development
248 New Cleveland Road
Tingalpa
June, 2007

2.5 CURRENT IMPACT

Results from previous investigations have indicated that the soil contaminants requiring remediation or management are generally in fill soils at the surface and extending to a depth of up to 1.8 m.

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The specific contaminants requiring management are as follows:

- Heavy metals (Cu, Pb, Hg and Zn) in fill and surface soils; and
- Total Petroleum Hydrocarbons in soil at the ground surface.

The distribution of these contaminants in soil is shown on the attached figure 1.

This RAP provides details of the proposed methods to address contamination across the site.

3.0 ENVIRONMENTAL GUIDELINES

The purpose of this RAP is to provide guidelines for the redevelopment works to be undertaken on the site. It is intended that the site be redeveloped in a manner such that it will be suitable for commercial/industrial. The remediation criteria is based on the Queensland EPA's *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland, May 1998* (The Guidelines) and *Draft Investigation Thresholds for Underground Storage Tanks – January 1999* and the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (National Environment Protection Council).

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3.1 CLEAN FILL CRITERIA

The clean fill criteria for the site are as follows:

Heavy Metals	
Arsenic	100mg/kg
Cadmium	3mg/kg
Chromium	100mg/kg
Copper	200mg/kg
Lead	300mg/kg
Nickel	60mg/kg
Mercury	1mg/kg
Zinc	400mg/kg

Organic Substances	
TPH C_6-C_9	100mg/kg
TPH C_{10}-C_{14}	100mg/kg
TPH C_{15}-C_{28}	1000mg/kg
TPH C_{29}-C_{36}	1000mg/kg

3.3 IMPORTED FILL

Imported fill may be required if the excavated soil is not suitable or if filling quantities exceed excavated quantities. This material must meet the clean criteria identified in the Environmental Guideline Section.

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4.0 REDEVELOPMENT STRATEGIES

4.1 REDEVELOPMENT GOALS

The redevelopment goal is to excavate contaminated soil exceeding the remediation criteria and either:
- remove it from site under a Disposal Permit issued by the administering authority under Section 424 of the *Environmental Protection Act 1994*; or
- place the material in containment cells and install management protocols such that at the completion of redevelopment works the site will be suitable for commercial/industrial land use as provided in Section 1.4 of this RAP and in accordance with an amended SMP.

4.2 EXTENT OF CONTAMINATION

Based on the Stage 1 and 2 Environmental Site Assessment (ESA), heavy metal results reported included concentrations of copper, lead, mercury and zinc above the clean criteria for soils with copper and lead above HIL-F criteria for soils. TPH impacts in soils were reported exceeding the Queensland EPA sensitive landuse criteria.

4.3 SUITABLY QUALIFIED PERSONS TO CONDUCT / SUPERVISE WORKS

A person qualified in accordance with S.381 and S.395 of the *Environmental Protection Act 1994* must conduct all investigations, supervise all remediation works and compile report/s required to remediate the site.

4.4 STRATEGIES APPLIED

The following strategies are to be applied during the redevelopment of the site:

- Utilise data already collected remove soil exceeding the remediation criteria established in Section 3.1 above and as required for validation as described in Section 8 of this RAP from Areas 1 to 11 on the attached figure 1;
- Soil in Areas 1-5 will be placed in Area A;
- Soil in Areas 6-11 will be placed in Area B following the excavation of Areas 1-5
- Areas A and B will be surveyed in terms of depth and area/extent so that they can be plotted on a figure for inclusion in the final SMP; and
- Install surface barriers in accordance with Section 5.2 of this RAP.

Alternatively, the identified contaminated soil will be excavated from Areas 1 to 11 on figure 1 and disposed directly to landfill under a Disposal Permit issued by the administering authority.

No contaminated soil shall be removed from site without a Disposal Permit issued pursuant to Section 424 of the Environmental Protection Act 1994.

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4.5 SITE CAPPING

It is a requirement of the Site Management Plan (SMP) that areas identified to be contaminated that are to remain on-site are to be appropriately managed by placement of an appropriate capping layer as described in Section 5.2 of this RAP.

5.0 REMEDIATION PROGRAM

5.1 SITE EXCAVATION

Site excavation will be undertaken based on the information provided on the attached figure 1. Excavation for remediation will be undertaken concurrently with site earthworks including cut and fill. Where on-site management of contaminated soil will be adopted, the excavation sequence will be as follows:

1. Remove contaminated material from Areas 1 and 2 and stockpile on Area 4;
2. Excavate and remove validated clean but geotechnically uncontrolled fill from Area A either off site or to on site stockpile;
3. Remove contaminated material from Areas 1-5 and place in Area A and compact to geotechnical specification allowing sufficient space to accommodate the surface capping;
4. Excavate and remove validated clean but geotechnically uncontrolled fill from Area B either off site or to on site stockpile; and
5. Remove contaminated material from Areas 6-11 and place in Area B and compact to geotechnical specification, allowing sufficient space to accommodate the surface capping.

Where soils impacted with heavy metals require off-site disposal to landfill, their landfill disposal classification will be determined based contaminant concentration and on TCLP analysis.

No contaminated soil (including hydrocarbon impacted soil) will be removed from site without a Disposal Permit issued pursuant to Section 424 of the Environmental Protection Act 1994. Sampling and analysis must be supervised by a person suitably qualified in accordance with Section 381 of the *Environmental Protection Act 1994.*

5.2 SITE DEVELOPMENT

Excavation of contaminated soil will occur concurrently with bulk earthworks associated with the redevelopment works. Excavation is to occur in areas where previous investigation work has identified concentrations of contaminants in soil exceeding the clean fill criteria. Where ongoing on-site management of contaminated soils will be undertaken the following procedure will be adopted. Contaminated material in Areas 1 and 2 on figure 1 will be temporarily stockpiled on site. Stockpiling of contaminated material must be conducted in a manner and location such that it is not easily spread by wind or rain action. If adverse weather conditions are anticipated, or if the stockpile is to remain for an extended period, stockpiles must be covered and moisture levels monitored and maintained to prevent wind blown dust. The areas in which contaminated soil will be excavated are shown on the attached figure 1. The handling of contaminated soils should only be undertaken following the

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development of an appropriate Workplace Health and Safety plan as described in Section 10 of this RAP, all workers must be inducted into this plan prior to commencing work on site. Validation will be undertaken in accordance with the requirements of Section 8.1 of this RAP.

Site surface capping over contaminated areas, following remediation, must comprise one of the following as a minimum:

- Concrete slab/brick paving of minimum 100 mm thickness; or
- Bitumen/ashalt paving over a minimum 150 mm compacted road base; or
- A minimum of 500 mm of compacted clay (i.e. low permeability clay/silty clay) placed over a worked layer

All remediation and validation works (including excavation and disposal of contaminated material) must be supervised by a person suitably qualified in accordance with Section 381 of the *Environmental Protection Act 1994*.

6.0 WORK PROCEDURES

This section of the RAP provides and overview of the procedures to be undertaken during redevelopment works.

Tracking and Documentation

Movement of materials both on-site and off site will be tracked as follows:

- a manifest will be maintained for every truckload of contaminated soil relocated on-site.
- a manifest will be maintained for every truckload of contaminated soil removed from site;
- the landfill will provide a weighbridge print-out for the received contaminated soil; and
- weighbridge print outs will be compared with the manifest of contaminated soil removed from site.

7.0 OPERATIONAL CONTROL

The contractor responsible for the remediation works shall prepare a Construction Environmental Management Plan (CEMP) that shall be reviewed and approved by the TPR prior to the commencement of on-site works. Specific issues to be addressed are discussed in the following sections.

7.1 STORMWATER MANAGEMENT

Remediation works must comply with requirements for stormwater management as outlined in Schedule B(9) of the NEPM. This includes stockpiling excavated soil in a manner that shall prevent contamination from being transported off-site by stormwater.

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Management of the stormwater shall be undertaken in accordance with Brisbane City Council (BCC) Stormwater Management Codes entailing soil and sediment erosion issues and runoff consideration.

7.2 SOIL AND SEDIMENT CONTROL

Soil and sediment control will be managed in accordance with BCC Erosion and Sediment Control Standard which assesses land-disturbing activities against specific performance criteria. Key issues from the standard for the specific development include:

- The need to plan carefully for adequate erosion and sediment control by preparing a separate Erosion and Sediment Control (ESC) Plan setting out the required measures for the site over all stages of development/construction;
- The ESC Plan must address all key phases of construction, not just one point in time; and
- Develop plans showing the layout and sequencing of controls including bulk earthworks and refuse processing.

Measures to limit the generation of sediment runoff from on-site soil stockpiles include:

- Covering stockpiles to limit erosion (as well as odour and visual concerns); and
- Surround stockpiles by an appropriate sediment fence to limit ability to become mobile.

The requirements for the management of sediment and soil described in Schedule B(9) of the NEPM (from which the above control measures are drawn) must be complied with during remedial works.

7.3 GROUNDWATER

If groundwater is encountered during the excavation works or de-watering is required due to stormwater run off entering the excavations. Adequate water samples must be collected to characterise the water prior to off-site disposal. The characterisation of the water will determine the fate of either disposal stormwater in accordance with BCC water quality guidelines, to sewer in accordance with BCC Sewer acceptance criteria or disposal to a licensed facility as liquid waste.

7.4 NOISE CONTROL

The potential for noise and vibration impacts from the remediation works will result from the:

- preparation of the site;
- movement of construction vehicles as they traffic local roads;

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- the operation of plant and activities on site, and
- traffic movements on public roads associated with the site.

