

**PROPOSED
MODIFICATION TO 2002
PLANNING APPROVAL**

**LOT 223 MAYFIELD WEST
NEWCASTLE NSW**

**Prepared for
Department of Planning**

On behalf of

**Koppers Carbon Materials and
Chemicals**

**Prepared by
RCA AUSTRALIA**

RCA ref 6500j-101/2

December 2008

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DOCUMENT STATUS						
Rev No	Comment	Author	Reviewer	Approved for Issue (Project Manager)		
				Name	Signature	Date
/2	Final	M Clark	P Noonan	P Noonan	PN	09.12.08

DOCUMENT DISTRIBUTION				
Rev No	Copies	Format	Issued to	Date
/2	1	Electronic (email)	Department of Planning – Ann-Marrie Carruthers	09.12.08
/2	1	Electronic (email)	Mike Barry – KCMC Pty Ltd	09.12.08
/2	1	Electronic (email)	Paul McEwan – Koppers Australia Pty Ltd	09.12.08
/2	1	Bound report	RCA – job archive	09.12.08
/2	1	Electronic report	RCA – job archive	09.12.08

NB: Revision No. /0, and /1 were internal working drafts.

Contents

1	INTRODUCTION	1
1.1	PURPOSE OF THIS REPORT	2
1.2	BACKGROUND TO THE PROPOSAL	3
1.2.1	SITE AREA.....	3
1.2.2	CONTAMINATED LAND DECLARATION, CLM ACT, 1997	4
1.2.3	SITE CONTAMINATION	4
1.2.4	PROPOSED REMEDIAL ACTION	4
1.3	DESCRIPTION OF MODIFICATION	5
2	PLANNING PROVISIONS AND PROJECT APPROVAL CONSIDERATIONS	6
2.1	EXISTING DEVELOPMENT CONSENT	6
2.2	PROPOSED MODIFICATION TO THE DEVELOPMENT CONSENT	6
2.3	STATE ENVIRONMENTAL PLANNING POLICIES (SEPP)	8
2.4	LOCAL AND REGIONAL ENVIRONMENTAL PLANS	8
2.5	OTHER RELEVANT STATUTORY PROVISIONS	8
3	IMPACT OF PROPOSAL (EP&A ACT CONSIDERATIONS)	9
3.1	ACCESS, TRANSPORT AND TRAFFIC.....	9
3.2	PUBLIC DOMAIN	9
3.3	UTILITIES.....	9
3.4	SEDIMENT AND EROSION CONTROL	9
3.5	STORMWATER DRAINAGE	9
3.6	HERITAGE	9
3.7	OTHER LAND RESOURCES.....	10
3.8	SOILS.....	10
3.9	AIR AND MICRO-CLIMATE.....	10
3.10	FLORA AND FAUNA.....	10
3.11	WASTE DISPOSAL	10
3.12	ENERGY AND LIGHTING.....	11
3.13	NOISE AND VIBRATION.....	11
3.14	HAZARDS	11
3.15	FIRE.....	11
3.16	SOCIAL AND ECONOMIC IMPACT IN THE LOCALITY	11
3.17	CUMULATIVE IMPACTS.....	11
3.18	ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD).....	11
4	CONCLUSION	12
	REFERENCES	12

APPENDIX A

DRAWINGS

APPENDIX B

DRAFT PRELIMINARY ASSESSMENT GUIDELINE (DIPNR, 4 AUGUST 2005) TABLE 4

RCA ref 6500j-101/2



9 December 2008

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Geotechnical Engineering

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Hydrogeology

Construction Materials Testing

Attention: Ann-Marrie Carruthers
Environmental Planning Officer – Major Projects Assessments

**OVERVIEW AND PRELIMINARY ASSESSMENT
PROPOSED MODIFICATION TO 2002 PLANNING APPROVAL
FOR LOT 223, MAYFIELD WEST, NEWCASTLE NSW**

1 INTRODUCTION

RCA Australia (RCA) has been engaged by Koppers Carbon Materials and Chemicals (KCMC) to prepare an application for modification of planning approval for remediation works at Mayfield West, NSW. Proposed remedial works are outlined in a remedial action plan (RAP), RCA 2008 (Ref [1]). The remediated site will be used for industrial activity.

