



QUEENSLAND GOVERNMENT

Department of Environment

160 Ann Street • Brisbane Queensland • PO Box 155 • BRISBANE ALBERT STREET QLD 4002
Telephone (07) 3227 7111 • Facsimile (07) 3227 6534

Hazardous Wastes and Contaminated Sites Section
(07) 227 7370 / (07) 225 1957

901754

Site ID : 140-037281

29 October 1996

FACILITIES MANAGEMENT DIVISION
AIRSERVICES AUSTRALIA
PO BOX 10023 - ADELAIDE ST POST OFFICE
BRISBANE
QLD 4000

NOTICE OF SITE CLASSIFICATION ON THE CONTAMINATED SITES REGISTER

In recent years there has been increasing concern over the effects that land contaminated with chemicals can have on human health and the environment. The enclosed leaflet 'Contaminated land in Queensland' explains how the potential problems of contaminated land are being dealt with in this State.

The Department of Environment has been required by the Contaminated Land Act to compile a register of contaminated and potentially contaminated sites. This letter is to notify you as the owner of the land described in the Schedule below, that this land has been classified as a PROBABLE site in the Contaminated Sites Register.

A second leaflet enclosed with this letter explains what this notification means and sets out the options that are available to you for having the classification reviewed or changed.

Please take note of Section 27 of the Contaminated Land Act 1991 which states:

- 27.1(1) Before a person disposes (whether or not for a price) of land that is a PROBABLE site, a CONFIRMED site or a RESTRICTED site to another person, the person must give written notice to the other person setting out -
- (a) the classification of the land; and
 - (b) the classification of any current, or unsatisfied, notices given under this Act in relation to this land.
- (2) Subsection (1) does not apply to the transfer or disposition of land to a person as a beneficiary of a deceased estate.

SCHEDULE

LOT: 15
LOCATION:

PLAN: R0179508
CNR. LAMINGTON AVENUE & MORDANT
STREET
EAGLE FARM 4009

PRESCRIBED PURPOSE: FUEL STORAGE

sch4p4(6) Personal Informat

David N. Miles
Director, Waste Management Branch
Division of Environment

LGA: BRISBANE CITY

SITE NAME: 140 LAMINGTON AVE EAGLE FARM

LOCN STREET: 140 LAMINGTON AVE

LOCN SUBURB: EAGLE FARM

LOCN PCODE: 4007

SITE LOT: 8

SITE PLAN: RP145424

VOL:

FOLIO: 0

OWNER ADR1: FEDERAL AIRPORTS CORPORATION (FAC)

OWNER ADR2: AIRPORT DVE, EAGLE FARM

OWNER ADR3:

OWNER ADR4: PO BOX 61

OWNER ADR5: HAMILTON CENTRAL

OWNER PCODE: 4007

CURR USE: 2231 ✓ OK

PAST USE: 3516

COMMENTS: SITE REF. 6937 * AIRPORT DVE CNR HAKEA ST,
BRISBANE AIRPORT (FLAMMABLE & DANGEROUS GOODS
MEMORANDUM, 27/10/94).

• Not on CSR

• CISP - sub-division. now:-

lots 1, 15 RP179508

lot 29 RP802412

lot 1 RP844114

lots 30-2 RP895254

← CISP L1 - Easement to L.A.

• IRAS - lot 1 RP179508 - N.R.F.

✓ lot 15 " - 104 Lamington } owner = Civil Aviation Authority
✓ lot 29 RP802412 - 110 Lamington } PO Box 10023, Adelaide St,
Brisbane 4000

Airlines } lot 1 RP844114 - Airport Drv. owner = Federal Airports, as above.
Oil Companies }
Transport Co's } 45 leases on site.

lot 30 RP895254 - Schneider Rd. owner = Commonwealth of Australia.
lease to Beatas - waste disposal (noxious industry)

lots 31, 32 RP895254 - N.R.F.



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Department of Environment

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Telephone (07) 3227 7111 • Facsimile (07) 3227 6534

Hazardous Wastes and Contaminated Sites Section
(07) 227 7370/(07) 225 1957

901754

Site ID : 140-037281

20 September 1996

THE CHIEF EXECUTIVE OFFICER
Brisbane City Council
GPO Box 1434
BRISBANE QLD 4001

NOTICE OF SITE CLASSIFICATION ON THE CONTAMINATED SITES REGISTER

In accordance with Section 23(2) of the Contaminated Land Act 1991 notice is hereby given that the parcel of land described in the Schedule below has been classified as shown and its particulars recorded in the Contaminated Sites Register. The site is recorded as having been used for a purpose 'prescribed' under Act. This purpose is listed in the Schedule below.

You are requested to take necessary action to fulfil the requirements of Section 25(2) of the Act.

SCHEDULE

LOT: 15

PLAN: RP179508

LOCATION:

CNR. LAMINGTON AVENUE & MORDANT
STREET
EAGLE FARM 4009

OWNER:

FACILITIES MANAGEMENT DIVISION
AIRSERVICES AUSTRALIA
PO BOX 10023 - ADELAIDE ST POST OFFICE
BRISBANE
QLD 4000

PRESCRIBED PURPOSE: FUEL STORAGE

CLASSIFICATION: POSSIBLE

David N. Miles
Director, Waste Management Branch
Division of Environment

Memorandum

To

File reference

From

Subject

Date

Notes

Review 8/94 Report

Lot 15 + 29 = 20.7 ha = straddles Gateway Arterial.
RP179508 RP802412 owner = Civil Aviation Authority. County = Stanley
Parish = Toombul

at W = road + racecourse

S = road + railway

E+N = lot 30 = old airport

- want suitable for General Indust. ← "Restrict" (?)