In relation to noise emissions from the site, the sensitive receptors that may potentially be impacted by the site works include:

- the adjacent residences; and
- neighbouring light industrial and commercial facilities.

Remediation works will be performed in a manner to minimise unnecessary noise. All works will be carried out in accordance with Brisbane City Council regulatory limits for noise and vibration and the *Environmental Protection Regulation 1998.*

Noise mitigation measures which will be implemented at the site include:

- all remediation equipment used will comply with noise attenuation regulatory standards;
- monitoring of equipment regarded by the site superintendent as being excessively noisy. If equipment is found to be excessively noisy, the contractor will be instructed to modify the equipment or remove it from the site;
- temporary acoustic barriers may be erected where required to minimize specific noise problems;
- preparation of a noise management plan (included in the CEMP) prior to construction to ensure all staff understand noise control measures. The management plan includes periodic monitoring to ensure continued compliance with the site's development conditions and operating licence;
- provision of a contact telephone number on the site fence to enable the community to contact the project team;
- investigation and response to any complaints received; and
- construction activities will be conducted in accordance with AS 2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites.

7.5 DUST CONTROL

Emissions resulting from the remedial works will consist primarily of particulate emissions generated by excavation and soil disturbance activities. Monitoring of the level of airborne particulates as well as good on-site management practices and controls will greatly minimise off-site impacts.

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Compliance targets for dust levels will be selected based upon occupational health and safety levels, an assessment of risks for boundary receptors and review of local Air Quality Planning Scheme Policy. Compliance with Schedule B(9) of the NEPM, must be achieved, which is in addition to BCC and EPA requirements.

7.6 ODOUR CONTROL

The remedial works are not considered likely to generate significant offensive odours to off site receptors.

In the event that offensive odours at the excavation face will be left exposed for periods greater than 24 hours, a non-odorous cover material shall be placed over the exposed odour producing area. This cover material may comprise other fill material recovered at the site, mulch or other appropriate cover or odour masking material.

To minimise offensive odours resulting from odorous stockpiles, stockpiles should be covered with mulch or other appropriate cover to ameliorate the spread of odours. Measures such as moisture conditioning, misting sprays, odorants and masking agents may also be used to manage stockpile odours, should the need arise.

7.7 PUBLIC CONSULTATION

Community consultation with regard to the proposed remediation process is not considered to be a primary concern due to the current nature and location of the site. However, in accordance with normal construction practice, a public complaints system should be established including the provision of a contact number on boundary fences and a register of complaints maintained on site.

Should significant issues be raised through the public complaints system, community consultation should be implemented to address these issues.

The potential issues of community concern that may arise during the remediation at the site may include:

- Increased traffic;
- Noise;
- Air quality and dust generation; and
- General concerns arising from the observed use of personnel protective equipment by remediation workers.

Appropriate measures to address the public consultation may include an information sheet distributed to local premises, community information sessions and/or appropriate signage. We note these processes may be required for development elements other than remediation.

7.8 PUBLIC COMPLAINTS SYSTEM

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Public complaints will be dealt with by provision of a contact number on the site fence, this will be available for the community to call 24hours a day. t. All complaints will be acted on immediately (within 2 business days) with investigations into the cause of the concern and prompt action taken to rectify the problem.

8.0 VALIDATION PROGRAM

8.1 VALIDATION SOIL SAMPLING

Validation of soils remaining in-situ has largely been undertaken by sampling and analysis undertaken as part of the Stage 1 and 2 ESA. However, in-fill sampling and analysis will similarly be required to ensure the base of the excavations have been validated at a rate of at least 10 m x 10 m areas. The walls of the excavations will be validated every 10 lineal metres with samples collected from the strata identified as being impacted, where these strata are greater than 500mm in thickness, one sample will be collected over each 500mm depth interval. Samples will be collected 100mm beyond the excavation face. Soils in each area must be validated in relation to the Clean Fill criteria in Section 3.1 of this RAP.

Validation samples will be analysed for analytes based on the contaminants of concern and will comprise halogenated aliphatic hydrocarbons, total recoverable hydrocarbons and heavy metals as appropriate within specific areas.

Any imported fill (other than a from a recognized quarry source) will also be sampled to demonstrate compliance with the clean fill criteria. The source of all imported materials will be documented and assessed. Imported fill (other than a from a recognized quarry source) will be required to be sampled at a rate of 1 sample per $50m^3$ to confirm compliance with the clean fill criteria.

Sample Dispatch And Documentation

Samples will be placed in appropriately pre-treated sample jars, placed in an insulated container on ice and submitted to a NATA accredited laboratory for analysis. Sample movements will be documented using appropriate Chain of Custody forms.

Backfilling

Where required, areas from which material has been removed will be backfilled with clean fill following successful validation of the areas. Backfill material will be compacted to meet the engineering requirements of ongoing and future use of the area.

Quality Assurance Program

Quality assurance sampling will be conducted as outlined in AS4482.1-2005, namely

- collection and analysis of one blind replicate sample per twenty primary samples analysed (submitted to primary analysing laboratory under an individual sample name not identifiable with the primary sample);

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- collection and analysis of one split sample per twenty primary samples analysed (submitted to secondary analysing laboratory under the same sample name as the primary sample); and

- one rinsate sample per day will be collected to ensure there is no cross-contamination of substances from the sampling equipment used.

Further quality control techniques that will be used include submission of a chain of custody documentation to track sample movements.

9.0 DECONTAMINATION PROCEDURES

Decontamination procedures for sampling equipment, personnel and the general site must be in accordance with the Australian Standard AS 4482.1-2005 and the NEPM guidelines (Schedule B(9)).

10.0 HEALTH AND SAFETY

A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* will be developed for any site sampling or excavation works in potentially or known contaminated areas. The WH&S plan will specifically address contaminants of concern identified during investigation works on the site.

Prior to commencement of works all site workers must have undergone an appropriate induction to the site ensuring that they are aware of the contaminants present and the necessary occupational health and safety precautions that must be applied.

11.0 REPORTING REQUIREMENTS

A validation report must be prepared by a person qualified in accordance with S.5.3, and submitted to the administering authority for certification within 45 days of the completion of remediation and validation works. The report must be prepared and submitted in accordance with the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland May 1998*, the NEPM and the *Environmental Protection Act 1994*.

The report must document remediation and validation program activities including the results of any further excavation and/or validation required by the results of the initial validation analysis, an evaluation of the results against the remedial goals and an investigation demonstrating compliance with the conditions of this RAP.

The report must also include the results of the QA/QC program, and copies of documentation validating the appropriate handling, disposal and treatment of contaminated soil and water in accordance with administering authority requirements. The validation report must be submitted to the administering authority for review in accordance with the *Environmental Protection Act 1994* and the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland May 1998.*

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A draft Site Management Plan for the ongoing management of the site must be prepared and submitted with the validation report if contaminated soil is to remain on-site within a constructed containment cell

If requested by the administering authority, progress reporting must be finalised and submitted to the administering authority within one business day.

12.0 STATEMENT OF SUITABILITY

Prior to commencement of the land use proposed by the material change of use, a Statement of Suitability must be obtained from the administering authority. The Statement of Suitability must specify that the site is suitable for the intended use(s) with an approved SMP or removal from the EMR as required.

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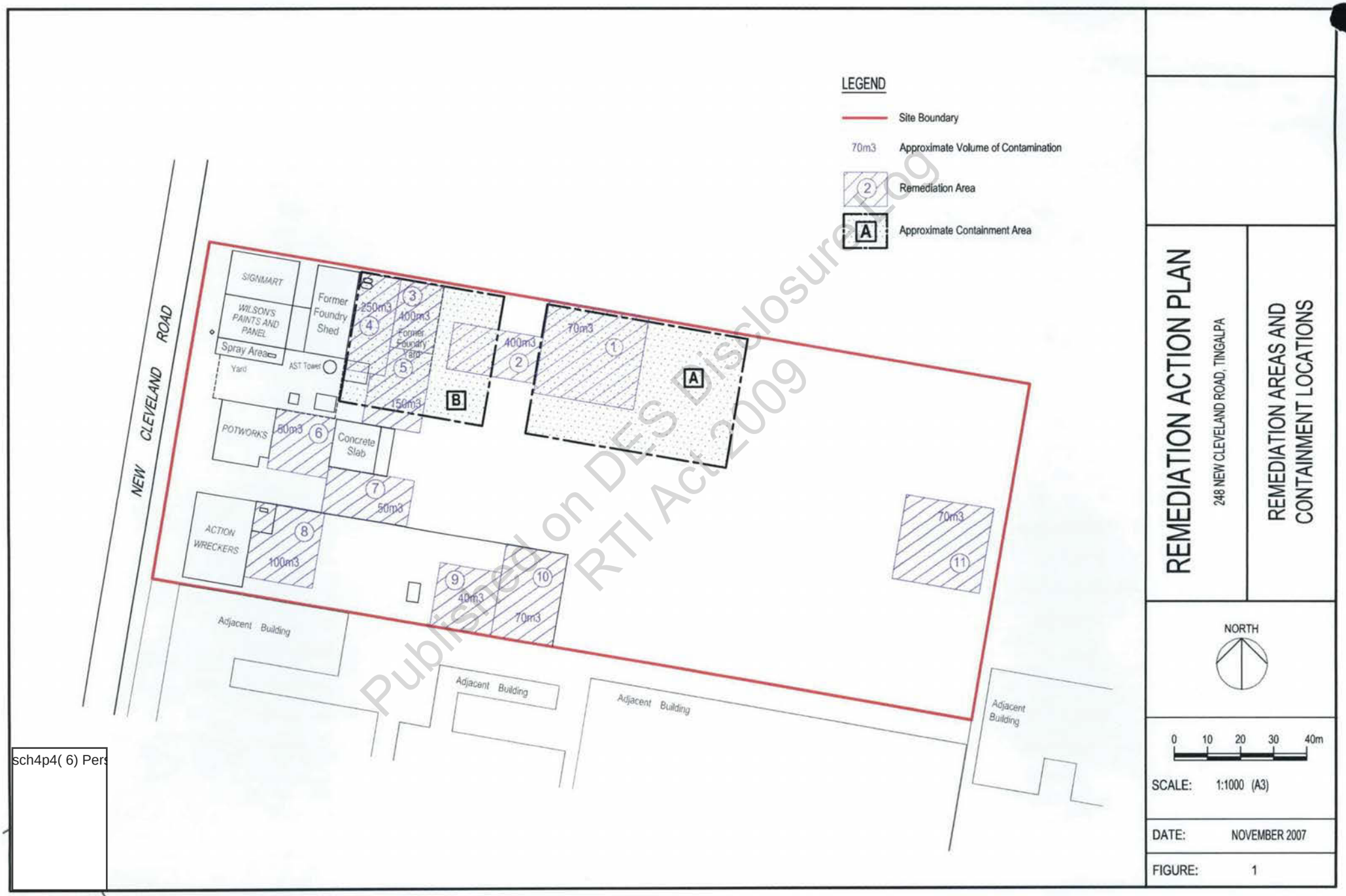