An EIS was prepared by GHD in 2001 (Ref [2]) which led to a Department of Planning consent for remediation works on Lot 213 (Ref [3]). At that time, it was not known that remediation of Lot 223 would be staged. Since 2001, Lot 223 has been broadly separated into Lot 223 West (remediated), Lot 223 South (remediated), Lot 223 North and Lot 223 East. This document addresses the 'Lot 223 North' portion of Lot 223, and introduces some adjoining land to the proposal, as outlined in Section 1.2.

This document considers the proposed works, planning controls previously created for the remediation, potential impacts of the work and mitigation measures, and criteria necessary to ensure that the approved works have no significant impact on the environment.

1.1 PURPOSE OF THIS REPORT

This document provides a description of the proposed modification to the remediation works for Lot 223 North. It is a key component of a request for the Minister for Planning's approval (Modification Request) pursuant to Section 75W of Part 3A of the *Environmental Planning and Assessment Act, 1979* (EP&A Act).

KCMC is the owner and operator of the Mayfield West coal tar processing plant and associated land and is proposing to acquire Lot 223 North to which the current Department of Planning approval applies.

Development Consent for the remediation of Lot 223 was issued by the Minister for Urban Affairs and Planning in 2002 under Part 4 of the EP&A Act (Ref [3]). In accordance with Clause 8J(8)(a) of the *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation), the currently approved and newly proposed remediation works would satisfy the requirements to qualify as a Major Project Part 3A of the EP&A Act, and therefore, an application for approval under Section 75W of the EP&A Act is considered appropriate.

Consistent with *Steps in the Assessment and Approval of Major Projects under Part 3A* (Major Projects Guideline, DIPNR, 2005) (Ref [4]), this approval modification Overview and Preliminary Assessment provides the information outlined in **Table 1**.

Table 1 Major Project Guideline Requirements – Reference Summary

Major Project Guideline Requirement	Reference
Information to confirm that the project is a project to which Part 3A of the EP&A Act applies.	Section 2
Information to confirm whether a Concept Plan will be required or authorised by the Minister.	Not applicable
A description of the modification and any ancillary components.	Section 1.3
The location and a map identifying the site.	Appendix A
The capital investment value and other relevant information in relation to parameters set out in the State Environmental Planning Policy (SEPP) (Major Projects), 2005 (Major Projects SEPP) for determining whether Part 3A of the EP&A Act applies to the approval modification.	Section 2
The planning provisions applying to the site.	Section 2
The views of other agencies, local council or the community if known.	Section 2.5
Any other approvals required. In particular, if a licence from the Department of Environment and Climate Change (DECC) is required under the Protection of the Environment Operations Act, 1997 (POEO Act).	Section 2
Justification as to why the project should be considered to be a major project under Part 3A of the EP&A Act, taking into consideration the relevant criteria.	Section 2
A Preliminary Assessment to identify the likely environmental issues.	Sections 1 and 3

*Adapted from DIPNR (2005) (Ref [4]).

The previous environmental impact statement (GHD, 2001) and recent RCA environmental investigations have identified the key environmental assessment issues, and provide a detailed analysis of the likely extent and nature of potential impacts associated with the proposed modification to the existing approved works.

This overview and preliminary assessment has been undertaken with appropriate consideration of the draft *Guideline: Preliminary Assessment for Major Projects, what are the Issues and what Level and Scope of Assessment?* (The Draft Preliminary Assessment Guideline) (DIPNR, 4 August 2005), (Ref [5]). Table 4 of that document is included as **Appendix B** to this document. Environmental issues highlighted in that process are indicated in Sections 3.8, 3.9 and 3.13.

1.2 BACKGROUND TO THE PROPOSAL

1.2.1 SITE AREA

Since the early 1990s KCMC has been investigating contamination on and around their operating plant at Woodstock Street, Mayfield West.

