Contamination Management Plan Western Precinct Development Phase

Prepared for

## Maryland Development Company

Private Road Off Forrester Road St Marys 2760

JULY 2008



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### APPENDICES

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## **Glossary of Abbreviations and Terms**

Abbreviation	Term	Definition
Ammunition	Ammunition	A device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological or chemical material for use in connection with defence or offence including demolitions. Certain ammunition can be used for training, ceremonial or other non-operational purposes.
Category A	Category A ordnance items	An item clearly of a military nature and which might readily be recognised by a member of the public as such (e.g. in effect complete in appearance as a projectile of 20 mm calibre or greater, hand grenade, mortar, bomb, etc) and <u>containing explosive filling</u> , but excluding small arms ammunition.
Category B	Category B ordnance items -	An item clearly of a military nature and which might readily be recognised by a member of the public as such (e.g. in effect complete in appearance as a projectile of 20 mm calibre or greater, hand grenade, mortar, bomb, etc) and <u>not containing explosive filling</u> , but excluding small arms ammunition.
CMP (2003)	Contamination Management Plan for the Eastern Precinct	The Contamination Management Plan prepared in 2003 and submitted to Blacktown City Council and other authorities as required by the Site Audit Statements issued in the Stage 2 Decontamination Audit of ADI St Marys Munitions Factory, dated 7 <sup>th</sup> June 1999.
СМР	Contamination Management Plan	The Contamination Management Plan issued to support Precinct Plan(s).
DPP	Dunheved Precinct Plan	The Dunheved Precinct Plans set out the future pattern of development for the Dunheved Precinct. The Plan was adopted by Penrith City Council on 11 December 2006 and by Blacktown City Council on 12 January 2007.
DUXOP	Defence Unexploded Ordnance Panel	The panel of contractors and consultants from whom the Department of Defence selects members for UXO related tasks.



## Contents

Abbreviation	Term	Definition
EPP	Eastern Precinct Plan	The Eastern Precinct Plan sets out the future pattern of development for the Eastern Precinct. The Plan was adopted by Blacktown City Council on 4 February 2004.
Induction	Site Specific Induction	<ul> <li>Section 8(2) of the OHS Act requires employers to ensure that persons other than their workers are not exposed to risks while in the employer's workplace. These persons include contractors, customers and visitors.</li> <li>If there are significant risks in the workplace, there may be a need for site induction training and procedures for managing people while on the premises.<sup>1</sup></li> </ul>
Property	Property	The whole of the landholding by St Marys Land Limited and which is sometimes called the St Marys Property for the purposes of its rezoning and redevelopment.
Site	Site	The subject area, where potential contamination has been found.
UXO	Unexploded Ordnance	Explosive ordnance that has been primed, fused, armed or otherwise prepared for action and which has been fired, dropped, launched, projected or placed in such a manner as to constitute a hazard to operations, installations, personnel or material but remains unexploded either by malfunction or design or for any cause. UXO includes items of military ammunition or explosives removed from their original resting- place for any reason, including souveniring.



<sup>&</sup>lt;sup>1</sup> "http://www.workcover.nsw.gov.au/Employers/LegalResponsibility/default.htm" WorkCover's webpage on 18th September 2006.

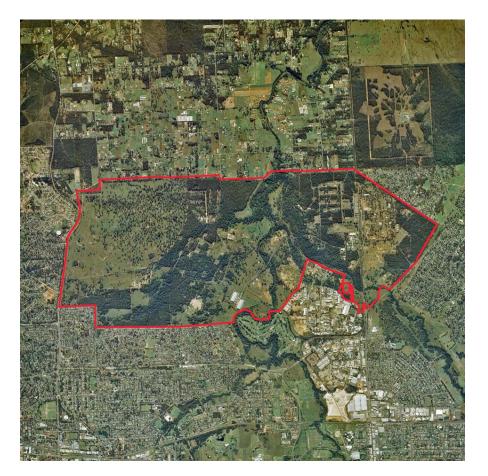
## Introduction

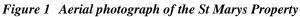
### **1.1 General Introduction**

The former Australian Defence Industries (ADI) Property (the Property) at St Marys was endorsed by the NSW Government for inclusion on the Urban Development Program in 1993. The Property was seen to present an opportunity to provide housing for Sydney's growing population within an environmentally sustainable framework.

The Property is located approximately 45km west of the Sydney CBD, 5km north-east of the Penrith City Centre and 12km west of the Blacktown City Centre. The main western railway is located approximately 2.5km south of the Property. The Great Western Highway is located another 1 km south and the M4 Motorway a further 1.5km south.

The Property has an area of 1,545ha, and stretches roughly 7 kilometres from east to west and nearly 3 kilometres from north to south, from Forrester Road, St Marys in the east to The Northern Road, Cranebrook in the west, and is bounded by Llandilo and Willmot in the north and Cambridge Gardens / Werrington County and the Dunheved Industrial Area in the south. Figure 1, following, illustrates the location of the Property.







## Introduction

Given that the Property straddles the boundary between two local government areas (Blacktown and Penrith), the NSW Government decided that a regional environmental plan should be prepared covering development of the Property. Technical investigations into the environmental values and development capability of the land were commenced in 1994, and the Regional Environmental Plan for St Marys (Sydney Regional Environmental Plan No. 30 (SREP 30)) was gazetted in January, 2001. SREP 30 zoned the land for a combination of "urban", "employment", "regional open space", and "regional park" uses.

A package of documents was prepared to guide and control development comprising SREP 30 (maps and a written instrument) and an Environmental Planning Strategy (EPS) which sets out performance objectives and strategies to address key constraints associated with the Property, including: conservation, cultural heritage, water and soils, transport, urban form, energy and waste, human services, employment and land contamination.

In December 2002, a Deed of Agreement was entered into between the landowner and developers of the land (a Joint Venture comprising ComLand and Lend Lease Development) and the NSW Government setting out the developer's and State Government's responsibilities in providing services and infrastructure.

SREP 30 identified six development "precincts" (known as the Western Precinct, Central Precinct, North and South Dunheved Precincts, Ropes Creek Precinct and Eastern Precinct) within the Property.

SREP 30 requires that a Precinct Plan, addressing the issues in SREP 30 and the EPS (including preparation of management plans for a range of key issues), be adopted by Council prior to any development taking place.

In March 2002, the Commonwealth Government advised that those areas of the Property listed on the Register of the National Estate should be excluded from urban development. This had the effect of changing the boundaries of the areas to be set aside for conservation. SREP 30 was subsequently amended in April 2006 to reflect these boundary changes. The precincts available for development are shown in Figure 2 below.