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DRAFT SITE MANAGEMENT PLAN
248 New Cleveland Road, Tingalpa
Date: August, 2007

EPA File Reference Number:

RPD: Lot 3 on RP137762

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This draft Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the front of the site has been used as a panel beaters and spray painters.

Contaminant	Maximum Concentration (mg/kg)
Cu	51,300
Pb	8,700
Hg	1.1
Zn	18,200
Total Petroleum Hydrocarbons (TPH)	
C_{10}-C_{14}	1,740
C_{15}-C_{28}	41,800
C_{29}-C_{36}	44,500

The SMP includes a remediation action plan (RAP) to delineate and manage the identified contamination at the site, including on site containment of contaminated materials during site redevelopment works.

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2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 Responsibility To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

3.2 Site Use The site is currently vacant and must remain vacant until the attached RAP has been implemented. The new use of the site must not commence until the attached RAP has been fully implemented and the EPA has received an acceptable Validation Report under Chapter 7 Part 8 Division 4 of the *Environmental Protection Act 1994* for proposed Lot 16 as defined on Figure 1.

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Following implementation of the RAP, the site will be suitable for commercial/industrial landuse (including shops and offices as well as factories and industrial). This use must not commence until a Suitability Statement and revised SMP have been issued by the Administering Authority.

3.3 Provision of SMP to Appropriate Persons. The site owner must provide all persons involved in building design and planning and all contractors and lessees conducting building and/or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 Surface Capping and Protective Barriers. Until remediation works described in the attached RAP commence, the existing concrete, soil and grass cover is to remain over the entire site to maintain a barrier between the contamination and individual site users. The existing cover layer is to be maintained in sound condition at all times.

3.5 Service Trenches. Where underground service trenches are constructed in contaminated areas, the trenches must be surrounded by a minimum of 0.3m of uncontaminated fill for minor services (<100 mm in diameter), and 0.5m of uncontaminated fill for services greater than 100 mm in diameter.

3.6 Soil Excavation & Removal. Any soil excavated on the site must be assessed for contaminants of concern to determine if the material is contaminated and to identify appropriate management and disposal/re-use options.

3.7 Unexpected Contamination. If, during any site earthworks or excavation, offensive or noxious odours and/or evidence of gross contamination not previously detected are observed, site works are to cease in that area and action taken to immediately abate the environmental harm. The administering authority is to be notified in writing within 2 business days of detection and advised of appropriate remedial action.

Any remedial action is to be developed by an appropriately qualified and experienced person in accordance with Section 381 of the *Environmental Protection Act 1994*.

3.8 General Environmental Protection. All earthworks are to comply with general environmental protection measures to avoid unwanted migration and deposition of soil. These measures include the control of dust, noise, stormwater runoff, sediment, erosion, spillage from haulage trucks and odour releases involving the handling or movement of contaminated material.

Following soil disturbance, the surface layer or protective barrier must be reinstated.

3.9 Workplace Health and Safety. A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* is to be developed for any site excavation works in contaminated areas. The WH&S plan must specifically address contaminants of concern and appropriate safety measures for site workers and the general public.

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4.0 MONITORING AND REPORTING

Records are to be kept of all inspections, any soil excavation in contaminated areas, disposal permits and site management plan compliance for review by the administering authority from time to time. A biennial inspection is to be undertaken to ensure that capping and protective barriers remain in sound condition at all times in accordance with section 3.4.

The biennial period is to commence from the effective date of this plan.

This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to plan attachments that are available from the administering authority if required.

This SMP makes reference to an appendix titled Remediation Action Plan (RAP) that is available the administering authority if required.

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Remediation Action Plan

Lot 3 on RP137762.

1.0 INTRODUCTION

1.1 PURPOSE

The lot has been an industrial site located New Cleveland Road at Tingalpa. The site has historically been used for industrial purposes including heavy manufacturing, a foundry, general workshops and more recently a panel beater and spray painter at the front of the site. Re-development as a landscaping yard and general light industrial sheds is proposed.

Historical site use has resulted in heavy metal and hydrocarbon contamination across some parts of the site. This Remediation Action Plan (RAP) has been prepared in accordance with the Queensland Environmental Protection Agency's (EPA's) *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland, 1998* and accepted industry standards to provide a technical framework for the management of contaminated soil on the site.

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1.2 SITE OVERVIEW

The site is bounded by commercial/industrial properties to the south and south-east with mixed commercial and residential properties to the west and north with vacant land adjoining the property to the north and north-east.

1.3 PURPOSE OF THE RAP

The purpose of the RAP is to provide the framework for redevelopment works within the site.

1.4 OBJECTIVES

The primary objectives of the remediation program at the site are:

- To make the site safe for planned future use as detailed below.
- To prevent the potential long-term generation and release of contaminated water and soil impacting on the environment of adjoining land and aquifers.
- To ensure the protection of the community and local environment.

This RAP:

- Summarises the current status of the site; and
- Provides strategies to remediate or manage impact on the site in a manner that protects human health and the environment and ensures the site is suitable for the proposed redeveloped land use.

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Contaminated soil must be removed from the site, treated on-site or stored on-site in accordance with this RAP.

This RAP provides a strategy to manage contaminated soils being excavated during redevelopment in a manner that protects human health and the environment and which ensures that the site is suitable for the proposed commercial/industrial land use and:

- to ensure Regulatory Compliance during site development works;
- to complete the program expediently; and
- to comply with the principles of reducing waste to landfill supported by the EPA.

2.0 BACKGROUND

2.1 TOPOGRAPHY

The current site ground level is generally sloping downwards from south to north at a similar level to New Cleveland Road (approximately RL8mAHD to RL5.5mAHD).

2.2 GEOLOGY

Reference to the Geological Survey of Queensland's 1:31 680 Series City of Brisbane Sheets, indicates that the site is located in an area mapped as underlain by Tingalpa formation comprising carbonaceous shale, lithic sandstone with minor conglomerate and coal.

2.3 HYDROGEOLOGY

A detailed study of the hydrogeology of the site has not been conducted. However, it is assumed that the hydrogeology of the area is dominated by Bulimba Creek located approximately 2 km to the south-west and north-west of the site.

2.4 PREVIOUS INVESTIGATIONS

This work follows investigative work undertaken by Butler Partners Pty Ltd, which has been reported in the following:

Stage 1 and 2 Environmental Site Assessment
Proposed Commercial/Industrial Development
248 New Cleveland Road
Tingalpa
June, 2007

2.5 CURRENT IMPACT

Results from previous investigations have indicated that the soil contaminants requiring remediation or management are generally in fill soils at the surface and extending to a depth of up to 1.8 m.

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The specific contaminants requiring management are as follows:

- Heavy metals (Cu, Pb, Hg and Zn) in fill and surface soils; and
- Total Petroleum Hydrocarbons in soil at the ground surface.

The distribution of these contaminants in soil is shown on Figure 1.

This RAP provides details of the proposed methods to address contamination across the site.

3.0 ENVIRONMENTAL GUIDELINES

The purpose of this RAP is to provide guidelines for the redevelopment works to be undertaken on the site. It is intended that the site be redeveloped in a manner such that it will be suitable for medium / high density residential landuse. The remediation criteria is based on the Queensland EPA's *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland, May 1998* (The Guidelines) and *Draft Investigation Thresholds for Underground Storage Tanks – January 1999* and the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (National Environment Protection Council).

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3.1 CLEAN FILL CRITERIA

The clean fill criteria for the site are as follows:

Heavy Metals	
Arsenic	100mg/kg
Cadmium	3mg/kg
Chromium	100mg/kg
Copper	200mg/kg
Lead	300mg/kg
Nickel	60mg/kg
Mercury	1mg/kg
Zinc	400mg/kg

Organic Substances	
TPH C_6-C_9	100mg/kg
TPH C_{10}-C_{14}	100mg/kg
TPH C_{15}-C_{28}	1000mg/kg
TPH C_{29}-C_{36}	1000mg/kg

3.3 IMPORTED FILL

Imported fill may be required if the excavated soil is not suitable or if filling quantities exceed excavated quantities. This material must meet the clean criteria identified in the Environmental Guideline Section.