These investigations involved detailed environmental assessment of three Lots as follows. Collectively these Lots sharing site boundaries are referred to as 'the site':

- Lot 2 DP 528411 belonging to KCMC – Lot 2 is an existing coal tar plant used for the processing of coal tar into other hydrocarbon products. There is currently minimal vegetation or exposed soil on the Lot 2 site, restricted to landscaped garden areas. Lot 2 is effectively capped with hardstand across the site.
- Lot 11 DP 625019 belonging to KCMC – Lot 11 is primarily vacant land which is unsealed. There is grass and fig tree vegetation on the site. The site has previously been used for equipment and machinery storage for the operations of the Lot 2 site. There is an operational cement production plant leasing a portion of the Western end of Lot 11. The cement processing plant has been included in previous detailed investigation of the Lot 11 site.
- Lot 223 DP 1013964 (north portion only) belonging to BHP Billiton (but being sold to KCMC) – Lot 223 North is currently vacant land with minimal vegetation cover. The site is gravel surfaced. Lot 223 was formerly part of the BHP steelworks operations, housing a lime kiln. There is currently a disused tar pipeline running underground through the Lot which historically leaked. Free phase tar exists in the ground primarily in the vicinity of this disused tar pipeline. There is a small amount of shallow tar contamination located in one other area of Lot 223 North. Lot 223 North is the primary area of proposed remediation for 'the site'.

Drawing 1 in Appendix A highlights the location of these Lots.

1.2.2 CONTAMINATED LAND DECLARATION, CLM ACT, 1997

Lot 2 and Lot 11 are declared remediation sites under EPA Declaration Number 21023 issued on 15 July 2002. Lot 223 (north portion) is a declared remediation site under Declaration Number 21022 issued on 14 June 2001. The RCA investigations have been carried out under the regulation of NSW DECC (Contaminated sites branch) under the Contaminated Land Management Act, 1997, and an accredited contaminated land auditor.

Individual Phase 1 and Phase 2 reports have been prepared for the three Lots that comprise the site, detailing site history and environmental assessment (Ref [1]).

1.2.3 SITE CONTAMINATION

The site contaminants are primarily derived from coal tar and this is the reason for the SRoH declaration. They are found in the form of:

- liquid tar compounds in fill;
- separate phase hydrocarbons (LNAPL and DNAPL) associated with groundwater within deep fill; and
- dissolved phase within groundwater.

The contamination issues are complex and, due to the persistent nature of the contaminants, are difficult to remediate. The remedial approach agreed with the site auditor and DECC, is: 'remediation of fill and groundwater to the extent practicable'. The RAP has been developed on this basis.

1.2.4 PROPOSED REMEDIAL ACTION

The remedial action plan (RAP) based on the three Phase 2 reports and dealing with remediation issues on the three Lots has been approved by a NSW accredited site auditor and has been accepted by DECC.

The RAP (Ref [1]) has been developed over several years and comprises the following key elements:

- Excavation of isolated pockets of hydrocarbon affected fill from Lot 11.
- Limited groundwater remediation on Lot 11.
- Excavation of a four-sided deep barrier wall on Lot 223 (north portion) to surround an area of fill and groundwater contamination. Construction of the barrier wall is to surround the bulk of tar impregnated fill and estuarine material. This wall will effectively prevent egress of contaminants from within the enclosed fill and estuarine soils.
- Placement of excavated hydrocarbon affected fill from Lot 11 behind the barrier wall on Lot 223 (north portion).

- Placement of excavated hydrocarbon affected fill from certain areas on Lot 223 (north portion) behind the barrier wall on Lot 223 (north portion).
- Placement of a capping layer on Lot 223 North to effectively prevent groundwater recharge through infiltration.
- Maintenance of the existing site capping on the KCMC Lot 2 site.
- Installation of an 'Attenuation Bore Field' (ABF) – a grid of boreholes across Lot 223 (north portion) to monitor the stability and degradation of residual contaminants that cannot be readily 'actively' remediated.
- Development of a contaminant fate and transport model for evaluation of impacts to the Hunter River and calculation of acceptance criteria for groundwater at the boundary of Lot 223.