Figure 2 Western Precinct (with other developable areas)

On 29 September 2006, the Minister for Planning declared the Western Precinct a Release Area, paving the way for the preparation of a Precinct Plan for this area. The Western Precinct, the subject of this CMP, occupies an area of approximately 229 hectares. Although currently zoned under SREP 30 for both Urban and Employment uses, there is a draft amendment to SREP 30 currently being prepared under which the entire Western Precinct is zoned Urban.

A Precinct Plan for the Eastern Precinct (EPP) was adopted by Blacktown City Council (BCC) on 4 February 2004. The EPP incorporated a Contamination Management Plan (CMP) prepared by URS in 2003, and other management plans, and an accompanying Development Control Strategy (DCS). The Dunheved Precinct Plans have since been adopted by Penrith City Council and Blacktown City Council.

Since completion of the CMP (2003), development of the Eastern Precinct Release Area has progressed and additional site investigations have been completed as required by Site Audit Statements.

In addition, the Department of Environment and Conservation (DEC) (incorporating the NSW Environment Protection Authority and now known as the NSW Department of Environment and Climate Change (DECC)) has provided advice to Site Auditors that "*auditors should be able to rely on expert opinion* [Department of Defence Unexploded Ordnance panel (DUXOP) consultants] *to form a view about site suitability*" when assessing a site for munitions contamination. Further deliberations by the DEC and Site Auditors have determined that the presence of munitions items on a site is not likely to be within the ambit purview of a Site Auditor accredited under the Contaminated Land Management Act (1997) – but rather a suitably qualified expert in procedures for the location, handling and disposal of munitions items. Such experts can be found in, but are not limited to, the DUXOP.



Notwithstanding this change in process, the 1999 Site Audit Statements for the St Marys property have addressed the issue of potential UXO contamination.

Bulk earthworks commenced in the Eastern Precinct on 8 December 2004. Development applications for the construction of the Ropes Creek Bridge and the Southern Entry Road into the site have been submitted to BCC and Penrith City Council.

Subsequently, CMPs have been prepared by URS for the North and South Dunheved Precincts (2004), Ropes Creek and Eastern Precincts (2006) and the Eastern Regional Park (2006).

This CMP (Western Precinct Contamination Management Plan) has been prepared to support the lodgement of the Western Precinct Plan and takes into account current site knowledge including and DECC guidance relating to the reliance on specialist consultants for use in the development phase prior to sub-division.

## **1.2** Introduction to the Contamination Management Plan

The Western Precinct was the subject of extensive investigation during the 1990s. The investigation work was undertaken with the full involvement of the EPA and subsequently an independent NSW EPA accredited Site Auditor who produced and issued Site Audit Statements for the whole of the St Marys Property (*Stage 2 Decontamination Audit of ADI St Marys Munitions Factory*, dated 7 June 1999).

The investigation and remediation programme for the Property commenced in 1990, with the objective of assessing the nature, degree of chemical contamination and remediating to a level suitable for redevelopment for a variety of land uses including residential. For the purposes of the remediation and validation, the Property was divided into nine sectors. The Western Precinct covers part of the following sectors as follows:

- Part Western Sector Covered by SAS CHK001/1.
- Part Southern West Sector Covered by SASs CHK001/1, CHK001/6 and CHK001/7.

The information presented in the remediation and validation reports for these sectors has been considered, along with other relevant information for the Property, to develop this CMP (Western Precinct).

The majority of the Western Precinct was assessed by the Site Auditor to pose a negligible risk to the public or the environment with regard to chemical contamination and/or explosive ordnance (See SASs as listed above in Appendix A). Conditions on the SASs required investigation and assessment of areas underlying roadways which had not been investigated at the date of the SASs.

### 1.3 Contamination Management Plan Objectives

The objective of this CMP is to provide a framework for identifying and addressing any discovery of chemical contamination or potentially explosive ordnance so as to ensure a safe working environment for workers during development and to avoid unacceptable impact on the natural environment.



## Introduction

Unexpected finds may occur in areas which, although searched extensively, contain remnant materials which were obscured by the local topography, the type of surface cover (e.g. building) or at a depth preventing detection. The Site Auditor considered that, while explosive ordnance may be uncovered during earthworks, it is unlikely that these will present an unacceptable risk provided appropriate procedures for the safe handling and disposal of such material are adopted.

The successful implementation of the CMP requires the appropriate briefing and Site Specific OHS Induction of Site Operatives who may uncover potential chemical contamination (including potential asbestos containing materials) and/or explosive ordnance. It is proposed this briefing will include the review of this CMP and the associated flow chart (Figure 3 on p2-4).

This CMP describes reporting procedures and lines of responsibility (See Section 3). These experts should include those with detailed knowledge of the remediation which has been undertaken at the Property and details on the location of, and access to, the supporting documents related to the assessment and remediation of the Western Precinct.

The Property has been remediated, audited and declared suitable for its intended land uses, and remnant contamination, if present, is most likely to be discovered during the development earthworks which will occur prior to subdivision.

The approaches included in this CMP are intended for use only during the site preparation phase of development, during which structures may be demolished and disposed of, land levels may be altered and redundant infrastructure is removed and new infrastructure is installed.

Subsequent plans, if required, will be administered through the relevant local government authority.



The operation of the CMP is described in the attached flow-chart (Figure 3).

The objective of the CMP is to provide clear guidance on the safe and appropriate actions in the event of encountering potential chemical or explosive ordnance contamination during site development works. Where such material is uncovered the CMP prescribes the quarantining of the relevant area of concern, allowing other site works to proceed unhindered, while the area of concern is assessed and, if necessary, remediated and validated.

Where required, reference should be made to the extensive library of documents containing information on the historic assessment and remediation of the site. This library provides a valuable source of information which can be drawn on to provide support for development of remedial and/or assessment approaches.

Two classes of potential contamination are discussed separately below: chemical (including potential asbestos containing materials) and ordnance.

### 2.1 Potential Chemical Contamination

Potential chemical contamination may be indicated in the field by:

- Discoloured soils;
- Odorous soils;
- Potentially asbestos containing sheeting, fragments or insulation materials; or
- The presence of other foreign materials, such as drums, waste dumps or building rubble which could be a source of contamination.

If the Site Manager considers material to be potential chemical contamination the area will be quarantined and a suitably qualified Environmental Consultant will be contacted. The Environmental Consultant will be responsible for assessing the findings, taking samples to characterise and delineate the extent of the potential contamination and defining appropriate remedial actions, if required.