- drains to N + NE into drainage channels

* Easement B on RP802412 for lot 29 for access to S side
not inc. in investigⁿ

- knant in B14 on lot 15. - 800m² of varied imported fill to use as hardstand
↑ earthworks trucking

- ^{+ lines} fuel tanks of lot 15 removed when airport closed

- servicing done in B14, H1 + H3.

- vehicle servicing in N end of B3 w service pit + other facilities

- is pipework from Caltex Terminal to Internat. Airport still on lot 29 (?)

* See my plan for locⁿ of poss. contaminating activities

Review 12/95 Report

lot 29

- rural then WW2 aircraft assembly, refueling from tankers + storage of aircraft.
then ^{airport} terminal, refueling from UTS, c/parks.

- all buildings except Powerhouse now demolished

- 14.29 ha

* See plan for what sampled.

* UST at powerhouse removed 8/95 + backfill removed 8/95 but
pit + backfill not sampled til 11/95. (?)

* need to remove oil from transformers + switch equip. @ S12.

Memorandum

To

File reference

From

Subject

(2)

Date

Notes

lot 15

- rural then WW2 w/stops, aircraft assembly, admin.
then maintenance, refuel support vehicles, car rentals
- Since 1988 - buildings leased to light indust ← what (?)
+ Search + Rescue depot + damaged vehicles storage.
- oil company depots + USTs along W + S (removed 1988)
- Some buildings have been demolished.
- 6.46 ha

* Need to know areas that are paved, concrete, bitumen etc
+ need to know how long each bit has been
in place - for both lots.

* Where is fill on each lot (?)

Locⁿ 17 = UST - removed in 1988

↑ how many ?? only 2 ??

- found concrete base + anchors @ 3m
- no odour in bed.sands
- 17A + 17B = composites ← of what (?)

Locⁿ 18 = 2 USTs - uncovered concrete base pads @ 2.75m

"bed.sands, fill + glw were clean".

- smelly soil at ^{un. on} Pipe where ^{pipe fan} 2 tanks joined (near road).

oo excav. 1.5m² x 1m deep ← stackpile sample = 18A C₁₀₋₁₄ = 620

- Sample 18 = base of tank pit

oo sampling protocols not met

Locⁿ 19 - directly under bitumen ⇒ Zn=460 PAH=48 Benzof = 6.5 TPH = 2370 (C₁₅₋₃₆)

19A = 0.35-0.45m ⇒ OK.

19-1m W in natural OK.

19-2m SW . - - OK.

27-1m N of 19 0.15-0.35m = OK.

28 1m NW . . - . . ✓.

29 15m S . . - - - OK.

Memorandum

To

File reference

From

Subject

(3)

Date

Notes

locⁿ 21 - directly under bitumen $\Rightarrow$ $Cu=170$ $Zn=420$ $PAH=11$ $TPH=1230$ (C15-26)

- 21A @ 0.2-0.3m in natural OK.

21-1m - 1m SW of 21 @ 0.2-0.3m in natural OK.

21-2m - 2m NW of 21 - - - - OK.

25 - 2m SE of 21 - - - - OK

locⁿ 22 = refuel station - oil company removed tanks etc in 1988

- USTs either side of central bowser area

- trenched at tank pit - strong odours + scum on g/w

- had not removed pipework

22 - bed sand $Co-24 = 1040$.

- expect 7m x 15m to 3m + 2m under slab $ca \sim 290m^3$

- have not excavated yet.

Need Ampol plans !! w/oil separators etc.