Because the three Lots are considered to be one site by DECC, remediation is proposed to involve movement of contaminated fill over Lot boundaries within the 'site'.

A draft Voluntary Remediation Proposal (VRP) was submitted to DECC by KCMC on 15 August 2008.

1.3 DESCRIPTION OF MODIFICATION

KCMC is proposing to modify the existing 2002 approval for Lot 223 to include refinements to the remediation strategy as outlined in the 2008 RAP (Ref [1]). In short, the original approval included site capping with coal washery reject (CWR) material or a similar engineered seal approved by the EPA. The proposed remediation works will increase the quality of the remediation in the area, extend the range of the remediation, and reduce the impact of contaminants to the environment. The layout of the site and the proposed areas of remediation are shown on **Drawing 2, Appendix A**.

Table 2 summarises the previously proposed remediation works and the proposed modifications for this approval.

Table 2 *Proposed Approval Modifications*

Development Component	Previously Proposed	Proposed Modification
Site Area	Lot 223.	Land to now also include Lot 2 (DP528411) (albeit not actively) and Lot 11 (DP625019). (though to a lesser extent than Lot 223).
Soil	Capping with source removal.	No change to Lot 223, however add source removal from Lot 11.
Groundwater	Dealt with by capping and monitoring on Lot 223.	Add barrier wall on Lot 223 to enhance the previously proposed remediation. Add Lot 11 short term groundwater treatment and monitoring. Add modelling to determine site specific criteria for and provide a higher level of protection to the Hunter River.

Approximately 65% of Lot 223 has been capped based on the original consent conditions.

2 PLANNING PROVISIONS AND PROJECT APPROVAL CONSIDERATIONS

2.1 EXISTING DEVELOPMENT CONSENT

BHP Billiton currently holds a Development Consent for Lot 223 Industrial Drive, Mayfield, NSW. The Development Consent has not previously been modified.

2.2 PROPOSED MODIFICATION TO THE DEVELOPMENT CONSENT

The EP&A Act and EP&A Regulations set the framework for planning and environmental assessment in NSW. Part 3A of the EP&A Act commenced on 1 August 2005 (ie, after the Development Consent for Lot 223 was granted) and provides an approval process that is particularly adopted for major projects in NSW. Modification of the Development Consent is sought under Section 75W of Part 3A of the EP&A Act. The Development Consent, if so modified, would not become an approval under Part 3A of the EP&A Act.

Section 75W of the EP&A Act relevantly states:

s75W Modification of Minister's Approval

(1) *In this section:*

Minister's approval means an approval to carry out a project under this Part, and includes an approval of a concept plan.

modification of approval means changing the terms of a Minister's approval, including:

- (a) *revoking or varying a condition of the approval or imposing an additional condition of the approval, and*
 - (b) *changing the terms of any determination made by the Minister under Division 3 in connection with the approval.*
- (2) *The proponent may request the Minister to modify the Minister's approval for a project. The Minister's approval for a modification is not required if the project as modified will be consistent with the existing approval under this Part.*
- (3) *The request for the Minister's approval is to be lodged with the Director-General. The Director-General may notify the proponent of environmental assessment requirements with respect to the proposed modification that the proponent must comply with before the matter will be considered by the Minister.*
- (4) *The Minister may modify the approval (with or without conditions) or disapprove of the modification.*

Clause 8J(8) of the EP&A Regulation permits a development consent granted under Part 4 of the EP&A Act to be modified under Section 75W of the EP&A Act as if it were a Part 3A approval, in prescribed circumstances. It relevantly states:

8J Transitional Provisions

- (8) *A development consent in force immediately before the commencement of Part 3A of the Act may be modified under Section 75W of the Act as if the consent were an approval under that Part, but only if:*
- (a) *the consent was granted with respect to development that would be a project to which Part 3A of the Act applies but for the operation of Clause 6(2)(a) of State Environmental Planning Policy (Major Projects) 2005, and*
 - (b) *the Minister approves of the development consent being treated as an approval for the purposes of Section 75W of the Act.*