Suspected asbestos containing materials should be managed in accordance with relevant WorkCover requirements and a site specific Asbestos Management Plan.

If deemed necessary by the Environmental Consultant, the contamination will be removed for disposal at a suitably licensed facility in accordance with *Waste Classification Guidelines* (NSW DECC, April 2008). The resultant excavation will be validated by the Environmental Consultant and a report on the remediation and subsequent validation will be completed and, if appropriate, be reviewed and approved by an independent NSW EPA accredited Site Auditor. The quarantine barriers can be removed and the earthworks continued upon receipt of advice from the Environmental Consultant, issue of an SAS, or preliminary advice from the Site Auditor.



**Contamination Management Plan** 

If the area is determined by the Environmental Consultant to not be contaminated or the analyses meet the relevant site validation criteria, the Environmental Consultant should notify the Site Manager that the quarantine restrictions on the area can be lifted and the works in that area may resume. The Environmental Consultant will prepare a report on the investigation and the conclusions drawn.

### **Extensive Contamination**

In the event that assessment by the Environmental Consultant identifies that the contamination is extensive<sup>2</sup> in its lateral and/or vertical extent, then the Environmental Consultant will prepare a sampling and analysis plan to delineate the contamination and assess the extent of any remediation required. The sampling and analysis plan must be reviewed by the independent Site Auditor, who would be engaged to review the works and issue a new SAS, on successful completion of the works.

## 2.2 Potential Explosive Ordnance Materials

Potential explosive ordnance material may be indicated in the field by:

- Munitions shells;
- Flares;
- Ammunition packaging;
- Grenade components; or
- Metal debris not identifiable as non-munitions or of uncertain origin.

Should potential ordnance material be uncovered, the earthworks will cease immediately and the Site Manager informed. The area should be quarantined, by means of some appropriate barrier to prevent access to the area to protect the workforce from potential injury.

The Site Manager will make a preliminary assessment of the find and determine whether it is some miscellaneous debris, a fragment of ordnance or a potentially explosive device.

Where the Site Manager can identify the item as non-ordnance debris or a minor harmless fragment of ordnance debris, the material should be removed from the excavation and disposed of appropriately.

Where it is considered to be a potentially explosive device, the Site Manager shall contact an appropriately qualified Ordnance Contractor, to assess the item and the area.

Should the Ordnance Contractor consider the object(s) to be non-ordnance or harmless fragments of ordnance, the object(s) can be removed and disposed of appropriately. The quarantine restrictions can be lifted and the earthworks continued.



 $<sup>^{2}</sup>$  When the area is sufficiently large to warrant audit of the remediation and issue of a replacement Site Audit Statement, the Environmental Consultant will advise when to engage an Auditor reflecting contemporary industry practise. Less than 1000 m<sup>2</sup> would not immediately qualify.

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If the Ordnance Contractor identifies the object(s) as potential explosive ordnance, the Ordnance Contractor shall inform the Site Manager, and arrange disposal.

Based on the nature of find, it may be recommended that a geophysical survey of the area be undertaken to establish whether the item was an individual piece, one of a number of pieces or a disposal pit. The survey would be undertaken by the Ordnance Contractor using appropriate equipment. Further surveys are mandatory if the explosive ordnance is considered a Category A item or more than three readily identifiable Category B items are found at one location.

- **Category A** An item clearly of a military nature and which might readily be recognized by a member of the public as such (e.g. in effect complete in appearance as a projectile of 20 mm calibre or greater, hand grenade, mortar, bomb, etc) and <u>containing explosive filling</u>, but excluding small arms ammunition.
- **Category B** An item clearly of a military nature and which might readily be recognized by a member of the public as such (e.g. in effect complete in appearance as a projectile of 20 mm calibre or greater, hand grenade, mortar, bomb, etc) and <u>not containing explosive filling</u>, but excluding small arms ammunition.

This is in accordance with the validation procedures for the earlier site assessments, remediation and audit, and maintains the same level of confidence for the whole Property.

The Ordnance Contractor will prepare a report on the investigations undertaken, remediation works undertaken and validation surveys completed. Subject to review of the Ordnance Contractor's report by a suitably qualified consultant, the quarantine restrictions on the area can be removed and the earthworks resumed. The Site Auditor will be provided with a copy of the Clearance Report for the area issued by the Ordnance Consultant.

### Further Explosive Ordnance Surveys

Any additional ordnance surveys should be designed to characterise the extent and character of the ordnance contamination and then (or concurrently) to remove the contaminant so that the area is safe for the development activities to resume. These surveys should be undertaken by an Ordnance Contractor, with the objective of characterising and delineating the extent of the explosive ordnance contamination. Such surveys may, as appropriate, utilise magnetic, electromagnetic or other diagnostic techniques.

In the event that further explosive ordnance is discovered the search area may need to be extended to ensure a suitable buffer zone is searched. A remediation and sampling strategy for the area is to be developed in consultation with the Ordnance Consultant.

All additional finds should be logged and disposed of appropriately. Once the investigation is complete a report on the scope of the investigation, remedial work and results should be produced by the Ordnance Contractor, approved by the Ordnance Consultant and provided to the independent Site Auditor. The quarantine restrictions on the area can be removed and the earthworks resumed.



### 2.3 Temporary Stockpiling of Materials

Earthworks in the development phase are likely to, temporarily, generate excess material which may be stockpiled for re-use. Unless some event or observation indicates that the material excavated and placed into the stockpile is potentially contaminated, no particular treatment is required other than normal dust suppression, and erosion controls in accordance with relevant Council requirements.

If assessment by the Environmental Consultant or the Ordnance Contractor identifies contamination that is extensive in its lateral and/or vertical extent, or a stockpile is observed to be contaminated, then the Environmental Consultant will prepare a sampling and analysis or survey plan to delineate the contamination and assess the extent of remediation required. The sampling and analysis plan or survey plan should, as appropriate, be reviewed by the Site Auditor or the Ordnance Consultant.