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4.0 REDEVELOPMENT STRATEGIES

4.1 REDEVELOPMENT GOALS

The redevelopment goal is to excavate contaminated soil exceeding the remediation criteria, place the material in containment cells and install management protocols such that at the completion of redevelopment works the site will be suitable for commercial/industrial land use as provided in Section 1.4 of this RAP and in accordance with the SMP.

4.2 EXTENT OF CONTAMINATION

Based on the Stage 1 and 2 Environmental Site Assessment (ESA), heavy metal results reported included concentrations of copper, lead, mercury and zinc above the clean criteria for soils with copper and lead above HIL-F criteria for soils. TPH impacts in soils were reported exceeding the Queensland EPA sensitive landuse criteria.

4.3 SUITABLY QUALIFIED PERSONS TO CONDUCT / SUPERVISE WORKS

A person qualified in accordance with S.381 and S.395 of the *Environmental Protection Act 1994* must conduct all investigations, supervise all remediation works and compile report/s required to remediate the site.

4.4 STRATEGIES APPLIED

The following strategies are to be applied during the redevelopment of the site:

- Utilise data already collected remove soil exceeding the remediation criteria established in Section 3.1 above and as required for validation as described in Section 8 of this RAP from Areas 1 to 11 on Figure 2;
- Soil in Areas 1-5 will be placed in Area A;
- Soil in Areas 6-11 will be placed in Area B following the excavation of Areas 1-5
- Areas A and B will be surveyed in terms of depth and area/extent so that they can be plotted on a figure for inclusion in the final SMP; and
- Install surface barriers in accordance with Section 5.2 of this RAP.

No contaminated soil will be removed from site without a Disposal Permit issued pursuant to Section 424 of the Environmental Protection Act 1994.

4.5 SITE CAPPING

It is a requirement of the Site Management Plan (SMP) that areas identified to be contaminated that are to remain on-site are to be appropriately managed by placement of an appropriate capping layer as described in Section 5.2 of this RAP.

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5.0 REMEDIATION PROGRAM

5.1 SITE EXCAVATION

Site excavation will be undertaken based on the information provided in Figure 2. Excavation for remediation will be undertaken concurrently with site earthworks including cut and fill. The excavation sequence will be as follows:

1. Remove contaminated material from Areas 1 and 2 and stockpile on Area 4;
2. Excavate and remove validated clean but geotechnically uncontrolled fill from Area A either off site or to on site stockpile;
3. Remove contaminated material from Areas 1-5 and place in Area A and compact to geotechnical specification allowing sufficient space to accommodate the surface capping;
4. Excavate and remove validated clean but geotechnically uncontrolled fill from Area B either off site or to on site stockpile; and
5. Remove contaminated material from Areas 6-11 and place in Area B and compact to geotechnical specification, allowing sufficient space to accommodate the surface capping.

Should any soils impacted with heavy metals require off-site disposal to landfill, their landfill disposal classification will be determined based on TCLP testing.

No contaminated soil (including hydrocarbon impacted soil) will be removed from site without a Disposal Permit issued pursuant to Section 424 of the Environmental Protection Act 1994. Sampling and analysis must be supervised by a person suitably qualified in accordance with Section 381 of the *Environmental Protection Act 1994*.

5.2 SITE DEVELOPMENT

Excavation of contaminated soil will occur concurrently with bulk earthworks associated with the redevelopment works. Localised over-excavation is to occur in areas where previous investigation work has identified concentrations of contaminants in soil exceeding the clean fill criteria. Contaminated material in Areas 1 and 2 on Figure 2 will be temporarily stockpiled on site. Stockpiling of contaminated material must be conducted in a manner and location such that it is not easily spread by wind or rain action. If adverse weather conditions are anticipated, or if the stockpile is to remain for an extended period, stockpiles must be covered and moisture levels monitored and maintained to prevent wind blown dust. The areas in which contaminated soil will be excavated are shown on Figure 2. The handling of contaminated soils should only be undertaken following the development of an appropriate Workplace Health and Safety plan as described in Section 10 of this RAP, all workers must be inducted into this plan prior to commencing work on site. Validation will be undertaken in accordance with the requirements of Section 8.1 of this RAP.

Site surface capping over contaminated areas, following remediation, must comprise one of the following as a minimum:

- Concrete slab/brick paving of minimum 100 mm thickness; or
- Bitumen/ashalt paving over a minimum 150 mm compacted road base; or

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- A minimum of 500 mm of certified clean fill (i.e. low permeability clay/silty clay) placed over a worked layer.

All remediation and validation works (including excavation and disposal of contaminated material) must be supervised by a person suitably qualified in accordance with Section 381 of the *Environmental Protection Act 1994*.

6.0 WORK PROCEDURES

This section of the RAP provides and overview of the procedures to be undertaken during redevelopment works.

Tracking and Documentation

Movement of materials both on-site and off site will be tracked as follows:

- a manifest will be maintained for every truckload of contaminated soil relocated on-site.
- a manifest will be maintained for every truckload of contaminated soil removed from site;
- the landfill will provide a weighbridge print-out for the received contaminated soil; and
- weighbridge print outs will be compared with the manifest of contaminated soil removed from site.

7.0 OPERATIONAL CONTROL

The contractor responsible for the remediation works shall prepare a Construction Environmental Management Plan (CEMP) that shall be reviewed and approved by the TPR prior to the commencement of on-site works. Specific issues to be addressed are discussed in the following sections.

7.1 STORMWATER MANAGEMENT

Remediation works must comply with requirements for stormwater management as outlined in Schedule B(9) of the NEPM. This includes stockpiling excavated soil in a manner that shall prevent contamination from being transported off-site by stormwater.

Management of the stormwater shall be undertaken in accordance with Brisbane City Council (BCC) Stormwater Management Codes entailing soil and sediment erosion issues and runoff consideration.

7.2 SOIL AND SEDIMENT CONTROL

Soil and sediment control will be managed in accordance with BCC Erosion and Sediment Control Standard which assesses land-disturbing activities against specific performance criteria. Key issues from the standard for the specific development include:

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- The need to plan carefully for adequate erosion and sediment control by preparing a separate Erosion and Sediment Control (ESC) Plan setting out the required measures for the site over all stages of development/construction;

- The ESC Plan must address all key phases of construction, not just one point in time; and

- Develop plans showing the layout and sequencing of controls including bulk earthworks and refuse processing.

Measures to limit the generation of sediment runoff from on-site soil stockpiles include:

- Covering stockpiles to limit erosion (as well as odour and visual concerns); and

- Surround stockpiles by an appropriate sediment fence to limit ability to become mobile.

The requirements for the management of sediment and soil described in Schedule B(9) of the NEPM (from which the above control measures are drawn) must be complied with during remedial works.

7.3 GROUNDWATER

If groundwater is encountered during the excavation works or de-watering is required due to stormwater run off entering the excavations. Adequate water samples must be collected to characterise the water prior to off-site disposal. The characterisation of the water will determine the fate ~~of~~ either: disposal to stormwater in accordance with BCC water quality guidelines, to sewer in accordance with BCC Sewer acceptance criteria or disposal to a licensed facility as liquid waste.

7.4 NOISE CONTROL

The potential for noise and vibration impacts from the remediation works will result from the:

- preparation of the site;

- movement of construction vehicles as they traffic local roads;

- the operation of plant and activities on site, and

- traffic movements on public roads associated with the site.

In relation to noise emissions from the site, the sensitive receptors that may potentially be impacted by the site works include:

- the adjacent residences; and

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- neighbouring light industrial and commercial facilities.

Remediation works will be performed in a manner to minimise unnecessary noise. All works will be carried out in accordance with Brisbane City Council regulatory limits for noise and vibration and the *Environmental Protection Regulation 1998.*

Noise mitigation measures which will be implemented at the site include:

- all remediation equipment used will comply with noise attenuation regulatory standards;

- monitoring of equipment regarded by the site superintendent as being excessively noisy. If equipment is found to be excessively noisy, the contractor will be instructed to modify the equipment or remove it from the site;

- temporary acoustic barriers may be erected where required to minimize specific noise problems;

- preparation of a noise management plan (included in the CEMP) prior to construction to ensure all staff understand noise control measures. The management plan includes periodic monitoring to ensure continued compliance with the site's development conditions and operating licence;

- provision of a contact telephone number on the site fence to enable the community to contact the project team;

- investigation and response to any complaints received; and

- construction activities will be conducted in accordance with AS 2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites.

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7.5 DUST CONTROL

Emissions resulting from the remedial works will consist primarily of particulate emissions generated by excavation and soil disturbance activities. Monitoring of the level of airborne particulates as well as good on-site management practices and controls will greatly minimise off-site impacts.

Compliance targets for dust levels will be selected based upon occupational health and safety levels, an assessment of risks for boundary receptors and review of local Air Quality Planning Scheme Policy. Compliance with Schedule B(9) of the NEPM, must be achieved, which is in addition to BCC and EPA requirements.

7.6 ODOUR CONTROL

The remedial works are not considered likely to generate significant offensive odours to off site receptors.

In the event that offensive odours at the excavation face will be left exposed for periods greater than 24 hours, a non-odorous cover material shall be placed over the

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exposed odour producing area. This cover material may comprise other fill material recovered at the site, mulch or other appropriate cover or odour masking material.

To minimise offensive odours resulting from odorous stockpiles, stockpiles should be covered with mulch or other appropriate cover to ameliorate the spread of odours. Measures such as moisture conditioning, misting sprays, odorants and masking agents may also be used to manage stockpile odours, should the need arise.

7.7 PUBLIC CONSULTATION

Community consultation with regard to the proposed remediation process is not considered to be a primary concern due to the current nature and location of the site. However, in accordance with normal construction practice, a public complaints system should be established including the provision of a contact number on boundary fences and a register of complaints maintained on site.

Should significant issues be raised through the public complaints system, community consultation should be implemented to address these issues.

The potential issues of community concern that may arise during the remediation at the site may include:

- Increased traffic;
- Noise;
- Air quality and dust generation; and
- General concerns arising from the observed use of personnel protective equipment by remediation workers.

Appropriate measures to address the public consultation may include an information sheet distributed to local premises, community information sessions and/or appropriate signage. We note these processes may be required for development elements other than remediation.

7.8 PUBLIC COMPLAINTS SYSTEM

Public complaints will be dealt with by provision of a contact number on the site fence, this will be available for the community to call 24hours a day (t) All complaints will be acted on immediately (within 2 business days) with investigations into the cause of the concern and prompt action taken to rectify the problem.

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8.0 VALIDATION PROGRAM

8.1 VALIDATION SOIL SAMPLING

Validation of soils remaining in-situ has largely been undertaken by sampling and analysis undertaken as part of the Stage 1 and 2 ESA. However, in-fill sampling and testing will similarly be required to ensure the base of the excavations have been validated at a rate of at least 10 m x 10 m areas. The walls of the excavations will be validated every 10 lineal metres with samples collected from the strata identified as being impacted, where these strata are greater than 500mm in thickness, one sample will be collected over each 500mm depth interval. Samples will be collected 100mm beyond the excavation face. Soils in each area must be validated in relation to the Clean Fill criteria in Section 3.1 of this RAP.

Validation samples will be analysed for analytes based on the contaminants of concern and will comprise halogenated aliphatic hydrocarbons, total recoverable hydrocarbons and heavy metals as appropriate within specific areas.

Any imported fill will also be sampled to demonstrate compliance with the clean fill criteria. The source of all imported materials will be documented and assessed. Imported fill will be required to be sampled at a rate of 1 sample per $50m^3$ *(or as agreed with the TPR)* to confirm compliance with the clean fill criteria. However, if imported fill is a quarry product or can be verified to be from a clean source, then sampling may not be required.

Sample Dispatch And Documentation

Samples will be placed in appropriately pre-treated sample jars, placed in an insulated container on ice and submitted to a NATA accredited laboratory for analysis. Sample movements will be documented using appropriate Chain of Custody forms.

Backfilling

Where required, areas from which material has been removed will be backfilled with clean fill following successful validation of the areas. Backfill material will be compacted to meet the engineering requirements of ongoing and future use of the area.

Quality Assurance Program

Quality assurance sampling will be conducted as outlined in AS4482.1-2005, namely

- collection and analysis of one blind replicate sample per twenty primary samples analysed (submitted to primary analysing laboratory under an individual sample name not identifiable with the primary sample);
- collection and analysis of one split sample per twenty primary samples analysed (submitted to secondary analysing laboratory under the same sample name as the primary sample); and

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- one rinsate sample per day will be collected to ensure there is no cross-contamination of substances from the sampling equipment used.

Further quality control techniques that will be used include submission of a chain of custody documentation to track sample movements.

9.0 DECONTAMINATION PROCEDURES

Decontamination procedures for sampling equipment, personnel and the general site must be in accordance with the Australian Standard AS 4482.1-2005 and the NEPM guidelines (Schedule B(9)).

10.0 HEALTH AND SAFETY

A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* will be developed for any site sampling or excavation works in potentially or known contaminated areas. The WH&S plan will specifically address contaminants of concern identified during investigation works on the site.

Prior to commencement of works all site workers must have undergone an appropriate induction to the site ensuring that they are aware of the contaminants present and the necessary occupational health and safety precautions that must be applied.

11.0 REPORTING REQUIREMENTS

A validation report must be prepared by a person qualified in accordance with S.5.3, and submitted to the administering authority for certification within 45 days of the completion of remediation and validation works. The report must be prepared and submitted in accordance with the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland May 1998*, the NEPM and the *Environmental Protection Act 1994*.

The report must document remediation and validation program activities including the results of any further excavation and/or validation required by the results of the initial validation analysis, an evaluation of the results against the remedial goals and an investigation demonstrating compliance with the conditions of this RAP.

The report must also include the results of the QA/QC program, and copies of documentation validating the appropriate handling, disposal and treatment of contaminated soil and water in accordance with administering authority requirements. The validation report must be submitted to the administering authority for review in accordance with the *Environmental Protection Act 1994* and the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland May 1998.*

A draft Site Management Plan for the ongoing management of the site must be prepared and submitted with the validation report.

If requested by the administering authority, progress reporting must be finalised and submitted to the administering authority within one business day.

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12.0 STATEMENT OF SUITABILITY

Prior to commencement of the land use proposed by the material change of use, a Statement of Suitability must be obtained from the administering authority. The Statement of Suitability must specify that the site is suitable for the intended use(s) with an approved SMP or removal from the EMR as required.

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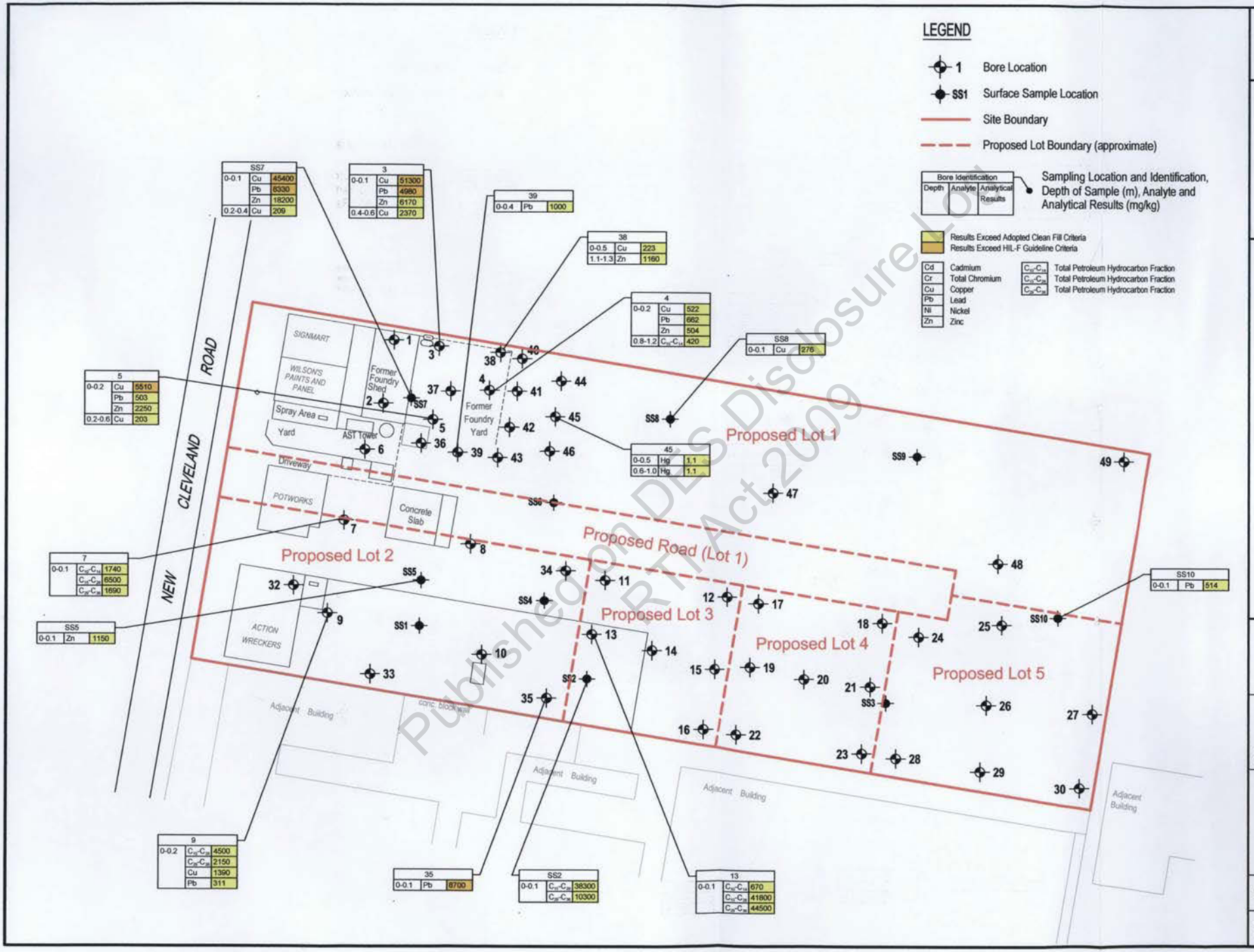

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SITE MANAGEMENT PLAN

248 NEW CLEVELAND ROAD, TINGALPA

SITE LAYOUT, TEST LOCATIONS AND RESULTS EXCEEDING CLEAN FILL CRITERIA

NORTH

0 10 20 30 40m

SCALE: 1:1000 (A3)

DATE: AUGUST 2007

FIGURE 1

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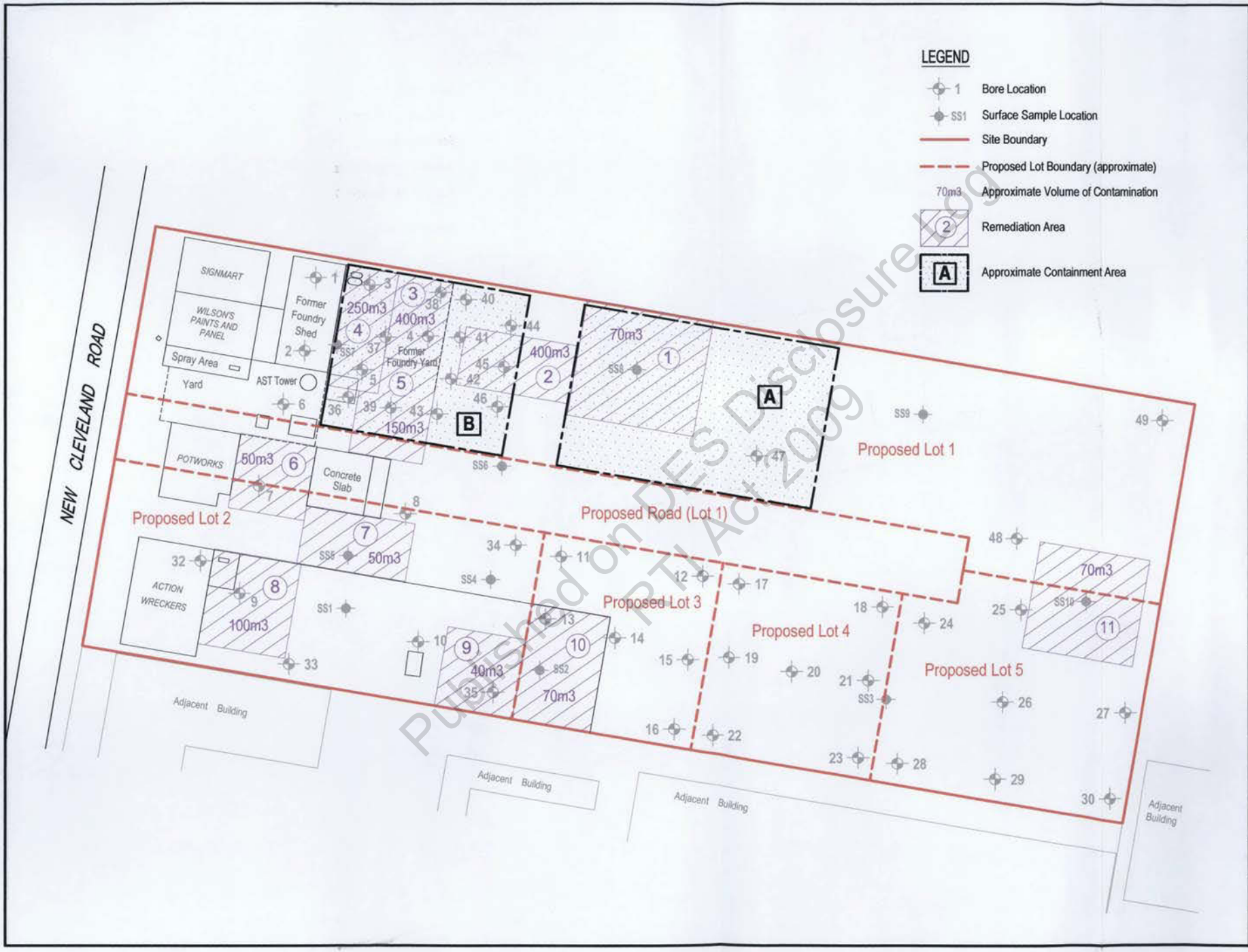

SITE MANAGEMENT PLAN

248 NEW CLEVELAND ROAD, TINGALPA

REMEDIATION AREAS AND CONTAINMENT LOCATIONS

NORTH

SCALE:	NOT TO SCALE
DATE:	AUGUST 2007
FIGURE:	2

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SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

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Transaction ID: 1319660 EMR Site Id: 10 June 2011
This response relates to a search request received for the site:
Lot: 5 Plan: RP905144

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

EMR/CLR Searches may be conducted online through www.smartservice.qld.gov.au or Citec Confirm www.confirm.com.au.

If you have any queries in relation to this search please phone (07) 3330 5685.

Darryl Byers
Registrar, Contaminated Land Unit

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SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
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Transaction ID: 1319662 EMR Site Id: 88252 10 June 2011
This response relates to a search request received for the site:
Lot: 1 Plan: SP221201

EMR RESULT

The above site IS included on the Environmental Management Register.
The site you have searched has been subdivided from the following site, which is included on the EMR. Subdivided new parcels will remain on the EMR unless it can be shown that they are not located near the contaminating activity.

Lot: 3 Plan: RP137762
Address: 248 NEW CLEVELAND ROAD
TINGALPA 4173

The site has been subject to the following Notifiable Activity pursuant to section 374 of the *Environmental Protection Act 1994.*
FOUNDRY OPERATIONS - commercial production of metal products by injecting or pouring molten metal into moulds and associated activities in works having a design capacity of more than 10 t per year.

A site management plan has been prepared for this site and is included with this search response as Annexure 1. It has been determined that this site is suitable for the following uses, providing the site is used and managed according to the site management plan:
Suitable for industrial/commercial use including premises such as shops, offices and industrial buildings (but excluding uses where regular soil access by children is possible).

Following the date of effect of the site management plan, subsequent uses of the site for notifiable activities or for situations where a hazardous contaminant is released into the soil may result in the need to review suitable uses or amend the attached site management plan.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

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ADDITIONAL ADVICE

EMR/CLR Searches may be conducted online through www.smartservice.qld.gov.au or Citec Confirm www.confirm.com.au.

If you have any queries in relation to this search please phone (07) 3330 5685.

Darryl Byers
Registrar, Contaminated Land Unit

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ANNEXURE 1 - SITE MANAGEMENT PLAN

LOT : 3 PLAN : RP137762 FILE REF : BNE30402 PRINTED: 10/06/2011

DATE OF EFFECT : 13/11/2007

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the western portion of the site has been used as a panel beaters and spray painters.

Contaminant	Maximum Concentration (mg/kg)
Cu	51,300
Pb	8,700
Hg	1.1
Zn	18,200
Total Petroleum Hydrocarbons (TPH)	
C_{10} - C_{14}	1,740
C_{15} - C_{28}	41,800
C_{29} - C_{36}	44,500

The SMP includes a Remediation Action Plan (RAP) as an appendix.

2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 *Responsibility* To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

3.2 *Site Use* The site is currently vacant and must remain vacant until the attached RAP has been implemented. Following implementation of the RAP, the site will be suitable for commercial/industrial land use (including shops and offices as well as factories and industrial). The new use of the site must not commence until the attached RAP has been fully implemented, a Validation Report under Chapter 7 Part 8 Division 4 of the *Environmental Protection Act 1994* has been submitted to the Administering Authority and a Suitability Statement (which may include a revised SMP) has been issued by the Administering Authority.

3.3 *Provision of SMP to Appropriate Persons.* The site owner must provide all persons

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involved in building design and planning and all contractors and lessees conducting building and/or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 *Surface Capping and Protective Barriers.* Until remediation works described in the attached RAP commence, the existing concrete, soil and grass cover must remain over the entire site to maintain a barrier between the contamination and individual site users. The existing cover layer must be maintained in sound condition at all times.

3.5 *Service Trenches.* Where underground service trenches are constructed in contaminated areas, the trenches must be surrounded by a minimum of 0.3m of uncontaminated fill for minor services (<100 mm in diameter), and 0.5m of uncontaminated fill for services greater than 100 mm in diameter.

3.6 *Soil Excavation & Removal.* Any soil excavated on the site must be assessed for contaminants of concern to determine if the material is contaminated and to identify appropriate management and disposal/re-use options. No contaminated material is to be removed from the site without the prior approval of the Administering Authoring under section 424 of the *Environmental Protection Act 1994.*

3.7 *Unexpected Contamination.* If, during any site earthworks or excavation, offensive or noxious odours and/or evidence of gross contamination not previously detected are observed, site works are to cease in that area and action taken to immediately abate the environmental harm. The administering authority is to be notified in writing within 2 business days of detection and advised of appropriate remedial action. Contaminated soil which is excavated and temporarily stored on site must be managed such that environmental harm is prevented.

Any remedial action is to be developed by an appropriately qualified and experiencedperson in accordance with Section 381 of the *Environmental Protection Act 1994.*

3.8 *General Environmental Protection.* All earthworks are to comply with general environmental protection measures to avoid unwanted migration and deposition of soil. These measures include the control of dust, noise, stormwater runoff, sediment, erosion, spillage from haulage trucks and odour releases involving the handling or movement of contaminated material.

Following soil disturbance, the surface layer or protective barrier must be reinstated.

3.9 *Workplace Health and Safety.* A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* is to be developed for any site excavation works in contaminated areas. The WH&S plan must specifically address contaminants of concern and appropriate safety measures for site workers and the general public.

4.0 MONITORING AND REPORTING

Records are to be kept of all inspections, any soil excavation in contaminated areas, disposal permits and site management plan compliance for review by the administering authority from time to time. A biennial inspection is to be undertaken to ensure that capping and protective barriers remain in sound condition at all times in accordance with section 3.4.

The biennial period is to commence from the effective date of this plan.

This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to an appendix titled Remediation Action Plan (RAP) that is available the administering authority if required.

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SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

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Transaction ID: 1319664 EMR Site Id: 88253 10 June 2011
This response relates to a search request received for the site:
Lot: 6 Plan: SP221201

EMR RESULT

The above site IS included on the Environmental Management Register.
The site you have searched has been subdivided from the following site, which is included on the EMR. Subdivided new parcels will remain on the EMR unless it can be shown that they are not located near the contaminating activity.

Lot: 3 Plan: RP137762
Address: 248 NEW CLEVELAND ROAD
TINGALPA 4173

The site has been subject to the following Notifiable Activity pursuant to section 374 of the *Environmental Protection Act 1994*.
FOUNDRY OPERATIONS - commercial production of metal products by injecting or pouring molten metal into moulds and associated activities in works having a design capacity of more than 10 t per year.

A site management plan has been prepared for this site and is included with this search response as Annexure 1. It has been determined that this site is suitable for the following uses, providing the site is used and managed according to the site management plan:
Suitable for industrial/commercial use including premises such as shops, offices and industrial buildings (but excluding uses where regular soil access by children is possible).

Following the date of effect of the site management plan, subsequent uses of the site for notifiable activities or for situations where a hazardous contaminant is released into the soil may result in the need to review suitable uses or amend the attached site management plan.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

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ADDITIONAL ADVICE

EMR/CLR Searches may be conducted online through www.smartservice.qld.gov.au or Citec Confirm www.confirm.com.au.

If you have any queries in relation to this search please phone (07) 3330 5685.

Darryl Byers
Registrar, Contaminated Land Unit

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ANNEXURE 1 - SITE MANAGEMENT PLAN

LOT : 3 PLAN : RP137762 FILE REF : BNE30402 PRINTED: 10/06/2011

DATE OF EFFECT : 13/11/2007

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the western portion of the site has been used as a panel beaters and spray painters.

Contaminant	Maximum Concentration (mg/kg)
Cu	51,300
Pb	8,700
Hg	1.1
Zn	18,200
Total Petroleum Hydrocarbons (TPH)	
C_{10} - C_{14}	1,740
C_{15} - C_{28}	41,800
C_{29} - C_{36}	44,500

The SMP includes a Remediation Action Plan (RAP) as an appendix.

2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 *Responsibility* To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

3.2 *Site Use* The site is currently vacant and must remain vacant until the attached RAP has been implemented. Following implementation of the RAP, the site will be suitable for commercial/industrial land use (including shops and offices as well as factories and industrial). The new use of the site must not commence until the attached RAP has been fully implemented, a Validation Report under Chapter 7 Part 8 Division 4 of the *Environmental Protection Act 1994* has been submitted to the Administering Authority and a Suitability Statement (which may include a revised SMP) has been issued by the Administering Authority.

3.3 *Provision of SMP to Appropriate Persons.* The site owner must provide all persons

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involved in building design and planning and all contractors and lessees conducting building and/or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 *Surface Capping and Protective Barriers.* Until remediation works described in the attached RAP commence, the existing concrete, soil and grass cover must remain over the entire site to maintain a barrier between the contamination and individual site users. The existing cover layer must be maintained in sound condition at all times.

3.5 *Service Trenches.* Where underground service trenches are constructed in contaminated areas, the trenches must be surrounded by a minimum of 0.3m of uncontaminated fill for minor services (<100 mm in diameter), and 0.5m of uncontaminated fill for services greater than 100 mm in diameter.

3.6 *Soil Excavation & Removal.* Any soil excavated on the site must be assessed for contaminants of concern to determine if the material is contaminated and to identify appropriate management and disposal/re-use options. No contaminated material is to be removed from the site without the prior approval of the Administering Authoring under section 424 of the *Environmental Protection Act 1994.*

3.7 *Unexpected Contamination.* If, during any site earthworks or excavation, offensive or noxious odours and/or evidence of gross contamination not previously detected are observed, site works are to cease in that area and action taken to immediately abate the environmental harm. The administering authority is to be notified in writing within 2 business days of detection and advised of appropriate remedial action. Contaminated soil which is excavated and temporarily stored on site must be managed such that environmental harm is prevented.

Any remedial action is to be developed by an appropriately qualified and experiencedperson in accordance with Section 381 of the *Environmental Protection Act 1994.*

3.8 *General Environmental Protection.* All earthworks are to comply with general environmental protection measures to avoid unwanted migration and deposition of soil. These measures include the control of dust, noise, stormwater runoff, sediment, erosion, spillage from haulage trucks and odour releases involving the handling or movement of contaminated material.

Following soil disturbance, the surface layer or protective barrier must be reinstated.

3.9 *Workplace Health and Safety.* A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* is to be developed for any site excavation works in contaminated areas. The WH&S plan must specifically address contaminants of concern and appropriate safety measures for site workers and the general public.

4.0 MONITORING AND REPORTING

Records are to be kept of all inspections, any soil excavation in contaminated areas, disposal permits and site management plan compliance for review by the administering authority from time to time. A biennial inspection is to be undertaken to ensure that capping and protective barriers remain in sound condition at all times in accordance with section 3.4.

The biennial period is to commence from the effective date of this plan.

This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to an appendix titled Remediation Action Plan (RAP) that is available the administering authority if required.

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DEPARTMENT OF ENVIRONMENT AND RESOURCE MANAGEMENT

SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Published on DERM Disclosure Log
RTI Act 2009

Transaction ID: 1319663 EMR Site Id: 88254 10 June 2011
This response relates to a search request received for the site:
Lot: 7 Plan: SP221201

EMR RESULT

The above site IS included on the Environmental Management Register.
The site you have searched has been subdivided from the following site, which is included on the EMR. Subdivided new parcels will remain on the EMR unless it can be shown that they are not located near the contaminating activity.

Lot: 3 Plan: RP137762
Address: 248 NEW CLEVELAND ROAD
TINGALPA 4173

The site has been subject to the following Notifiable Activity pursuant to section 374 of the *Environmental Protection Act 1994*.
FOUNDRY OPERATIONS - commercial production of metal products by injecting or pouring molten metal into moulds and associated activities in works having a design capacity of more than 10 t per year.

A site management plan has been prepared for this site and is included with this search response as Annexure 1. It has been determined that this site is suitable for the following uses, providing the site is used and managed according to the site management plan:
Suitable for industrial/commercial use including premises such as shops, offices and industrial buildings (but excluding uses where regular soil access by children is possible).

Following the date of effect of the site management plan, subsequent uses of the site for notifiable activities or for situations where a hazardous contaminant is released into the soil may result in the need to review suitable uses or amend the attached site management plan.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

EMR/CLR Searches may be conducted online through www.smartservice.qld.gov.au or Citec Confirm www.confirm.com.au.

If you have any queries in relation to this search please phone (07) 3330 5685.

Darryl Byers
Registrar, Contaminated Land Unit

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ANNEXURE 1 - SITE MANAGEMENT PLAN

LOT : 3 PLAN : RP137762 FILE REF : BNE30402 PRINTED: 10/06/2011

DATE OF EFFECT : 13/11/2007

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the western portion of the site has been used as a panel beaters and spray painters.

Contaminant	Maximum Concentration (mg/kg)
Cu	51,300
Pb	8,700
Hg	1.1
Zn	18,200
Total Petroleum Hydrocarbons (TPH)	
C_{10} - C_{14}	1,740
C_{15} - C_{28}	41,800
C_{29} - C_{36}	44,500

The SMP includes a Remediation Action Plan (RAP) as an appendix.

2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 *Responsibility* To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

3.2 *Site Use* The site is currently vacant and must remain vacant until the attached RAP has been implemented. Following implementation of the RAP, the site will be suitable for commercial/industrial land use (including shops and offices as well as factories and industrial). The new use of the site must not commence until the attached RAP has been fully implemented, a Validation Report under Chapter 7 Part 8 Division 4 of the *Environmental Protection Act 1994* has been submitted to the Administering Authority and a Suitability Statement (which may include a revised SMP) has been issued by the Administering Authority.

3.3 *Provision of SMP to Appropriate Persons.* The site owner must provide all persons

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involved in building design and planning and all contractors and lessees conducting building and/or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 *Surface Capping and Protective Barriers.* Until remediation works described in the attached RAP commence, the existing concrete, soil and grass cover must remain over the entire site to maintain a barrier between the contamination and individual site users. The existing cover layer must be maintained in sound condition at all times.

3.5 *Service Trenches.* Where underground service trenches are constructed in contaminated areas, the trenches must be surrounded by a minimum of 0.3m of uncontaminated fill for minor services (<100 mm in diameter), and 0.5m of uncontaminated fill for services greater than 100 mm in diameter.

3.6 *Soil Excavation & Removal.* Any soil excavated on the site must be assessed for contaminants of concern to determine if the material is contaminated and to identify appropriate management and disposal/re-use options. No contaminated material is to be removed from the site without the prior approval of the Administering Authoring under section 424 of the *Environmental Protection Act 1994.*

3.7 *Unexpected Contamination.* If, during any site earthworks or excavation, offensive or noxious odours and/or evidence of gross contamination not previously detected are observed, site works are to cease in that area and action taken to immediately abate the environmental harm. The administering authority is to be notified in writing within 2 business days of detection and advised of appropriate remedial action. Contaminated soil which is excavated and temporarily stored on site must be managed such that environmental harm is prevented.

Any remedial action is to be developed by an appropriately qualified and experiencedperson in accordance with Section 381 of the *Environmental Protection Act 1994.*

3.8 *General Environmental Protection.* All earthworks are to comply with general environmental protection measures to avoid unwanted migration and deposition of soil. These measures include the control of dust, noise, stormwater runoff, sediment, erosion, spillage from haulage trucks and odour releases involving the handling or movement of contaminated material.

Following soil disturbance, the surface layer or protective barrier must be reinstated.

3.9 *Workplace Health and Safety.* A Workplace Health and Safety Plan (WH&S plan), which conforms to the requirements of the *Workplace Health and Safety Act 1995* is to be developed for any site excavation works in contaminated areas. The WH&S plan must specifically address contaminants of concern and appropriate safety measures for site workers and the general public.

4.0 MONITORING AND REPORTING

Records are to be kept of all inspections, any soil excavation in contaminated areas, disposal permits and site management plan compliance for review by the administering authority from time to time. A biennial inspection is to be undertaken to ensure that capping and protective barriers remain in sound condition at all times in accordance with section 3.4.

The biennial period is to commence from the effective date of this plan.

This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to an appendix titled Remediation Action Plan (RAP) that is available the administering authority if required.

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Queensland Government

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http://www.derm.qld.gov.au/environmental_management/land/contaminated_land/

ANNEXURE 1 - SITE MANAGEMENT PLAN

LOT : 3 PLAN : RP137762 FILE REF : BNE30402 PRINTED: 24/08/2010

DATE OF EFFECT : 13/11/2007

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the western portion of the site has been used as a panel beaters and spray painters.

Contaminant	Maximum Concentration (mg/kg)
Cu	51,300
Pb	8,700
Hg	1.1
Zn	18,200
Total Petroleum Hydrocarbons (TPH)	
C_{10} - C_{14}	1,740
C_{15} - C_{28}	41,800
C_{29} - C_{36}	44,500

The SMP includes a Remediation Action Plan (RAP) as an appendix.

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2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 *Responsibility* To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

3.2 *Site Use* The site is currently vacant and must remain vacant until the attached RAP has been implemented. Following implementation of the RAP, the site will be suitable for commercial/industrial land use (including shops and offices as well as factories and industrial). The new use of the site must not commence until the attached RAP has been fully implemented, a Validation Report under Chapter 7 Part 8 Division 4 of the *Environmental Protection Act 1994* has been submitted to the Administering Authority and a Suitability Statement (which may include a revised SMP) has been issued by the Administering Authority.

3.3 *Provision of SMP to Appropriate Persons.* The site owner must provide all persons involved in

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building design and planning and all contractors and lessees conducting building and/or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 *Surface Capping and Protective Barriers.* Until remediation works described in the attached RAP commence, the existing concrete, soil and grass cover must remain over the entire site to maintain a barrier between the contamination and individual site users. The existing cover layer must be maintained in sound condition at all times.

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3.8 *General Environmental Protection.* All earthworks are to comply with general environmental protection measures to avoid unwanted migration and deposition of soil. These measures include the control of dust, noise, stormwater runoff, sediment, erosion, spillage from haulage trucks and odour releases involving the handling or movement of contaminated material.

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4.0 MONITORING AND REPORTING

Records are to be kept of all inspections, any soil excavation in contaminated areas, disposal permits and site management plan compliance for review by the administering authority from time to time. A biennial inspection is to be undertaken to ensure that capping and protective barriers remain in sound condition at all times in accordance with section 3.4.

The biennial period is to commence from the effective date of this plan.

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This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to an appendix titled Remediation Action Plan (RAP) that is the administering authority if required.

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Queensland Government

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http://www.derm.qld.gov.au/environmental_management/land/contaminated_land/

ANNEXURE 1 - SITE MANAGEMENT PLAN

LOT : 3 PLAN : RP137762 FILE REF : BNE30402 PRINTED: 15/12/2010

DATE OF EFFECT : 13/11/2007

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the western portion of the site has been used as a panel beaters and spray painters.

Contaminant	Maximum Concentration (mg/kg)
Cu	51,300
Pb	8,700
Hg	1.1
Zn	18,200
Total Petroleum Hydrocarbons (TPH)	
C_{10} - C_{14}	1,740
C_{15} - C_{28}	41,800
C_{29} - C_{36}	44,500

The SMP includes a Remediation Action Plan (RAP) as an appendix.

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2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 *Responsibility* To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

3.2 *Site Use* The site is currently vacant and must remain vacant until the attached RAP has been implemented. Following implementation of the RAP, the site will be suitable for commercial/industrial land use (including shops and offices as well as factories and industrial). The new use of the site must not commence until the attached RAP has been fully implemented, a Validation Report under Chapter 7 Part 8 Division 4 of the *Environmental Protection Act 1994* has been submitted to the Administering Authority and a Suitability Statement (which may include a revised SMP) has been issued by the Administering Authority.

3.3 *Provision of SMP to Appropriate Persons.* The site owner must provide all persons involved in

Release

building design and planning and all contractors and lessees conducting building and/or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 *Surface Capping and Protective Barriers.* Until remediation works described in the attached RAP commence, the existing concrete, soil and grass cover must remain over the entire site to maintain a barrier between the contamination and individual site users. The existing cover layer must be maintained in sound condition at all times.

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4.0 MONITORING AND REPORTING

Records are to be kept of all inspections, any soil excavation in contaminated areas, disposal permits and site management plan compliance for review by the administering authority from time to time. A biennial inspection is to be undertaken to ensure that capping and protective barriers remain in sound condition at all times in accordance with section 3.4.

The biennial period is to commence from the effective date of this plan.

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This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to an appendix titled Remediation Action Plan (RAP) that is the administering authority if required.

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QLD ENVIRONMENTAL PROTECTION AGENCY

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Transaction ID: 1075735 EMR Site Id: 62244 04 September 2008
This response relates to a search request received for the site:
Lot: 3 Plan: RP137762

EMR RESULT

The above site IS included on the Environmental Management Register.
Lot: 3 Plan: RP137762
Address: 248 NEW CLEVELAND ROAD
TINGALPA 4173

The site has been subject to the following Notifiable Activity pursuant to section 374 of the *Environmental Protection Act 1994.*
FOUNDRY OPERATIONS - commercial production of metal products by injecting or pouring molten metal into moulds and associated activities in works having a design capacity of more than 10 t per year.

A site management plan has been prepared for this site and is included with this search response as Annexure 1. It has been determined that this site is suitable for the following uses, providing the site is used and managed according to the site management plan: Suitable for industrial/commercial use including premises such as shops, offices and industrial buildings (but excluding uses where regular soil access by children is possible).

Following the date of effect of the site management plan, subsequent uses of the site for notifiable activities or for situations where a hazardous contaminant is released into the soil may result in the need to review suitable uses or amend the attached site management plan.

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CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

Note: Searches maybe conducted online through the State Government Website www.smartservice.qld.gov.au or Citec Confirm www.confirm.com.au.

If you have any queries in relation to this search please phone (07) 3227 7370.

Lindi Bowen
Registrar, Contaminated Land Unit

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ANNEXURE 1 - SITE MANAGEMENT PLAN

LOT : 3 PLAN : RP137762 FILE REF : BNE30402 PRINTED: 04/09/2008

DATE OF EFFECT : 13/11/2007

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the western portion of the site has been used as a panel beaters and spray painters.

Contaminant	Maximum Concentration (mg/kg)
Cu	51,300
Pb	8,700
Hg	1.1
Zn	18,200
Total Petroleum Hydrocarbons (TPH)	
C_{10} - C_{14}	1,740
C_{15} - C_{28}	41,800
C_{29} - C_{36}	44,500

The SMP includes a Remediation Action Plan (RAP) as an appendix.

2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 *Responsibility* To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

3.2 *Site Use* The site is currently vacant and must remain vacant until the attached RAP has been implemented. Following implementation of the RAP, the site will be suitable for commercial/industrial land use (including shops and offices as well as factories and industrial). The new use of the site must not commence until the attached RAP has been fully implemented, a Validation Report under Chapter 7 Part 8 Division 4 of the *Environmental Protection Act 1994* has been submitted to the Administering Authority

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and a Suitability Statement (which may include a revised SMP) has been issued by the Administering Authority.

3.3 *Provision of SMP to Appropriate Persons.* The site owner must provide all persons involved in building design and planning and all contractors and lessees conducting building and/or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 *Surface Capping and Protective Barriers.* Until remediation works described in the attached RAP commence, the existing concrete, soil and grass cover must remain over the entire site to maintain a barrier between the contamination and individual site users. The existing cover layer must be maintained in sound condition at all times.

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4.0 MONITORING AND REPORTING

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disposal permits and site management plan compliance for review by the administering authority from time to time. A biennial inspection is to be undertaken to ensure that capping and protective barriers remain in sound condition at all times in accordance with section 3.4.

The biennial period is to commence from the effective date of this plan.

This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to an appendix titled Remediation Action Plan (RAP) that is available the administering authority if required.

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ANNEXURE 1 - SITE MANAGEMENT PLAN

LOT : 3 PLAN : RP137762 FILE REF : BNE30402 PRINTED: 30/05/2011

DATE OF EFFECT : 13/11/2007

1.0 SUMMARY OF CONTAMINATION

The subject site is defined as Lot 3 on RP137762.

This Site Management Plan (SMP) has been prepared to manage organic and inorganic contamination in soil within the site. The site has historically been used for a range of industrial and manufacturing activities including a foundry and general workshops. More recently, the western portion of the site has been used as a panel beaters and spray painters.

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The SMP includes a Remediation Action Plan (RAP) as an appendix.

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2.0 OBJECTIVES

The objective of the SMP is to manage the on-site contamination to protect human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 *Responsibility* To ensure that the SMP's objectives are achieved and maintained, the owner of the site (as defined in the *Environmental Protection Act 1994*) is required to ensure that this SMP and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this SMP bind the owner, from time to time, of the land.

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The biennial period is to commence from the effective date of this plan.

This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

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