Clause 6(1)(a) and Schedule 1 of the Major Projects SEPP identifies development of the following kind to be a project to which Part 3A of the EP&A Act applies:

Group 9 – Resource and Waste Related Industries

28 Remediation of contaminated land:

- 1) *Development for the purpose of remediation of land that is Category 1 remediation work on a remediation site.*
- 2) *In this clause, “Category 1 remediation work”, “remediation” and “remediation site” have the same meanings as in State Environmental Planning policy No 55 – Remediation of Land.*

The Development Application and accompanying 2001 Environmental Impact Statement (EIS) for the Lot 223 project indicated that the original estimated capital cost of the project was between \$5M and \$10M and that the project is intended to remediate the land to reduce the environmental impacts. The Lot 223 North portion of Lot 223 has yet to be remediated. Additional works are now proposed to those which were subject to the initial planning approval issued in 2002. The additional works will considerably improve the quality of the environment in the area by significantly reducing the impacts of present contamination on the surrounding environment.

Clause 6(1) and (2) of the Major Projects SEPP relevantly states:

- 6(1) *Development that, in the opinion of the Minister, is development of a kind:*
- (a) *that is described in Schedule 1 is declared to be a project to which Part 3A of the Act applies.*
- 6(2) *However, any such development does not become a project to which Part 3A of the Act applies by the operation of subclause (1) if:*

- (a) *the carrying out of that development has been authorised by a consent that is in force under Part 4 of the Act before development of that kind is declared under subclause (1), or*

From the above, it is clear that, but for clause 6(2)(a) of the Major Projects SEPP, the original remediation project would be a project to which Part 3A of the Act applies. On this basis, and having regard to the nature of the Approval Modification, it is clear that the Minister has power under clause 8J(8) of the EP&A Regulation to approve of the Development Consent being treated as an approval for the purposes of section 75W of the Act.

2.3 STATE ENVIRONMENTAL PLANNING POLICIES (SEPP)

SEPPs other than the Major Projects SEPP, 2005 mentioned above that are applicable to the approval modification are listed below:

- SEPP 71 – Coastal Protection.
- SEPP 55 – Remediation of Land.

2.4 LOCAL AND REGIONAL ENVIRONMENTAL PLANS

Local and regional environmental planning instruments that are applicable to the approval Modification are listed below:

- Newcastle Local Environmental Plan (2003).
- Hunter Regional Environmental Plan (1989).

2.5 OTHER RELEVANT STATUTORY PROVISIONS

Other Acts that are likely to be applicable include (but are not necessarily limited to):

- Occupational Health and Safety Act, 2000;
- POEO Act;
- Water Act, 1912; and
- Water Management Act, 2000.

KCMC have a DECC Environmental Protection Licence (EPL) for site operations on Lot 2. However, it is not considered necessary to extend this EPL for the proposed RAP works under the Protection of the Environment Operations Act 1997 because:

- there will be no 'contaminated soil treatment works' on site; and
- the site is not a waste facility – no CWR or slag landfill will be used for site application. The Lot 223 capping material is proposed to be an engineered asphalt (or technically equivalent) surface.

On the basis of summary information provided, Newcastle City Council was undecided on the status of the proposed remediation works. However, after review of appropriate legislation it was considered that the proposed remediation works were Category 1 remediation.

It is understood the DECC view of the three Lots is that they represent one 'site' for the proposed remediation works.

3 IMPACT OF PROPOSAL (EP&A ACT CONSIDERATIONS)

While it is recognised that under s.75W(3) of the EP&A Act the Director-General may notify the proponent of environmental assessment requirements that must be complied with before the matter will be considered by the Minister, the following subsections summarise the foreseeable impacts of the modified proposal.

3.1 ACCESS, TRANSPORT AND TRAFFIC

The impacts to traffic would be positive as the remediation works are no longer proposing to import CWR. Neither will the proposal remove the majority of material from the site. No significant impacts to traffic are anticipated.