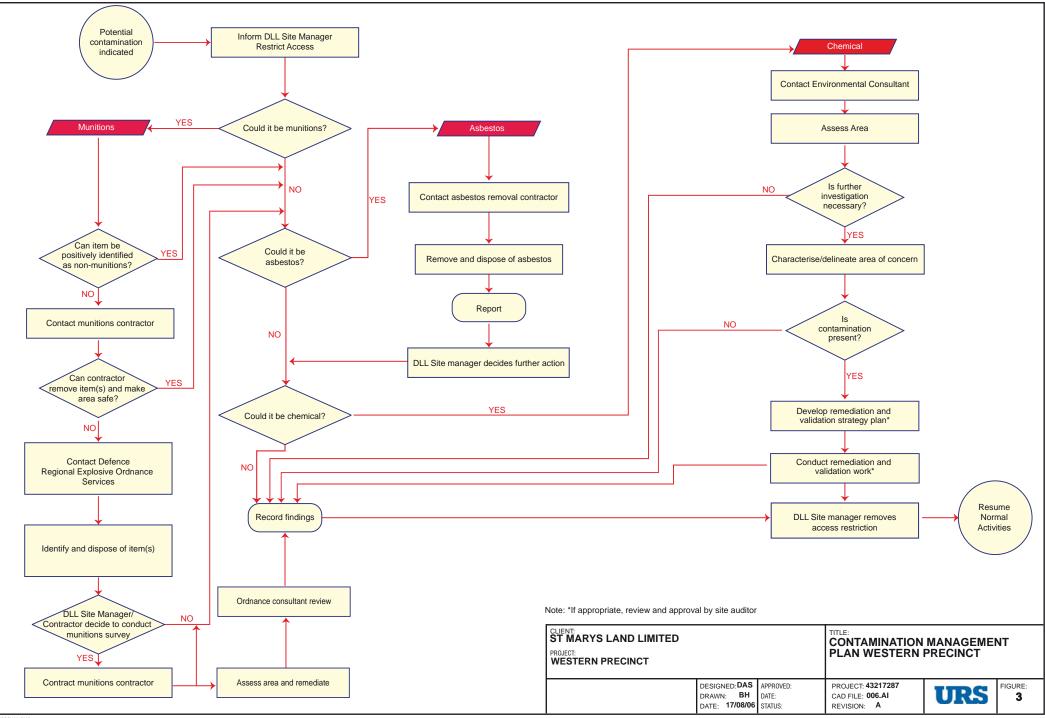
Subject to the agreement of the relevant Consultant, it may be possible to move and stockpile the affected material. Where temporary stockpiling is permitted such stockpiles shall be installed and maintained to eliminate risk to workers and other people due to exposure to contaminants in dust or vapours and risk to the environment as a result of silt or contamination of stormwater.

Validation sampling or surveying of the contaminated area or stockpile would be required before earthworks continue in that area.

### 2.4 Contaminated Management Plan Flowchart

Figure 3, following, describes the decision processes in the implementation of this CMP.





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The key roles<sup>3</sup> and responsibilities with respect to this CMP are as follows:

Title	Role					
Asbestos Consultant	Responsible for reviewing the assessment of areas contaminated by potential asbestos containing materials. The Asbestos Consultant will provide a brief report which certifies the subject area is free of asbestos and suitable for residential development.					
Asbestos or Environmental Contractor	Responsible for removal or treatment of contaminated material in accordance with this procedure and direction by the Environmental Consultant and the Site Manager.					
Environmental Consultant	Once called to the site, the Environmental Consultant will be responsible for assessing the potential chemical contamination find, undertaking any necessary sampling and delineation, if required, developing a remedial scope and validating remediation to render the site suitable for residential development. The Environmental Consultant may, as appropriate, have expertise in environmental assessment and/or asbestos assessment. All findings and conclusions will be reported, as appropriate, to the satisfaction of the Site Manager and/or the Site Auditor or asbestos consultant if a Site Audit is not required.					
Site Manager:	Responsible for the preliminary assessment of potential contamination and/or ordnance materials discovered and assessing whether further action is required. The Site Manager is responsible for ensuring the induction of Site Operatives, assessing the adequacy of quarantine measures and contacting the relevant Consultant and/or Ordnance Contractors and Site Auditor where appropriate.					
	Once an area is declared free of the contamination, the Site Manager's role will be to remove the quarantine and allow site works to proceed.					
Ordnance Consultant	Responsible for reviewing the survey and assessment of areas contaminated by suspected ordnance which is undertaken either as a consequence of discovery of suspect materials or as a requirement of the Site Audit Statements. The Ordnance Consultant, who will be independent of the Ordnance Contractor and be a member of DUXOP, will, when satisfied with information provided by the Ordnance Contractor, provide a letter which confirms the site is suitable for recommencement of development activities.					



<sup>&</sup>lt;sup>3</sup> Contact details are updated as required and can be seen in Appendix A.

# Summary of Roles & Responsibilities

Title	Role					
Ordnance Contractor	Once called to the site, the Ordnance Contractor will be responsible for assessing the ordnance find, undertaking any surveying sampling and delineation, developing any necessary remedial scope and validating any remediation necessary to render the site suitable for residential development. The Ordnance Contractor shall complete a clearance report on each area investigated and/or remediated and provide a copy for review by the Ordnance Consultant. As necessary, the Ordnance Contractor will conduct surveys of the site and complete reports to validate the remediation of areas where ordnance is discovered for review by the Ordnance Consultant.					
Site Auditor	Responsible for reviewing the remediation and assessment of areas contaminated by chemicals which is undertaken either as a consequence of discovery of suspect materials or as a requirement of the Site Audit Statements. The Site Auditor, who will be independent of the Environmental Consultant and accredited by the NSW EPA, will then, when satisfied by the information provided and relying on clearance reports provided by the Ordnance Consultant, issue further Site Audit Statements which certify the site is suitable for residential development.					
Site Operatives:	During the works, the Site Operative will be vigilant for potential contamination and/or ordnance. Where potential contamination and/or ordnance is identified, Site Operatives will quarantine the area and inform the Site Manager					



## Limitations

URS Australia Pty Ltd (URS) has prepared this report for the use of Maryland Development Company in accordance with the usual care and thoroughness of the consulting profession. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in the Proposal dated 12 July 2007.

The methodology adopted and sources of information used by URS are outlined in this report. URS has made no independent verification of this information beyond the agreed scope of works and URS assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to URS was false.

This report was prepared in the period up to 7<sup>th</sup> 2008 and is based on the information reviewed at the time of preparation. URS disclaims responsibility for any changes that may have occurred after this time.

This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal vice. Legal advice can only be given by qualified legal practitioners.