locⁿ 23 - fill from earthworks trucking $\sim 700m^3$

23A - former nursery

23B

23C } composites of 3 in fill

locⁿ 24 - UST

- trenched to natural @ 2.75m

- no odour, bed sand looked clean, g/w clear

24S - sides of pit

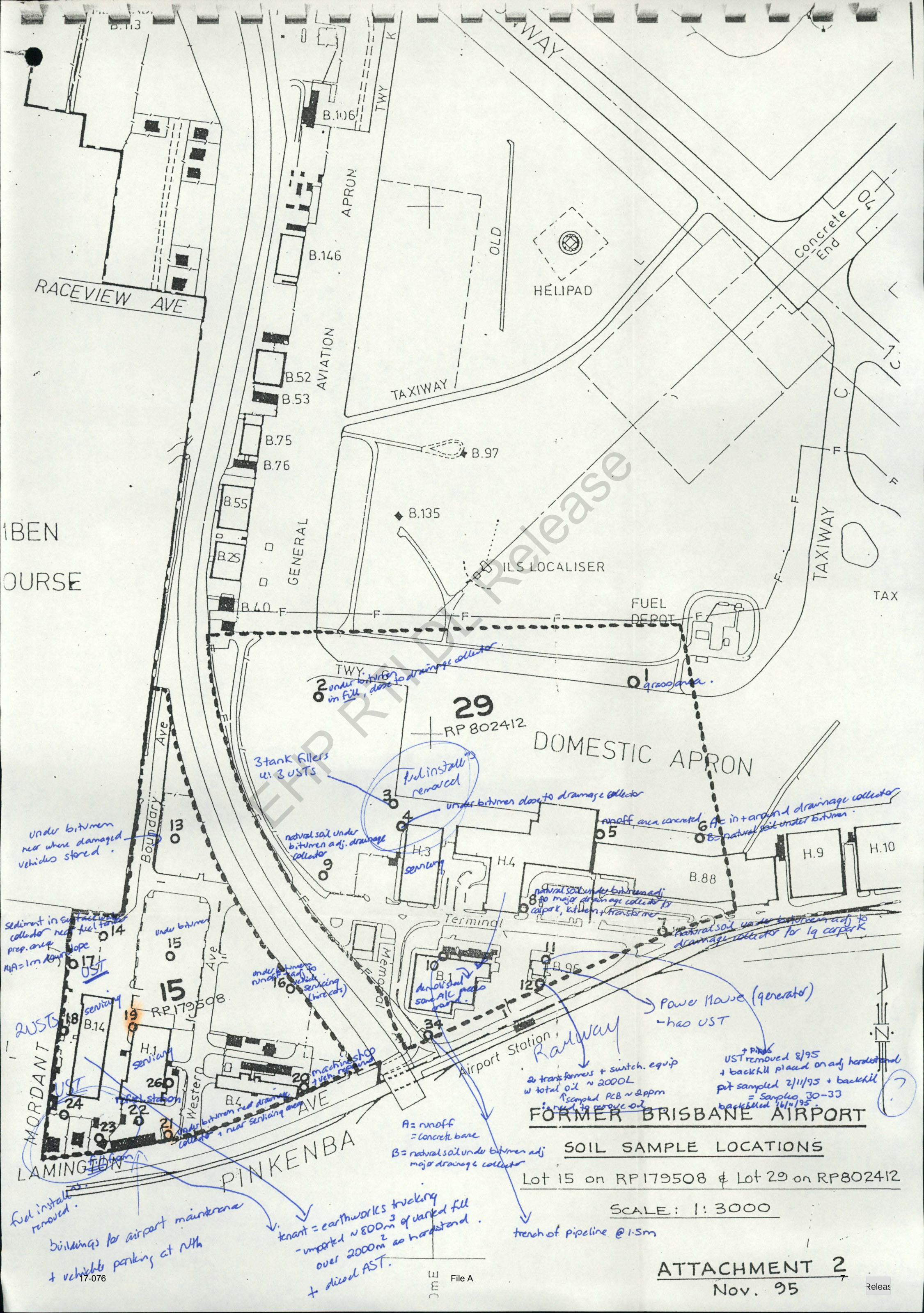
24B - base - - .

how long later (?)

how many tanks (?)
bousers (?)

* Need to remove 100L TPH soln from parts washing @ Earthmoving trucking
+ 4x 200L drum w/oil at NW of B14. ^{trough} open

* Need Table of results, when sampled, analytes tested, ^{sample IDs.} etc.



FORMER BRISBANE AIRPORT

SOIL SAMPLE LOCATIONS

Lot 15 on RP179508 & Lot 29 on RP802412

SCALE: 1:3000

Memorandum

To

File reference

From

Date

Subject

Notes

lots 15 + 29

- owned by Air Services Aust ← Commonwealth
- to become part of airport, land
- want 'form' on lot 29, not sure about lot 15.
- to be pt of same industrial estate as lot 30.
- lot 29 should be fairly clear.
- lot 15 - harder to get 'form' - lots of maintenance work done on lot 15.

Priority

DASLEM + LA.

US give comfort ltr to owners for new airport
- 2A, 2B etc.

before start to design lined cell

∴ want our comment w/o details (?)



QUEENSLAND GOVERNMENT

**Department of
Environment and Heritage**

REPRINT - 08/09/1998

02 September 1998

Site ID: 2800

File Number: 901754

Enquiries to: Hazardous Waste and Contaminated Sites Section

Telephone: (07) 3227 6870

FACILITIES MANAGEMENT DIVISION

AIRSERVICES AUSTRALIA

PO BOX 10023

BRISBANE ADELAIDE STREET

QLD 4000

**NOTICE OF REMOVAL OF LAND FROM THE ENVIRONMENTAL
MANAGEMENT REGISTER.**

In accordance with Part 9B of the *Environmental Protection Act 1994*, notice is hereby given that the parcel of land described below has been removed from the Environmental Management Register.

Lot: 29 Plan: RP802412

BRISBANE CITY COUNCIL

CNR. LAMINGTON AVENUE & MORDANT STREET

EAGLE FARM 4009

PETROLEUM PRODUCT OR OIL STORAGE - storing petroleum products or oil -

(a) in underground tanks with more than 200 L capacity; or

(b) in above ground tanks with -

(i) for petroleum products or oil in class 3 in packaging groups 1 and 2 of the dangerous goods code - more than 2 500 L capacity; or

(ii) for petroleum products or oil in class 3 in packaging groups 3 of the dangerous goods code - more than 5 000 L capacity; or

(iii) for petroleum products that are combustible liquids in class C1 or C2 in Australian Standard AS1940, 'The storage and handling of flammable and combustible liquids' published by Standards Australia - more than 25 000 L capacity.

The parcel of land has been investigated and relevant reports have been assessed by the administering authority and it has been determined that this land is not contaminated land and the land has therefore been removed from the Environmental Management Register (EMR).

Following removal from the EMR any information relating to this site will NOT be available to the public via a search of the Environmental Management Register or the Contaminated Land Register.

For further information regarding this notice, please contact the Hazardous Waste and Contaminated Sites Section, Department of Environment and Heritage on telephone (07) 3227 6870.

Yours sincerely

4p4(6) Personal Infor

April Gunning-Davis

Registrar, Hazardous Waste and Contaminated Sites Section

EHP RTI DL Release



QUEENSLAND GOVERNMENT

**Department of
Environment and Heritage**

SUITABILITY STATEMENT

DATE PRINTED: 02/09/1998

OWNER

FACILITIES MANAGEMENT DIVISION
AIRSERVICES AUSTRALIA
PO BOX 10023
BRISBANE ADELAIDE STREET
QLD 4000

DATE OF ISSUE : 02/09/1998

PROPERTY DESCRIPTION

LOT : 29 PLAN : RP802412 ✓
CNR. LAMINGTON AVENUE & MORDANT STREET
EAGLE FARM 4009

BRISBANE CITY COUNCIL
EMR Site ID: 2800 FILE REFERENCE: 901754

FINAL SUBMISSION RECEIVED ON: 11/08/1998

**STUDIES UNDERTAKEN BY APPLICANT OR REQUESTED BY
DIRECTOR**

The following information was provided by Department of Administrative Services
Centre for Environmental Management (DASCEM Holdings Pty Ltd):

- Stage One of the Contaminant Assessment of Former Brisbane Airport Land at Eagle Farm (Lot 29 on RP802412 & Lot 15 on RP179508), prepared in August 1994
- Stage Two of the Contaminant Assessment of Former Brisbane Airport Land at Eagle Farm (Lot 29 on RP802412 & Lot 15 on RP179508), prepared in December 1995
- Contaminant Assessment and Remediation Report for Lot 29 on RP802412, prepared in April 1998 (Report No. CL325)
- Additional Information Supplemental to DASCEM Report No CL325, prepared in July 1998

STATEMENT OF SUITABILITY

On the basis of the information supplied to this Department, the subject site is suitable for any use.

ENVIRONMENTAL MANAGEMENT REGISTER

LOT : 29 PLAN : RP802412

There is no requirement to record this site on the Environmental Management Register or the Contaminated Land Register.

sch4p4(6) Personal Information

Dr Dagogo Ibiebele

Manager, Hazardous Waste and Contaminated Sites Section

EHP RTI DL Release

CERTIFICATE OF TITLE

475

Dealing No.: K294963F

Vol. 8038 Fol. 229

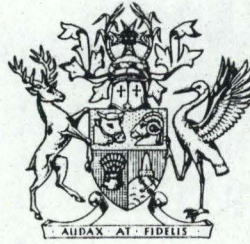
QUEENSLAND

VOL: 8038 FOLIO:229



18038229

Previous Title:
Vol. 7244 Fol. 234



Issued: 5 October, 1990

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such easements encumbrances and interests as are shown in the Second Schedule.

Witness: sch4p4(6) Personal Information

sch4p4(6) Personal Information



Registrar of Titles.

ESTATE AND LAND

Estate in Fee Simple in Lot 29 on RP802412 County of Stanley Parish of Toombul
City of Brisbane
Containing 14.29 hectares

FIRST SCHEDULE

CIVIL AVIATION AUTHORITY

SECOND SCHEDULE

1. ~~Rights and interests reserved to the Commonwealth of Australia by conveyance No. K294963F. CANCELLED VIDE NO. K521955P~~
2. Easement No. K294959N over Easement A on RP225708 Produced 1 Jun 1990
Registered 17 Jun 1990.

4(6) Personal Information

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR OF TITLES ARE CANCELLED
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON
FOR DETAILS OF DESCRIPTION, DIMENSIONS AND MARKING OF BOUNDARIES REFER TO
SURVEY PLAN REFERRED TO ABOVE.

CERTIFICATE OF TITLE

(Page 1)

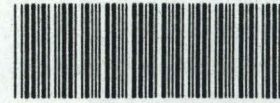
64

Dealing No.: K313410N

Vol. 8005 Fol. 184

QUEENSLAND

VOL: 8005 FOLIO:184



18005184

Previous Title:
Vol. 7244 Fol. 235



Issued: 27 July, 1990

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such easements encumbrances and interests as are shown in the Second Schedule.

Witness:

p4(6) Personal Info

sch4p4(6) Personal Information

Registrar of Titles.



ESTATE AND LAND

Estate in Fee Simple in Lot 15 on RP179508 County of Stanley Parish of Toombul
City of Brisbane
Containing 6.456 hectares

FIRST SCHEDULE

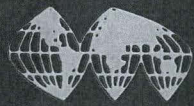
CIVIL AVIATION AUTHORITY

SECOND SCHEDULE

1. Rights and interests reserved to the Commonwealth of Australia by Conveyance No. K313410N (Pors 3, 567, 568, 571, 580, 592, 626, 628, 705 and 901).

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR OF TITLES ARE CANCELLED
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON
FOR DETAILS OF DESCRIPTION, DIMENSIONS AND MARKING OF BOUNDARIES REFER TO
SURVEY PLAN REFERRED TO ABOVE.

FRIDAY, AUGUST 2, 1996



JLW

Jones Lang Wootton

E6252C

PR

Government may sell Brisbane's old airport site

By **SUE MONK**

BRISBANE'S old airport site may be turned over to private development following heavy retrenchments in the federal government department which was to have redeveloped the site, according to industry sources.

The Australian Estate Management group, part of the Administrative Services Department, took control of the old Brisbane airport site, at Eagle Farm, when the airport closed in 1988.

The group, which manages a number of Commonwealth commercial properties, has been given notice to cut staff numbers from 17 to one.

AEM development officer Pat Coulter said Cabinet would decide whether the site was to be sold.

She said her office would not be notified of the property's future until after the Federal Budget was delivered on August 20.

Ms Coulter said AEM had planned an industrial development on the 157ha site, which would have been subdivided and released in stages.

A neighbouring 14ha site, owned by Airservices Australia, would probably have been bought by the Government and included in the development, she said.

Ms Coulter said much of the infrastructure on the site was in poor condition and an access road would need to be built before development could start.

Old aeroplane hangers were all that remained on the site which, was bordered by the Gateway Motorway and Terminal Dr, she said.

Richard Ellis industrial division manager Kieran Galvin said the site was the most strategic land parcel in Brisbane, considering its proximity to the airport, city and ports.

He said the site would be the largest industrial subdivision to go ahead in Brisbane if it was developed and sold.

The site would be suitable for mixed tenants from industrial warehouses to offices, he said.

It would be suitable for the headquarters of an international airline or large comput-

er or telecommunication companies.

He believed only developers with international backing could afford to invest in the project, which would involve large infrastructure costs.

The sale of the land would alleviate the shortage of available industrial land on the northside for the next five years or longer.

"It would be nice if AEM developed the land themselves, but if it's sold off it is vital that it is not allowed to sit there for the next 10 years," he said.

Knight Frank industrial negotiator Greg Russell said there would be strong competition among Australia's major players to buy the site.

He believed national investors with multinational backing would be the major players, rather than Asian investors who were usually more interested in retail or hotel investments.

Mr Russell said the site's development would probably be staged, with about 10ha released per year over 10 to 15 years.

ANNEXURE 1 - SITE MANAGEMENT PLAN

LOT : 15 PLAN : RP902848 FILE REF : BNE21403 PRINTED: 05/05/2005

DATE OF EFFECT : 05/05/2005

1.0 SUMMARY OF CONTAMINATION

The history of the site use is as follows:

- Pre 1900s, the site was used for farming purposes.
- From approximately 1941 to 1946, the site was a US military base. It became land in 1946 and was used for airport maintenance and refuelling of airport vehicles up until 1988.
- Post 1988 to present, the site has been leased to a variety of light commercial/industrial businesses.

The following contaminants were identified in the area to be managed refer to the attached Figure 1.

Cadmium (Cd)	maximum 24 mg/kg;
Zinc (Zn)	maximum 2,670 mg/kg; and

The area outside these bounds is not affected by contamination.

2.0 OBJECTIVES OF THE SMP

The purpose of this Site Management Plan (SMP) is to manage contamination on the site in a manner that protects human health and the environment.

3.0 ACHIEVEMENT AND MAINTENANCE OF OBJECTIVES

3.1 Responsibility. The owner of the land (as defined under the *Environmental Protection Act 1994*) is 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 suitable for commercial/industrial use. All remediation and validation works for this site are to be carried out in accordance with Appendix 1 - Remediation Action Plan for land situated at 104 Lamington Avenue, Eagle Farm, Queensland. The intent is to obtain a Suitability Statement stating that the site is suitable for any use.

3.3 Provision of SMP to appropriate persons. The 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 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. The contaminated material is contained within an ash layer occupying an area as shown on the attached Figure 1. It is currently capped with a 200mm to 400mm soil cap. This capping layer must be maintained in sound condition at all times. Site capping must not be penetrated without written authorisation from the EPA.

3.5 *Soil Excavation & Removal.* Any soil excavated from areas identified as impacted (refer Figure 1) must be assessed for contaminants of concern to determine if the material is contaminated and to identify appropriate management and disposal/re-use options.

Representative sampling and analysis of soil from excavations in contaminated areas must be managed by a suitably qualified and experienced person in accordance with Section 381 of the *Environmental Protection Act 1994* (EP Act). Contaminated soil must not be removed off-site without a disposal permit in accordance with Section 424 of the EP Act.

3.6 *Unexpected Contamination.* If during any site earthworks or excavation, offensive or noxious odours and/or evidence of gross contamination not previously detected is 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 EP Act.

3.7 *General Environmental Protection.* All earthworks are to be undertaken in accordance 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.

3.8 *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 Workplace Health & Safety Plan must specifically address dermal and inhalation exposure to contaminants of concern.

4.0 MONITORING AND REPORTING

A biennial site inspection is to be undertaken to ensure that capping and protective barriers including vegetative covers remain in sound condition at all times in accordance with section 3.4.

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.

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 Site Management Plan makes reference to a Figure 1 attachment. This Figure is available from the administering authority if required.

This Site Management Plan makes reference to a Remediation Action Plan (RAP) attachment. This RAP is available from the administering authority if required. /i0

APPENDIX 1 - REMEDIATION ACTION PLAN

LOT: 15 PLAN: RP 902848 FILE REF: BNE21403 & 901754 PRINTED: 18 APRIL 2005

DATE OF EFFECT: 5/05/2005

1. INTRODUCTION

1.1 Purpose

The purpose of this RAP is to provide a program of remedial works and subsequent validation sampling for Lot 15 on RP902848, 104 Lamington Street, Eagle Farm, Queensland. The site is listed on the Environmental Management Register (EMR) for the notifiable activity of fuel storage. When executed, this RAP will enable the EPA to remove the subject site from the EMR. This RAP has been prepared to satisfy EPA requirements to enable the Development Application for the proposed redevelopment to be approved by Brisbane City Council (BCC).

1.2 Objective

The objective of the remediation work is to remediate the identified heavy metal impacted soil to a standard that will be suitable for the proposed residential use of the land. All remediation work will be carried out in accordance with the:

- The *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland*, dated 1998; and
- The National Environmental Protection Measure (NEPM) *Assessment of Site Contamination*, dated 1999.

2. BACKGROUND

Prior to 1900 the site was used for agricultural purposes. From approximately 1914 – 1946 the site was a US military base. It became commonwealth land in 1946 after which it was used for airport maintenance and refuelling of airport vehicles up to 1988. Since 1988 until present day the site has been leased to a variety of light commercial/industrial businesses. From approximately 1995 to 1996, a staged environmental program was undertaken for this site that culminated in the removal of Underground Storage Tanks (USTs) and subsequent remedial works. The approximate locations of UST areas are shown on **Figure 1**, and are referred to as Sites 18, 22 and 23 on this drawing. Not shown on **Figure 1** is the location of Site 17, which could not be located on site, and Site 19 which was a remediated area that did not involve an UST.

2.1 Topography

The site is located within the Kedron Brook Lower, Boggy, Jubilee Catchments, Planning Unit K/010. The site is largely flat with an average level of RL 6.0 AHD. The highest point on the site is towards the northern end, which has a level of RL 6.2 AHD and grades gradually towards the site boundaries where levels range from RL 5.8 to RL 6.0 AHD (referenced from BCC Bimap).

2.2 Geology

The site is underlain by alluvial deposits consisting of sands, clays, silts and gravels (referenced from DNRM&E, 2002, Polygonised vector digital geological data). The soil profile consists of fine sandy silts situated below a layer of fill and this in turn is underlain by plastic clays. These natural soils are encountered at relatively shallow depths, generally <0.5m BGL. Fill material generally uniform across the site and consisted of fine to course grained sands and gravels. Sandy gravelly ash was encountered adjacent to Building B14 identified as the area to be managed, refer to the attached **Figure 1**.

2.3 Hydrogeology

Depth to groundwater is expected to be between 5m and 10m below surface.

2.4 Previous Investigations

This remedial work follows investigative work undertaken by the DAS Centre for Environmental Management (DASCEM) and Lambert & Rehbein Pty Ltd which has been reported in the following documents:

DAS Centre for Environmental Management:

1. Stage One of the Contamination Assessment of Former Brisbane Airport Land at Eagle Farm, prepared for Airservices Australia, and dated - August 1994.
2. Stage Two of the Contamination Assessment of Former Brisbane Airport Land at Eagle Farm, prepared for Airservices Australia, and dated - December 1995.
3. Contamination Assessment and Remediation of Former Brisbane Airport Land at Eagle Farm (Lot 15 on RP 179508), prepared for Airservices Australia, and dated - September 1996.
4. Contamination Assessment and Remediation of Former Brisbane Airport Land at Eagle Farm (Lot 15 on RP 179508), prepared for Airservices Australia, and dated - November 1996.
5. Contamination Assessment and Remediation, Lot 29 on RP 802412, Former Brisbane Airport, Eagle Farm, prepared for Airservices Australia, and dated - April 1998.
6. Additional Information - Contamination Assessment and Remediation, Lot 29 on RP 802412, Former Brisbane Airport, Eagle Farm, prepared for Airservices Australia, and dated - 3 July 1998.

Lambert & Rehbein Pty Ltd:

1. Environmental Site Assessment, Lot 15 RP 902848, Eagle Farm, prepared for Ellison Properties, and dated - 27 July 2004.

2.5 Current Impact and Extent of Contamination

Previous contaminated land investigations identified an area of impacted fill located in a partly unsealed area on the southern side of Building B14, refer to the attached **Figure 1**, "Area to be Managed". The impacted fill in this area contains concentrations of cadmium, zinc and mercury above the environmental investigation levels. Cadmium and zinc are contaminants of concern on this site. The contamination exists within a sandy ash layer that is on average approximately 200mm to 400mm below ground surface.

The source of this contamination was thought to be from electrical components and batteries that may have been disposed of or handled in a manner that contaminated the soil. It is possible that these activities were undertaken on the site, as it has over a 40 year history as an aviation facility. The sandy ash fill was also tested for Polynuclear Aromatic Hydrocarbons (PAHs), however PAHs were not present at concentrations that exceeded the EPA Environmental Investigation Levels (EILs), and as a result, PAHs are not a contaminant in the ash fill.

3. ENVIRONMENTAL GUIDELINES

Environmental guidelines adopted for this RAP include the following:

- NEPM, 1999, *Assessment of Site Contamination*; and
- EPA, May 1998, *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland*.
- Australian Standard, *Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile Compounds*, 1997 (AS 4482.1-1997);

4. REMEDIAL STRATEGIES

4.1 Remedial Goals

The remedial goal for Cadmium on this site is referenced from the NEPM 1999, Health Investigation Level A. The remedial goal for **Cadmium** on this site is a **maximum of 20mg/kg**.

As the intended use of the site is residential, the remedial goal for Zinc on this site is referenced from the NEPM 1999, Interim Urban level. The remedial goal for **Zinc** on this site is a **maximum of 200mg/kg**.

4.2 Extent of Contamination

The approximate volume of fill to be removed is 550m³ (in-situ). This volume includes overlying uncontaminated fill that will likely be excavated during the removal of the contaminated material. The full delineation of this impacted area could not be completed during the 2004 investigation stage due to site obstructions. Further soil sampling is proposed after all tenants vacate the site and the site is prepared for remediation works. The volume of impacted fill could therefore increase above the approximated 550m³ (in-situ) stated in this document depending on the findings of additional sampling. Should additional sampling indicate a change in the volume of soil requiring remediation, then the EPA will be informed of this change at the time that an off-site soil disposal permit application is provided to EPA for approval.

4.3 Remedial Strategy

There are currently limited remediation strategies available for heavy metal impacted soil other than excavation and off-site disposal. In keeping with the national effort to reduce the amount of waste disposed to landfills, it is proposed that the hierarchy of remediation strategies is off-site disposal to land that is already listed on the EMR and contains like material (i.e. ash). Should a surrogate site exist and the land owner provides consent to use this land for the containment and/or burial of the impacted ash fill, then this would be the preferred strategy, providing the following conditions can be fulfilled:

- adequate handling, temporary storage and containment of the impacted fill on the surrogate site is achieved such that the potential risk to human health or the environment is minimised;
- exposure to the impacted fill is reduced by incorporating it into the future development plans for the site; and
- the impacted fill can be safely placed beneath an impermeable barrier, which would satisfy the above requirement of minimising contaminant exposure as well as minimising surface infiltration that could promote the leaching of contaminants from the impacted fill.

Should an adequate surrogate site be located in Queensland, an application for a disposal permit will be provided to the EPA. In accordance with the EPA's *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland*, this application will stipulate the actions required to safely transport and store the material on the site.

Should a surrogate site not be found, the traditional method of off-site disposal to an approved landfill will be undertaken in accordance with EPA requirements.

5. REMEDIATION PROGRAM

5.1 Excavation of Contaminated Fill

The excavation of contaminated fill will be completed after existing tenants vacate the site. This is necessary as underground services servicing the site will be disconnected and aboveground features (buildings and sheds) will be removed before remediation works can commence. The removal of site features and underground services will allow easier access to the impacted area.

It is known that numerous underground services are present within the impacted area. Consequently, services that will remain functional will be identified by the remediation contractor before earthworks are undertaken so that the risk of damaging these services can be avoided.

As stated in **Section 4.2**, further soil sampling is required to delineate the extent of impacted fill. The areas where further delineation is required and where soil samples will be collected prior to remediation are:

- under building H14;
- to the west of borehole BH20; and
- to the east of BH27.

Once the soil volume is confirmed through laboratory analysis (which may include additional TCLPs if required), the affected area will be excavated and stockpiled on site in approximate 100m³ stockpiles.

These stockpiles will have appropriate bunding and sediment controls provided as discussed in **Section 6.0**. Should the analytical data from the delineation stage and previous 2004 investigation samples indicate that a particular area is more concentrated in one or more contaminants of concern, this area will be segregated from the other less impacted soil, excavated and separately stockpiled.

The stockpiles will be located on one of the flat concrete slabs of Building H1, B4 or B14, depending on which is more appropriate. If these slabs are not available, then another hardstand area will be sourced on site.

Two grab samples per 100m³ stockpile will be collected and analysed for the contaminants of concern (cadmium and zinc). It is not proposed that further TCLPs testing will be undertaken for stockpile samples because by this stage in the remediation program there should be sufficient TCLP data to determine the appropriate disposal locations for each stockpile.

Removing the impacted soil stockpiles to an off-site disposal location will also involve an excavator and tip trucks and a site-specific vehicle traffic route. The area where the loading will occur will be kept clean. Soil spilled on uncontaminated areas of the site will be immediately cleaned up.

5.2 Off-Site Disposal Provision

Off-site disposal of contaminated soil must be carried out in accordance with the conditions of a Section 424 Disposal Permit, granted under the *Environmental Protection Act 1994*. An off-site soil disposal permit will be obtained from the EPA prior to any impacted soil leaving the site. The application for off-site soil disposal will stipulate any handling, transport or stockpiling requirements should a surrogate site be identified to receive the impacted fill. If a surrogate site cannot be found or EPA requirements cannot be met, then the application will specify appropriate landfill disposal based on analytical data obtained.

6. OPERATIONAL CONTROL

6.1 Stormwater Management

The requirements for stormwater management outlined in Schedule B(9) of the NEPM must be complied with. This includes stockpiling excavated soil in a manner that will prevent contamination from being transported off-site by stormwater.

It is anticipated that stockpiles will be present on site for a minimum of four weeks before a disposal permit is granted and arrangements can be made to transport the material to the approved location. During this period, the excavated area and soil stockpiles will be sufficiently bunded to control stormwater run off. The stockpiles will be covered using large tarpaulins. Inspections of these controls will be performed as required (i.e. during and after rainfall) to ensure that these control measures are effective, and where deficiencies are observed, revisions will be made to improve the stormwater control methods.

6.2 Soil and Sediment Control

Sediment in surface water must be minimised by the use of sediment controls such as diversion drains, hay bales or silt fencing. If hay bales are used, they must be maintained in good condition and not allow loose straw material to blow around the site or be washed into stormwater drains.

Where soil is stockpiled on-site, the soil must be placed 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 on-site for an extended period, stockpiles must be covered. Stockpile records must be maintained to track the disposal or reuse of soil from the site. Any plant or equipment that handles soils must be inspected prior to leaving the site, and cleaned as necessary.

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

6.3 Noise Control

Noise levels must comply with Brisbane City Council and EPA requirements. It is expected that the equipment that is to be used in the remedial program may be an operational issue.