3.2 PUBLIC DOMAIN

There is no public domain area included in the proposed remediation works. The nearest public domain is Woodstock Street, however no works are proposed for this area. Minor short-term increased traffic may utilise the street, however this is not considered to impact on normal traffic conditions in the area.

3.3 UTILITIES

Any utilities required for the remediation works would be provided from the existing coal tar plant on the site (Lot 2).

3.4 SEDIMENT AND EROSION CONTROL

Sediment and erosion impacts are considered to be minor and controls will be detailed in a Site Management Plan for the remediation works.

3.5 STORMWATER DRAINAGE

Stormwater generated during the remediation works will be managed in accordance with the previous approval and conform to the Department of Housing's *Managing Urban Stormwater: Soils and Construction Manual*.

3.6 HERITAGE

There are no heritage issues relating to the proposed works. The combined 'site' has been cleared, filled and used for industrial purposes for over 50 years. There are no objects of heritage significance on site, nor to be disturbed.

3.7 OTHER LAND RESOURCES

There are no other land resource issues of note on the site.

3.8 SOILS

- There is potential for exposure to soils contaminated with hydrocarbons during the proposed remediation works.
- In a limited area of Lot 11, asbestos in soil will be encountered during remediation. Where asbestos removal is undertaken, all works will be performed by licensed asbestos removal contractors experienced with handling and disposing of asbestos contaminated fill materials. Disposal will be to Newcastle City Council's licensed asbestos disposal facility at Summerhill.
- An amount (est. 600-900m³) of acid sulphate soil (ASS) or potentially acid sulphate soil (PASS) *may* be encountered at depth during construction of the deep barrier wall. Such material (if encountered) will be treated on site and likely re-used in construction of the deep barrier wall.

All remediation work staff will be briefed on the potential hazards and procedures for handling potentially contaminated materials, focusing on these contaminants of concern. All excavation works will be undertaken under the provisions of a site (occupational health and safety) management plan.

3.9 AIR AND MICRO-CLIMATE

There is limited potential for the generation of odours due to exposing volatile contaminated soils to the atmosphere. Vapour/odour management would be included in the Site Management Plan for remediation works, and would likely utilise commercially available hydrocarbon odour suppressants (such as Biosolve).

During asbestos removal works (required in one limited area of Lot 11) airborne asbestos fibre monitoring will be undertaken according to industry standard monitoring methods.

3.10 FLORA AND FAUNA

There are not considered to be any flora and fauna issues on the site. The site was cleared of all vegetation between the 1930s and the 1950s. Land was reclaimed from the estuarine wetlands with fill material and used for industrial purposes. This was examined in the 2001 EIS (GHD).

3.11 WASTE DISPOSAL

General waste disposal would be managed through the existing Lot 2 waste disposal system. Asbestos contaminated soil would be disposed of to an appropriately licensed facility.

3.12 ENERGY AND LIGHTING

It is anticipated that no or limited works will be undertaken at night and therefore lighting would not be an issue. Machinery operating on the site would be run by self contained fuel systems. Any energy required for works to be undertaken on the site would be provided from the Lot 2 power supply, with no additional energy provisions required.

3.13 NOISE AND VIBRATION

It is anticipated that hours of operation will be the local standard for industrial development in the Newcastle LGA. Due to the site being surrounded by industrial land use and the substantial distance to residential properties, only minor impacts of noise and vibration are anticipated.

Monitoring of noise and vibration will be accomplished in accordance with industry standard methods.

3.14 HAZARDS

There are potential hazards to human health and the environment from contamination identified in soil and groundwater on the site. Potential human health and the environment will be managed by a site works management plan for the duration of the remediation works. An environmental management plan will be developed for long-term management of the site post remediation.

3.15 FIRE

Potential fire hazards are present (Lot 2 in particular) however Lot 2 has an appropriate fire management procedure in place for general operations. While the potential for fire on Lot 223 and Lot 11 is considered to be low, a water-cart should be present on site during remediation works and all site vehicles should be fitted with appropriate extinguishing apparatus.

3.16 SOCIAL AND ECONOMIC IMPACT IN THE LOCALITY

There are not considered to be any adverse social or economic impacts from the remediation works. Remediation will allow development for industrial purposes on Lot 11 and Lot 223 north and continuation of use on Lot 2.

3.17 CUMULATIVE IMPACTS

A positive cumulative impact on the immediate and surrounding environment is envisaged as a result of the proposed remediation works.

3.18 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

The proposed remediation works are considered to meet ESD principles through:

- safely containing the primary sources of contamination on the site;

- decreasing off site migration of contaminants in groundwater to the practical minimum; and
- setting in place a system for monitoring the effects of the remediation works undertaken.

4 CONCLUSION

There has been detailed environmental assessment of the site with contamination identified in soil and groundwater. The three Lots comprising the site are considered to present a significant risk of harm to human health and the environment, and have been declared to be remediation Lots by DECC. A remedial strategy has been developed which would significantly improve the quality of the immediate environment and reduce the potential risk to site users and the Hunter River. There is previous planning approval for remediation works on Lot 223. The additional remedial works are considered to only enhance the improvements to land utility and environmental quality on and in the immediate vicinity of Lot 223.

Yours faithfully

RCA AUSTRALIA



Matthew Clark
Senior Environmental Scientist



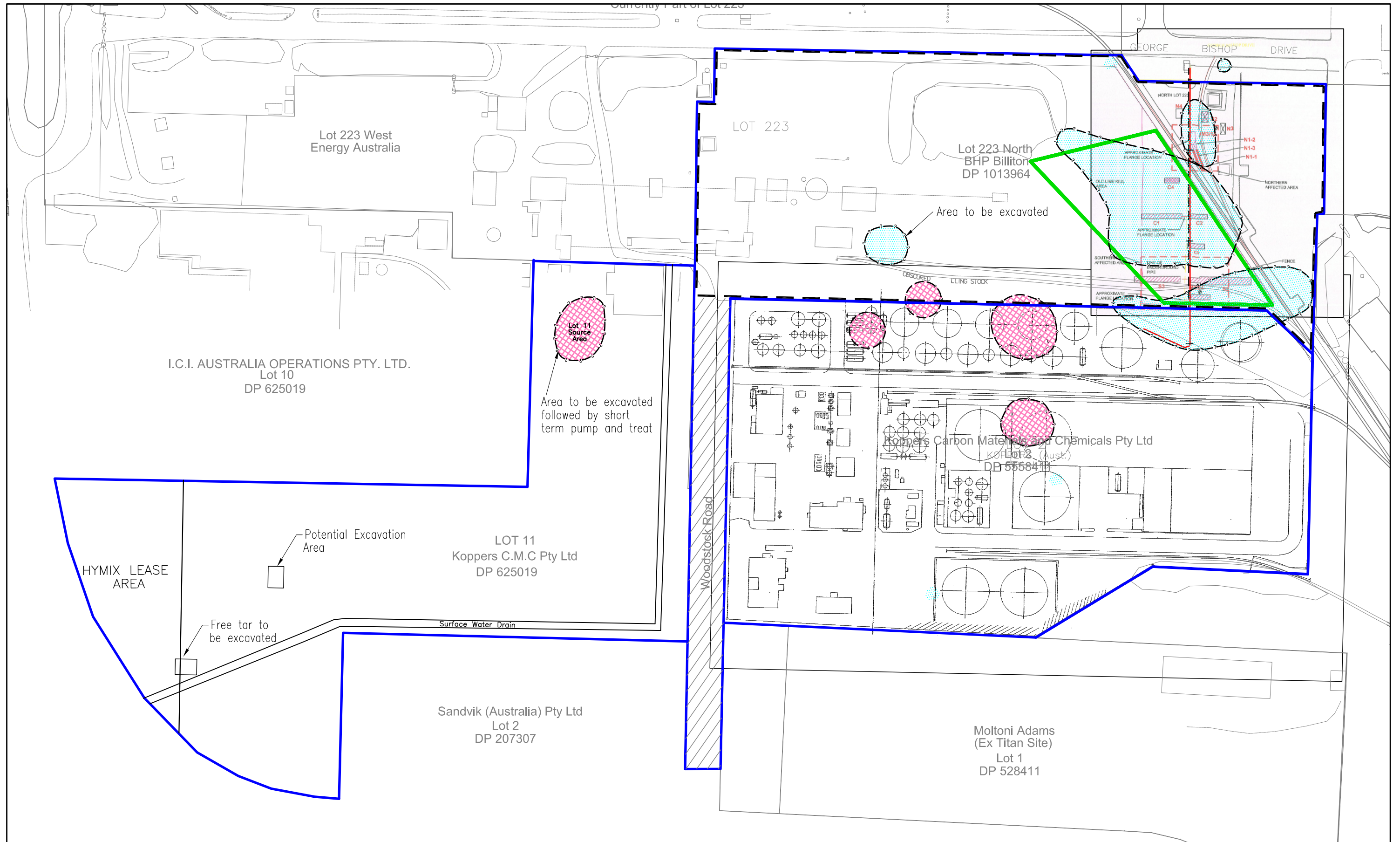
Paul Noonan
Principal Environmental Engineer