# Appendix A SITE AUDIT STATEMENTS



HLA-Envirosciences Pty Limited ACN 060 204 702 A substativy of Marcing Lenson Associate Pty Limited ACN 063 554 905

### NSW Environment Protection Authority SITE AUDIT STATEMENT (SAS)

Site Audit Statement No.: CHK001/1

Site Auditor (accredited under NSW Contaminated Land Management Act 1997):

Name:Christopher H KiddCompany:HLA-Envirosciences Pty LimitedAddress:55-65 Grandview Street, Pymble, NSWPostcode:2076Phone:(02)99884422Fax:(02)99884421Fax:(02)99884441

### Site Details

ADI St. Marys Property – excluding Eastern Sector, QEL, Site 6 and Site 23, buildings and concrete stockpile. Address: Forrester Road, St. Marys Lot and DP Number: Dot 2 in DP803832 Lot 2 and 3 in DP223888 (part of) Lot 3 in DP789196 Lot 3 in DP598653 (see attached map for excluded areas)

Penrith and Blacktown

Local Government Area:

Site Audit requested by:

Name: Mr P Newton

Address:

Company: Department of Urban Affairs and Planning Sydney Region West Level 8, Signature Tower 2-10 Wentworth Street Parramatta NSW 2150 Phone: (02) 9895 7142 - Fax: (02) 9895 6270

Name of contact person (if different from above:

Consultancy(ies) who conducted the site investigation(s) and/or remediation:

	ADI Limited	Chemical and Explosives Ordnance				
		Investigations, Remediation and Validation 1990 -				
		1999				
•	Mackie Martin & Associates	Groundwater Investigations, 1991				

Title(s) of Report(s) reviewed:

- 1. Historical Report St Marys Property, ADI Limited, 1996;
- 2. Validation Report for the Western Sector, ADI St Marys Facility, ADI Limited November 1994;
- Validation Report for the North Western Sector of the ADI St Marys Facility, Report No. 498800, ADI Limited 1995;
- Validation Report for the Southern Sector West of the ADI St Marys Property, Report No. 498810, ADI Limited 1996;



- 5 Validation Report for the Southern Sector East of the St Marys Property, Report No. 498810, ADI Limited 1996;
- 6. Validation Report for the Northern Sector of the ADI St Marys Property, Report No. 498820, ADI Limited 1996;
- Validation Report for the Cental Sector East of the ADI St Marys Property, Report No. 498840, ADI Limited 1997;
- Validation Report for the Central Sector West of the ADI St Marys Property, Report No. 498840, ADI Limited 1996;
- 9. Validation Report for the North Eastern Sector of the ADI St Marys Property, Report No. 498850, ADI Limited 1996;
- QA/Verification Survey Results, ADI St Marys Property, Report No. PG980323da ADI Limited, 1999.

Other Information reviewed:

- 1. Site Investigation Report of St Marys Facility Ammunition and Missiles Division, Volume 4 – Discussions and Conclusions, ADI, June 1991.
- Remediation Action Plan for the Northern Sector, ADI St Marys Facility, Report No. 498820, ADI Limited 1996;
- Remediation Action Plan for Central Eastern Sector, ADI St Marys Facility, Report No. 498840, ADI Limited 1996;
- 4. Remediation Action Plan for the Eastern Sector of the ADI St Marys Property, Report No. 498830, ADI Limited 1996;
- 5. Stage I Decontamination Audit, ADI St Marys CMPS&F, 1997.

Summary Site Audit Report Title:

Stage 2 Decontamination Audit Report for ADI Site, St Marys.

I have completed a site audit (as defined in the Contaminated Land Management Act 1997) and reviewed the reports and information referred to above with due regard to relevant laws and guidelines. I certify that the site (tick all appropriate boxes)

#### (a) is suitable for the following use(s):

 $\checkmark$  residential, including substantial vegetable garden and poultry;

residential, including substantial vegetable garden, excluding poultry;
Tresidential with accessible soil, including garden (minimal home-grown produce)
contributing less than 10% fruit and vegetable intake), excluding poultry;

- $\checkmark$  residential with minimal opportunity for soil access including units;
- $\checkmark$  daycare centre, preschool, primary school;
- ✓ secondary school;
- $\checkmark$  park, recreational open space, playing field;
- ✓ commercial/industrial use;

- Other

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#### subject to

✓ Conditions

- Excludes Eastern Sector, QEL, Site 6 and Site 23 which are covered by separate site audit statements, namely CHK001/2, CHK001/3, CHK001/4 and CHK001/5.
- Excludes areas not yet investigated including the footprint of original buildings, car parks and roads, mainly around former Administration Centre Buildings CHK001/6) and the concrete stockpile in Central Sector West. (Stockpile CHK001/7)
- 3. An appropriate management plan, including procedures for the safe handling and disposal of any items of ordnance that may be found during earthworks, should be lodged prior to the commencement of development earthworks. This plan should be similar to the "Remnant Contamination Management Plan" submitted by ADI (see Appendix E of the Site Audit Report).

(b) is not suitable for any beneficial-use due to risk of harm from contamination Comments):

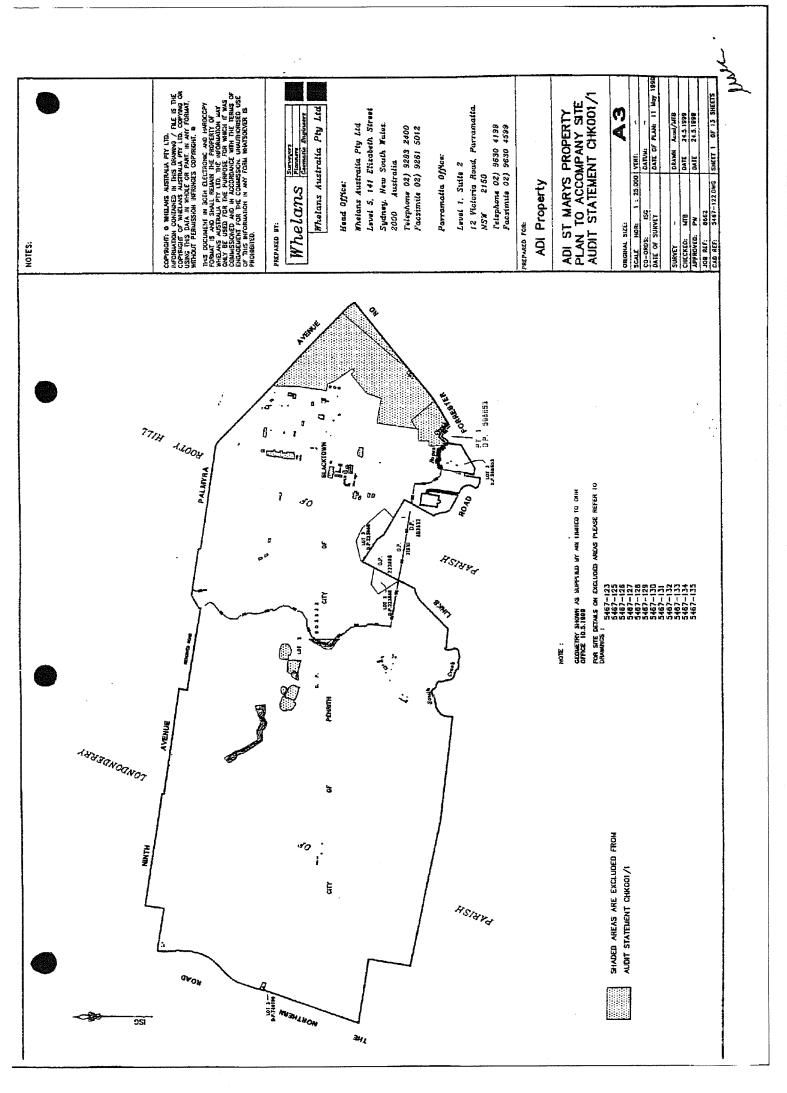
I am accredited by the NSW Environment Protection Authority under the Contaminated Land Management Act, 1997 as a site auditor (Accreditation No. 9813).