6.4 Dust Control

The generation of dust will be kept to a minimum. Water sprays may be used to ensure suppression of dust. Water used for dust suppression will not be allowed to escape off-site by the stormwater system, sewer, or any other means. This is as required in Schedule B(9) of the NEPM, which in addition to Brisbane City Council and EPA requirements, must be complied with.

6.5 Odour Control

Odours are not expected during earthworks as the material being excavated was not odorous. It is expected that the use of water to control dust will also suppress odours assuming odours will be present. Should this be ineffective and there are public complaints regarding odours, then all work will cease until an appropriate solution is developed.

6.6 Public Complaints System

A public complaints system will be established prior to the commencement of the remedial works, to address any issues that may arise in the community as a result of works on the site. All public complaints will be recorded and acted upon within 24 hours. Each complaint will be evaluated (in consultation with the public if necessary) to determine the most appropriate solution(s). If warranted, a specific action plan will be developed and appended to this RAP as a site specific work instruction.

7. VALIDATION PROGRAM

A validation sampling program must be performed following the excavation of contaminated soil at the site. The objective of the validation program is to ensure that:

- All soil contaminated above the Remedial Goals has been excavated;
- The contaminant concentrations in the walls and base of the excavation comply with the Remedial Goals; and
- Any backfill material to be placed in the excavations is not contaminated.

A quality assurance/quality control (QA/QC) program must be implemented to verify the accuracy and reproducibility of the analyses performed for the validation program. The QA/QC program must be undertaken in accordance with the Australian Standard AS4482.1-1997 and the NEPM guidelines.

7.1 Validation Soil Sampling

The methodology for the validation sampling program must be in accordance with the protocols for the assessment of site contamination which are provided in the EPA May 1998 guidelines, the Australian Standard AS 4482.1-1997 and NEPM guidelines. The sampling program must be a systematic sampling pattern. The sample density must be appropriate to characterise the residual contaminant concentrations and detect circular hot spots the size of a residential block with 95% confidence, in accordance with the Australian Standard AS 4482.1-1997.

Validation soil sampling will be conducted at the following intervals:

- One sample every 10 m² from the base of the excavation.
- One sample every 10m (linear) along the wall of the excavation and collected at a depth of between 0.2 and 0.4m below existing ground surface (**Note:** this is the average depth where impact was identified). In addition, a second soil sample will be collected from any portion of the wall where the wall depth exceeds 0.75m.
- Should impacted stockpiles be placed on unsealed areas then one additional validation sample will be collected from the footprint of each removed stockpile.

7.2 Sample Dispatch and Documentation

Samples must be collected in the appropriate containers and labelled to identify the origin of the sample. These shall generally be dispatched to the laboratory for analysis within 24 hours of collection. Chain of Custody documentation must be completed in accordance with the Australian Standard AS4482.1-1997 and the NEPM guidelines. Sample Receipt Advice documentation must be requested from the laboratory and submitted in the validation report along with Chain of Custody documents.

7.3 Backfilling

It is expected that no imported soil will be required as there will be an excess of soil available to backfill the excavation, generated during the construction phase of the development. No soil sampling will be required for this material as the backfill will be natural soil. The use of natural soil as backfill will be verified by the environmental consultant supervising the remediation works and this will also be documented in the validation report.

7.4 Quality Assurance/Quality Control (QA/QC) program

A field QA/QC program must be undertaken in accordance with the NEPM, Australian Standard AS4482.1-1997 and EPA recommendations, to measure the precision of the field/laboratory analyses and to determine the accuracy of the primary laboratory's analyses. The QA/QC program will include field duplicates samples prepared at the rate of 1 field duplicate per 20 samples analysed. All soil sampling will be carried out using new or decontaminated equipment. The laboratory performing the laboratory analyses will be NATA Registered and will conform with all required NATA QA/QC programs.

8. DECONTAMINATION PROCEDURES

Decontamination procedures for sampling equipment, personnel and the general site must be in accordance with the Australian Standard AS 4482.1-1997 and the NEPM guidelines (Schedule B(9)).

Decontamination procedures will include:

- A wheel wash or rack to remove soil from tip truck tyres to prevent soil from being deposited on to the public roads.
- Cleaning of soil from the excavator tracks to prevent soil from being spread on to clean areas of the site.
- Handling of soil samples using clean gloves and placing samples in laboratory supplied containers.

9. HEALTH AND SAFETY

A *Health and Safety Plan* must be prepared for the activities to be performed on the site where employees may be exposed to toxic or other hazardous compounds. Specific requirements relating to dermal contact and inhalation as well as public safety, vehicle decontamination, protective clothing, equipment and appropriate safety controls must be addressed. Personnel working on the site must read and understand the Health and Safety Plan. All staff working on the site must be inducted and must sign relevant authority forms.

10. REPORTING REQUIREMENTS

A report must be prepared and submitted to the EPA CLU within 60 days of the completion of remediation and validation works. The report must be prepared in accordance with the *Draft Guidelines for the Assessment & 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 testing, an evaluation of the results against the remedial goals and information showing that the conditions of the SMP and RAP have been complied with.

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 EPA requirements. The validation report must be submitted to the EPA for review in accordance with the *Environmental Protection Act 1994* and the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland* (1998).

11. STATEMENT OF SUITABILITY

Prior to commencement of the material change of use a Statement of Suitability must be obtained. The Statement of Suitability must specify that the site is suitable for the intended use.