REFERENCES

- [1] RCA Australia, Integrated Remedial Action Plan, Mayfield West, ref: 6500g-201/2, July 2008.
- [2] GHD, Remediation of Lot 223, Industrial Drive, Mayfield. Environmental Impact Statement, December 2001.
- [3] Determination of a Development Application under Section 80 of the EP&A Act, 1979, Sydney 2002, for DA No. 381-12-2001-i. File No. S01/01739.
- [4] Department of Infrastructure Planning and Natural Resources, *Steps in the Assessment and Approval of Major Projects under Part 3A, 2005a*.
- [5] Department of Infrastructure Planning and Natural Resources, draft *Guideline: Preliminary Assessment for Major Projects, What are the Issues and what level and scope of Assessment*, 4 August 2005.

Appendix A

Drawings





GEOTECHNICAL • ENVIRONMENTAL

**SITE REMEDIATION AREAS
OVERVIEW & PRELIMINARY ASSESSMENT
FOR APPROVAL MODIFICATION
KCMC, MAYFIELD WEST**

CLIENT Koppers Carbon Materials & Chemicals P/L		PROJECT No 6500j	
DRAWN BY MC	SCALE As Shown	DRAWING No 2	REV 0
APPROVED BY PN	DATE 11/11/08	OFFICE NEWCASTLE	

LEGEND

-  Proposed barrier wall
-  Road section Woodstock Street extended not part of site assessment for Remedial Action Plan
-  Possible extent of tar impact
-  Hydrocarbon film on groundwater
-  Light hydrocarbon film on groundwater
-  Areas of proposed capping

0 50 100
metres

DCT-DWG-A3V-001/1

Appendix B

Draft Preliminary Assessment Guideline
(DIPNR, 4 August 2005)
Table 4

TABLE 4

SUMMARY OF THE ISSUES AND THE LEVEL OF ASSESSMENT

What are the key issues? Consider the Extent of the impacts Nature of the impacts Environmentally sensitivity of site	What is the extent of the studies required to determine the level of risk?	What is the extent of the studies required to avoid, minimise or manage the impacts so the risks are acceptable?
Odour from disturbed hydrocarbons.	None required.	None required. Odour management will be performed on site (if necessary) during works.
Disturbance of potential acid sulphate soils.	None required.	None required. Treat estuarine soils separately (as potential acid sulphate soils) and manage during works.
Noise and vibration (when excavating slag).	None required.	None required. Monitor noise and vibration and establish acceptance protocols.
Limited amount of asbestos in fill on Lot 11.	None required.	None required. Monitor asbestos in air during works. Use licensed asbestos disposal contractors. Follow site safety management plan.