#### I Certify that:

- (a) I have personally examined and am familiar with the information contained in this statement, including the reports and information referred to in this statement, and
- (b) this statement is to the best of my knowledge, true, accurate and complete, and
- (c) on the basis of my inquiries made to those individuals immediately responsible for making the reports, and obtaining the information, referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete.

I am aware that there are penalties for wilfully submitting false, inaccurate or incomplete information.

Signed:	Date:	71	16	199	



HLA-Environciences Pty Limited Action 204 702 A subskillary of Harding Lemson Australia Pty Limited ACtion 24 408

### NSW Environment Protection Authority SITE AUDIT STATEMENT (SAS)

#### Site Audit Statement No.: CHK001/6

Site Auditor (accredited under NSW Contaminated Land Management Act 1997):

Name:Christopher H KiddCompany:HLA-Envirosciences Pty LimitedAddress:55-65 Grandview Street, Pymble, NSWPostcode:2076Phone:(02)99884422Fax:(02)

#### Site Details

ADI St. Marys Property – existing buildings and paved areas scattered about the site. Address: Forrester Road, St. Marys Lot and DP Number: Lot 2 in DP803832 Lot 2 and 3 in DP223888 (part of) Lot 3 in DP789196

> Lot 3 in DP598653 (see attached 7 maps)

Penrith and Blacktown

Local Government Area:

Site Audit requested by:

Name: Mr P Newton

Address:

Company: Department of Urban Affairs and Planning Sydney Region West Level 8, Signature Tower 2-10 Wentworth Street Parramatta NSW 2150 Phone: (02) 9895 7142 - Fax: (02) 9895 6270

Name of contact person (if different from above:

Consultancy(ies) who conducted the site investigation(s) and/or remediation:

ADI Limited

Chemical and Explosives Ordnance Investigations, Remediation and Validation 1990 -1999

Mackie Martin & Associates

Groundwater Investigations, 1991

Title(s) of Report(s) reviewed:

- 11. Historical Report St Marys Property, ADI Limited, 1996;
- 12. Validation Report for the Western Sector, ADI St Marys Facility, ADI Limited November 1994;
- Validation Report for the North Western Sector of the ADI St Marys Facility, Report No. 498800, ADI Limited 1995;
- Validation Report for the Southern Sector West of the ADI St Marys Property, Report No. 498810, ADI Limited 1996;

- Validation Report for the Southern Sector East of the St Marys Property, Report No. 498810, ADI Limited 1996;
- Validation Report for the Northern Sector of the ADI St Marys Property, Report No. 498820, ADI Limited 1996;
- 17. Validation Report for the Cental Sector East of the ADI St Marys Property, Report No. 498840, ADI Limited 1997;
- Validation Report for the Central Sector West of the ADI St Marys Property, Report No. 498840, ADI Limited 1996;
- Validation Report for the North Eastern Sector of the ADI St Marys Property, Report No. 498850, ADI Limited 1996;
- QA/Verification Survey Results, ADI St Marys Property, Report No. PG980323da ADI Limited, 1999.

Other Information reviewed:

- Site Investigation Report of St Marys Facility Ammunition and Missiles Division, Volume 4 – Discussions and Conclusions, ADI, June 1991.
- Remediation Action Plan for the Northern Sector, ADI St Marys Facility, Report No. 498820, ADI Limited 1996;
- Remediation Action Plan for Central Eastern Sector, ADI St Marys Facility, Report No. 498840, ADI Limited 1996;
- 9. Remediation Action Plan for the Eastern Sector of the ADI St Marys Property, Report No. 498830, ADI Limited 1996;
- 10. Stage I Decontamination Audit, ADI St Marys CMPS&F, 1997.

Summary Site Audit Report Title:

Stage 2 Decontamination Audit Report for ADI Site, St Marys.

I have completed a site audit (as defined in the Contaminated Land Management Act 1997) and reviewed the reports and information referred to above with due regard to relevant laws and guidelines. I certify that the site (tick all appropriate boxes)

(a) is suitable for the following use(s):

- -residential, including substantial vegetable garden and poultry;
- Presidential, including substantial vegetable garden, excluding poultry; 244
- residential with accessible soil, including garden (minimal home grown produce) Love contributing less than 10% fruit and vegetable intake), excluding poultry; MUK-
- residential with minimal opportunity for soil access including units;
- -deycare centre, preschool, primary school; سيد
- -secondary school; ust
- park, recreational open space, playing field; Mark
- $\checkmark$  commercial/industrial use;
- Other May continue to be used for existing commercial use and carparks, but underlying soils need to be tested for chemical and ordnance contamination after demolition.

... K

### subject to

/ Conditions

- 1. Soils under existing buildings, car parks, roads and the concrete stockpile shall be tested for ordnance and/or chemical contamination when these facilities are removed; site audits statements for these areas will also be required.
- 2. An appropriate management plan, including procedures for the safe handling and disposal of any items of ordnance that may be found during earthworks, should be lodged prior to the commencement of development earthworks. This plan should be similar to the "Remnant Contamination Management Plan" submitted by ADI (see Appendix E of the Site Audit Report).

(b) is not suitable for any beneficial use due to risk of harm from contamination yet

I am accredited by the NSW Environment Protection Authority under the Contaminated Land Management Act, 1997 as a Site Auditor (Accreditation No. 9813).

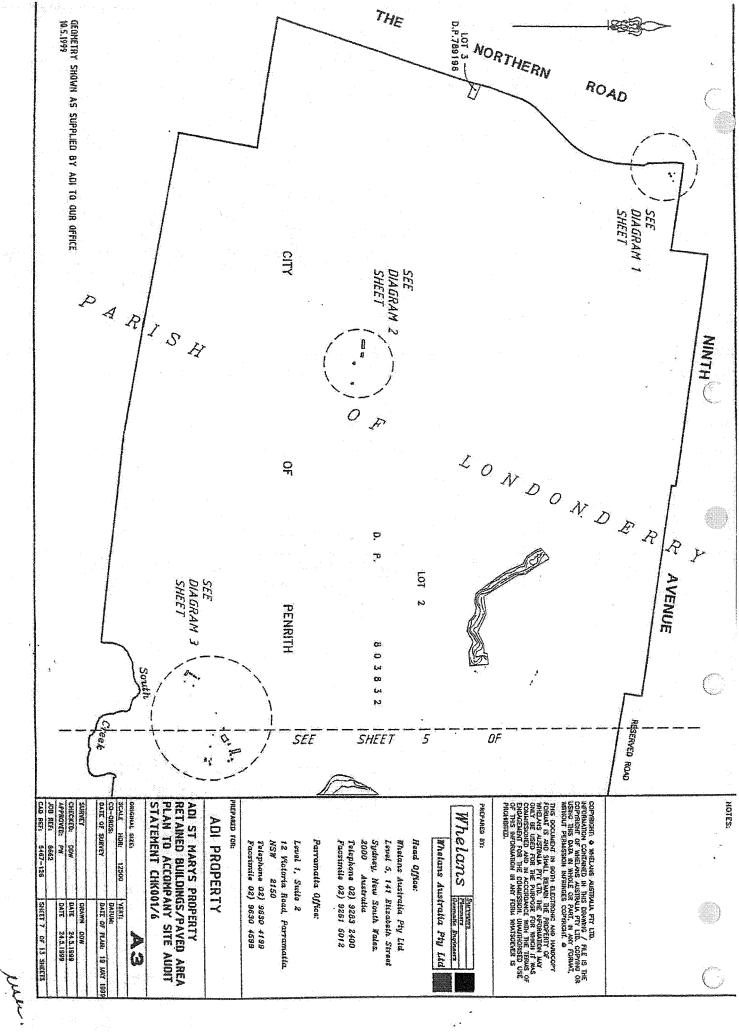
I Certify that:

- (a) I have personally examined and am familiar with the information contained in this statement, including the reports and information referred to in this statement, and
- (b) this statement is to the best of my knowledge, true, accurate and complete, and
- (c) on the basis of my inquiries made to those individuals immediately responsible for making the reports, and obtaining the information, referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete.

I am aware that there are penalties for wilfully submitting false, inaccurate or incomplete information.

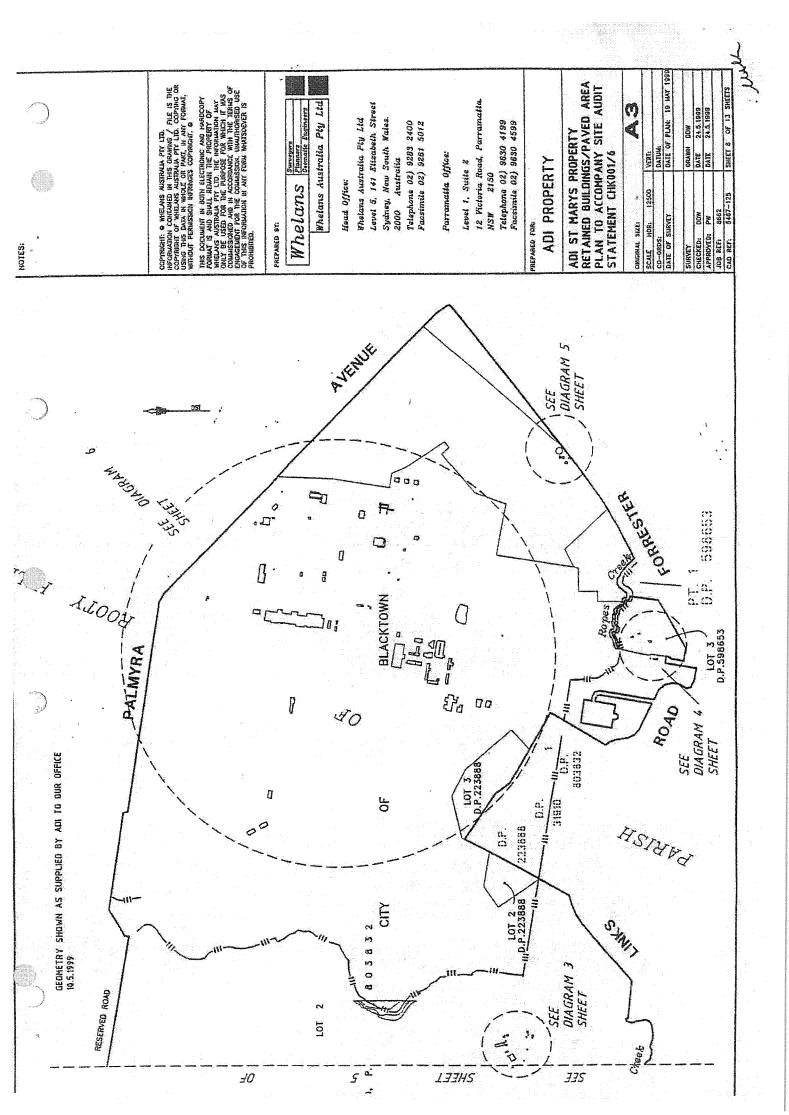
Signed:

Date: 7



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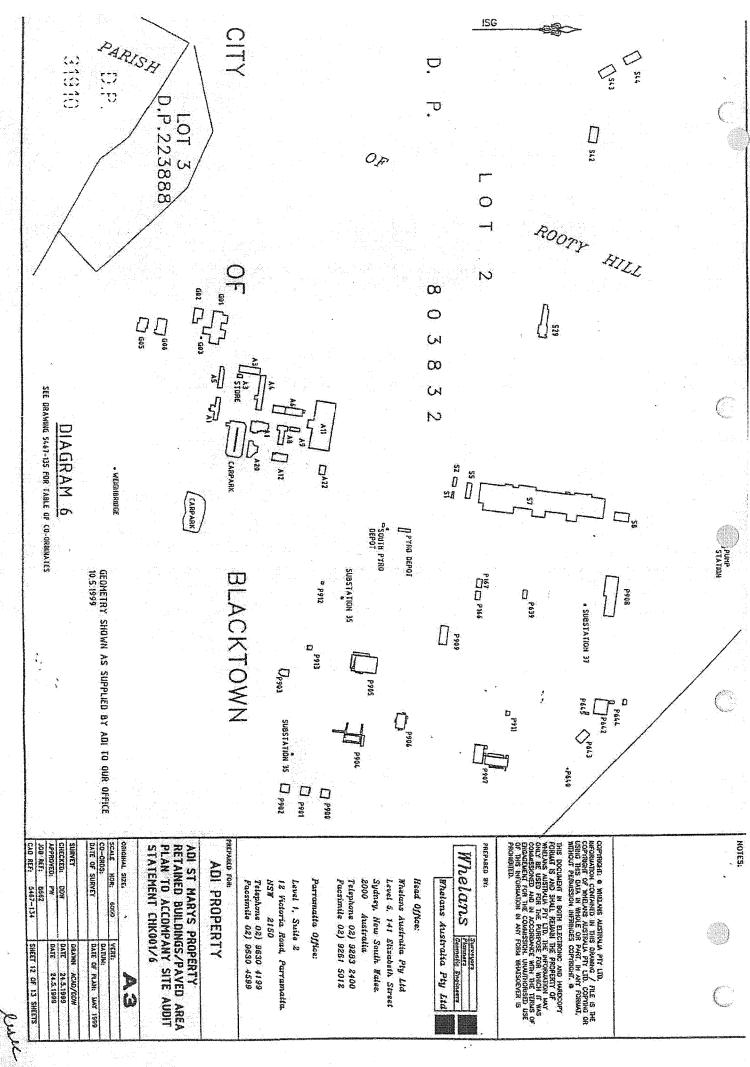
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### **NSW Environment Protection Authority**

### SITE AUDIT STATEMENT (SAS)

Site Audit Statement No.: CHK001/7

Site auditor (accredited under NSW Contaminated Land Management Act 1997):

Name: Christopher H Kidd Company: HLA-Envirosciences Pty Limited Address: 55-65 Grandview Street, Pymble, NSW Postcode: 2076 Phone: (02) 9988 4422 Fax: (02) 9988 4441

### Site Details

ADI St. Marys Property - Concrete Sto	ckpile
Address: Forrester Road, St. Marys	Postcode: 2760
Lot and DP Number:	Lot 2 in DP803832 (part of)
	(see attached map)
Local Government Area:	Penrith and Blacktown

Local Government Area:

Site Audit requested by:

Name: Mr P Newton Address:

Company: Department of Urban Affairs and Planning Sydney Region West Level 8, Signature Tower 2-10 Wentworth Street Parramatta NSW 2150 Phone: (02) 9895 7142 - Fax: (02) 9895 6270

Name of contact person (if different from above:

Consultancy(ies) who conducted the site investigation(s) and/or remediation:

ADI Limited

Chemical and Explosives Ordnance Investigations, Remediation and Validation 1990-1999

Mackie Martin & Associates

Groundwater Investigations, 1991

Title(s) of Report(s) reviewed:

- 4. Historical Report St Marys Property, ADI Limited, 1996;
- 5. Validation Report for the Central Sector West of the ADI St Marys Property, Report No. 498840, ADI Limited 1996;
- 6. QA/Verification Survey Results, ADI St Marys Property, Report No. PG980323da ADI Limited, 1999.

#### Other Information reviewed:

- Site Investigation Report of St Marys Facility Ammunition and Missiles Division, 3
- Volume 4 Discussions and Conclusions, ADI, June 1991. 4
  - Stage I Decontamination Audit, ADI St Marys CMPS&F, 1997.

#### Summary Site Audit Report Title:

Stage 2 Decontamination Audit Report for ADI Site, St Marys.

I have completed a site audit (as defined in the Contaminated Land Management Act 1997) and reviewed the reports and information referred to above with due regard to relevant laws and guidelines. I certify that the site (tick all appropriate boxes)

- (a) is suitable for the following use(s):
  - residential, including substantial vegetable garden and poultry;
  - residential, including substantial vegetable garden, excluding poultry;
  - -residential with accessible soil, including garden (minimal home grown produce Д. contributing less than 10% fruit and vogetable intake), excluding poultry,
  - residential with minimal opportunity for soil access including units:
  - daycare centre, preschool, primary school;
  - -secondary school;
  - park, recreational open space, playing field;
  - commercial/industrial use;
  - Other May continue to be used as stockpile for crushed concrete, but underlying soils need to be tested for chemical and ordnance contamination after stockpile removed.

### subject to

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Conditions

- 1. On removal of all or part of the stockpile the underlying ground should be tested for both chemical and ordnance contamination. The testing should follow similar methods and levels of quality assurance as other parts of the ADI St Marys site. Appropriate remediation and validation should be performed (if necessary) the work reviewed by a site autor.
- 3. Appropriate management plan including procedures for the safe handling and disposal of any items of explosive ordnance, shall be in place before development earthworks commences and shall remain in place to cover any excavation on the site during its ongoing use. This plan should be similar to the "Remnant Contamination Management Plan" submitted by ADI (see Appendix E of the Site Audit Report).
- 4. The final surface of any earthworks in areas which are to be used for active recreational land uses, e.g. sports grounds, school grounds and picnic areas, or low density residential use, should, on completion of the earthworks, be surveyed with a metal detector by appropriately qualified and experienced personnel and the work reviewed by an independent site auditor.

is not suitable for any beneficial use due to risk of harm from contamination <del>d (comments): ...</del>......

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HLA-Envirosciences Pty Limited ACH 040 204 702 A subsidiary of Handing Lawson Acatella Pty Limited In our new Aca

I am accredited by the NSW Environment Protection Authority under the Contaminated Land Management Act, 1997 as a Site Auditor (Accreditation No. 9813).

I Certify that:

- (g) I have personally examined and am familiar with the information contained in this statement, including the reports and information referred to in this statement, and
- (h) this statement is to the best of my knowledge, true, accurate and complete, and
- (i) on the basis of my inquiries made to those individuals immediately responsible for making the reports, and obtaining the information, referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete.
- I am aware that there are penalties for wilfully submitting false, inaccurate or incomplete information.

Signed: Date:

