

6 August 2012  
Silvio Falato  
Group Manager Planning and Environment  
Strathfield Council  
65 Homebush Road  
Strathfield NSW 2135

Savills Project Management  
ABN: :59 129 012 700  
Level 7, 50 Bridge Street  
Sydney, NSW 2000  
savills.com.au

Cc: Damian Zammit – Strathfield Council

Dear Silvio,

### **MACDONALDTOWN GASWORKS REMEDIATION PROJECT – EA SUBMISSION RESPONSE**

Savills are writing in response to Strathfield Council's (Council) letter dated 18 June 2012 regarding the Macdonaldtown Gasworks Remediation Environmental Assessment (Macdonaldtown EA) and our subsequent meeting held at Council offices on 28 June 2012. Attached is a copy of the minutes taken at the meeting which was attended by Council, RailCorp, Savills Project Management, JBS Environmental, and the NSW Department of Planning.

The purpose of the meeting was to provide the opportunity to discuss Council's concerns regarding the Macdonaldtown EA raised in the letter of the 18 June 2012. During the meeting the responses provided to each of Council's concerns were well received by Council. Those concerns which required additional information are listed below as referenced in the attached file note at Attachment 1.

Item 7 – See Attachment 2 for example of typical material to be used for stockpile covering.

Item 16 – See Attachment 3 for Chullora consultation to date.

Item 18 – See Attachments 4 & 5 for technical clarification from JBS in letter responses to the EA test of adequacy (dated 16 February 2012) and Council's submission to the EA during the exhibition period (dated 27 June 2012).

Savills trust that between the discussions during the meeting, and the supporting information attached, that Council are satisfied that the project has been robustly planned and that the environmental controls proposed are sufficient to allow the project to be assessed and determined by the Department of Planning without objection from Council. Savills request confirmation from Council that this is the case.

If you have any further questions please do not hesitate to contact the undersigned.

Yours sincerely,

**SAVILLS PROJECT MANAGEMENT PTY LTD**

**Bryan Kidd**  
Project Manager

#### **LIST OF ATTACHMENTS:**

1. Strathfield Council meeting file note of 28 June 2012.
2. JBS detail of typical stockpile covering material.
3. Chullora consultation to date.
4. JBS technical clarification letter dated 27 June 2012.
5. JBS technical clarification letter dated 16 February 2012.

Incorporating **Incoll.**

**ATTACHMENT 1 – STRATHFIELD COUNCIL MEETING FILE NOTE OF 28 JUNE 2012**

Meeting Record 

Date &amp; Time 9am / 28 June 2012

File Note 

Author BK

Discussion 

Pages 2

Meeting / Subject	Attendees
Macdonaldtown Remediation - 20641	Strathfield Council - Silvio Falato; Damian Zammit.
Strathfield Council Meeting – Review of Strathfield Council EA Submission.	NSW Department of Planning (via teleconference) – Chris Ritchie; Emma Barnett.
	RailCorp – Luke Speechley; Daniel Wedgwood.
	JBS – Sumi Dorairaj; Matt Bennett.
	Savills –John Dawson; Bryan Kidd.

Item	Action Required / Comments	Action By / Due Date
1	Savills presented the history of the project approval and an update of the progress, including a summary of the community and agency consultation to date.	Note
2	RailCorp outlined the history of the Macdonaldtown project and the requirement for the Chullora Site due to the lack of space at Macdonaldtown, and the industrial nature, existing security, and large area available for treatment at Chullora.	Note
3	RailCorp advised that a site auditor has been appointed, there have been further site investigations at Macdonaldtown and enough data has been gathered to determine how best to remediate the site. The remedial strategy has been endorsed by a NSW EPA Accredited Site Auditor and as such is a robust assessment.	Note
4	JBS provided a high level summary of the structure of the technical documentation which has been prepared, including the EMP, Remedial Strategy, the RAP and the EA.	Note
5	JBS provided an overview of the proposed site plan, environmental controls, remediation treatment processes and the types of contaminants that would be transferred to the Chullora Site for treatment.	Note
6	Multiple environmental controls have been specified within the EMP to control stormwater contamination, namely stockpile coverage, sediment control and limited contact between stormwater and contaminated soils. The nature of the contaminated soil is such that the contaminants do not leach or dissolve quickly.	Note
7	Strathfield Council expressed concern that the importation of impacted material may cause leaching and contamination of the remediation site, potentially during heavy rain events. JBS advised that all external stockpiles would be covered by plastic sheeting at all times (with the exception of 150sqm). JBS will provide details of sheeting material typically used. Sheeting must be impermeable, but also flexible/workable and durable.	JBS to provide details of stockpile covering material (HDPE or similar).
8	JBS confirmed that there will be a baseline assessment performed prior to any works commencing at Chullora, and that a post treatment assessment would also be performed to confirm that the site is returned to the pre treatment condition at the completion of the works.	Note
9	JBS confirmed that all works at Chullora will be above ground, with proper environmental controls in place.	Note
10	Strathfield Council expressed concern that the facility would remain operational for treating other contaminated materials. RailCorp advised that any environmental licenses would be temporary and only apply to treatment of material from Macdonaldtown.	Note

11	Strathfield Council advised that they were concerned about odour impacts to the nearest residents in Marlene Crescent. JBS confirmed the air quality controls to be used (installation of a tent enclosing the treatment works held at negative pressure, air filtration system attached to the enclosure, limitation on the maximum amount of uncovered material, odour monitors, covered stockpiles etc) as detailed in the Air Quality Impact Assessment and Air Quality Management Plan.	Note
12	The environmental controls specified in the EMP have triggers which will ensure ineffective or non-compliant controls are rectified, eg failure of air filtration system.	Note
13	JBS confirmed the programme of treatment works at Chullora is envisaged to be between 6-12 months, however unexpected delays at Macdonaldtown may increase the overall programme duration including the treatment at Chullora.	Note
14	JBS advised that there are strict soil criteria limits which apply to the DEC Immobilisation Approval for stabilisation at Chullora which limit the type of material and the level of contamination which can exist in the material to be imported for treatment. These limits will ensure that pure tars and heavily impacted soils will NOT be transported to Chullora. There will be no combustible contaminated soils transported for treatment at Chullora.	Note
15	RailCorp advised that the EPA controls on the Environmental Protection License will marry up with the controls specified in the existing EA documentation.	Note
16	A history of the pro-active community consultation (including newsletters, newspaper ads, the operation of a 1800 line etc) was presented to Council. Copies of previous correspondence to be issued to Council.	Savills to provide copies of previous community consultation to Council.
17	DoP advised Council that the planning process requires that if local Council objects to the project, then the project application must be referred to the Planning Assessment Commission. The intention going forward is for the project to proceed without Council's objection.	Note
18	Savills advised that they will respond to Council's submission in order to satisfy Council that their concerns have been addressed in the existing documentation, or will be addressed prior to project approval.	Savills to respond to Council's EA submission w/ technical clarification from JBS as required.

Next Meeting  
TBA

## ATTACHMENT 2 – JBS DETAIL OF TYPICAL STOCKPILE COVERING MATERIAL

### COMMENTARY:

*“Please find attached a technical sheet for the type of material that we would recommend for covering contaminated soil stockpiles. Note that there are HDPEs with less technical specs that the attached but which would do the job adequately. The attached photo shows HDPE sheeting being deployed as a lining for a cell into which contaminated soil will be placed and compacted and a small stockpile of contaminated soil covered with HDPE. Finally, there’s a photo of a roll of the material about to be deployed to cover contaminated soil in an excavation.*

*As you will see, the technical specs show that HDPE sheeting is more than adequate for covering stockpiles on a semi-permanent basis. Sheets can even be welded together if appropriate, but overlapping the sheets is typically sufficient to protect stockpiles. The sheets can be weighted down to prevent it being lifted by the wind using either clean soil, concrete rubble of crushed concrete or waste tyres.”*

### PHOTOS:



HDPE cell lining



HDPE roll to be deployed



HDPE stockpile covering



Global Synthetics



www.globalsynthetics.com.au  
 Sydney 8/28 Oramzi Rd, Grrraween, NSW 2145  
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 E-Mail: info@naue.com • Internet: www.naue.com

**Technical Data 2179**  
**Carbofol® Type HDPE 406**  
 smooth / smooth  
 acc. to GM 13

dated: 20.01.2010

Property	Test Method ASTM	Unit					Testing Frequency (minimum)
Thickness (min. average) - 10% Lowest individual for any of 10 values	D 5199	mm	1,0	1,5	2,0	2,5	per roll
Width	/	m	9,4 / 4,7	9,4 / 4,7	9,4 / 4,7	9,4 / 4,7	per day
Density	D 1505 / D 792	g/cm <sup>3</sup>	0,942	0,942	0,942	0,942	90,000 kg
Tensile strength at yield	D 6693	kN/m	16	25	33	43	9,000 kg
Elongation at yield	D 6693	%	12	12	12	12	9,000 kg
Tensile strength at break	D 6693	kN/m	28	42	56	70	9,000 kg
Elongation at break	D 6693	%	700	700	700	700	9,000 kg
Tear resistance	D 1004	N	135	195	260	325	20,000 kg
Puncture resistance	D 4833	N	390	480	640	800	20,000 kg
Carbon black content	D 1603	%	2-3	2-3	2-3	2-3	9,000 kg
Carbon black dispersion	D 5596	Category	1-2	1-2	1-2	1-2	20,000 kg
<b>Oxidative Induction Time (OIT)</b>							90,000 kg
a) standard OIT	D 3895	min	100	100	100	100	
<b>Oven Aging at 85°C</b> (retrained after 90 days)	D 5721						per each formulation
a) standard OIT	D 3895	%	55	55	55	55	
<b>UV Resistance</b>							per each formulation
a) standard OIT	D 3895	%	50	50	50	50	

NCTL - Test* Stress crack resistance	D 5397	hour	400				GRI GM-10
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file: 2179 - 406 s-s GM 13 Rev.10 eng.doc

remark:  
 \*requirement GM13 : 300h

The listed technical values are guiding values, achieved in our laboratories and/or independent testing institutes. Our products are subject to change without prior notice.

ATTACHMENT 3 – CHULLORA CONSULTATION TO DATE



Chullora notification area

# RailCorp Chullora Newsletter



Community Newsletter  
December 2010

RailCorp wishes to inform you about planning currently underway for a project to be undertaken on the Chullora Railyards site. The site is located to the north of the Hume Highway and Worth Street, Chullora.

The works are part of a remediation project being undertaken on another RailCorp site located close to Macdonaldtown Railway Station in Erskineville.

Part of the Macdonaldtown site was originally a Gasworks, built in 1892. The site was used for processing coal in furnaces to create gas. The gas was stored in two large steel gasholders, and was piped to the nearby Eveleigh Railyards for the lighting of railway carriages and workshops.

The Gasworks was decommissioned in 1958, however one gasholder continued to store gas from other sites until the 1970s.

## Planning for Remediation

The process of creating gas was a great industrial achievement, however it produced unwanted by-products such as tar, coke and ash. When the Gasworks was decommissioned these materials were left on the site – a common practice at the time.

RailCorp has performed investigations on the Macdonaldtown Gasworks site, which have identified that these by-products have affected the quality of soil and groundwater.

To address these environmental issues, RailCorp is currently planning for remediation of the site to remove and/or treat the industrial by-products. The remediation project will be regulated by the Department of Environment, Climate Change and Water (DECCW). The project will also require consent from the Department of Planning (DoP) under Part 3A of the Environmental Planning and Assessment Act (EP&A Act).

As part of the remediation process, RailCorp is planning to use a section of the Chullora Railyards site for the temporary treatment of some tarry soils from the Macdonaldtown Gasworks site.

The treatment works at Chullora will be performed in a dedicated facility within the railyards with appropriate environmental controls established on the site. Environmental monitoring of the process will also be undertaken in accordance with project approval conditions from the Department of Planning.

All materials treated at the Chullora facility will be removed off-site at the completion of works.

The Chullora site is owned by RailCorp, and was selected due to its industrial nature, the availability of land and existing security controls. Treatment of materials at the source site (Macdonaldtown) is restricted due to insufficient space along with heritage and geotechnical constraints.



**RailCorp**

## The planning process

The planning process for the remediation comprises the following key steps:

1. Preparation of a Preliminary Environmental Assessment to identify the key issues requiring consideration in the remediation works;
2. Specialist studies on the site to better understand these key issues, and to identify the best way to perform the remediation works;
3. Preparation of an Environmental Assessment (EA) document to detail the outcomes of the above studies;

4. Lodgement of the EA with the Department of Planning;
5. Public exhibition and feedback on the EA document; and
6. Review and approval by the Minister for Planning

The first step in the planning process is already complete and steps two and three are well underway. The entire planning process is expected to take approximately 12 to 18 months.

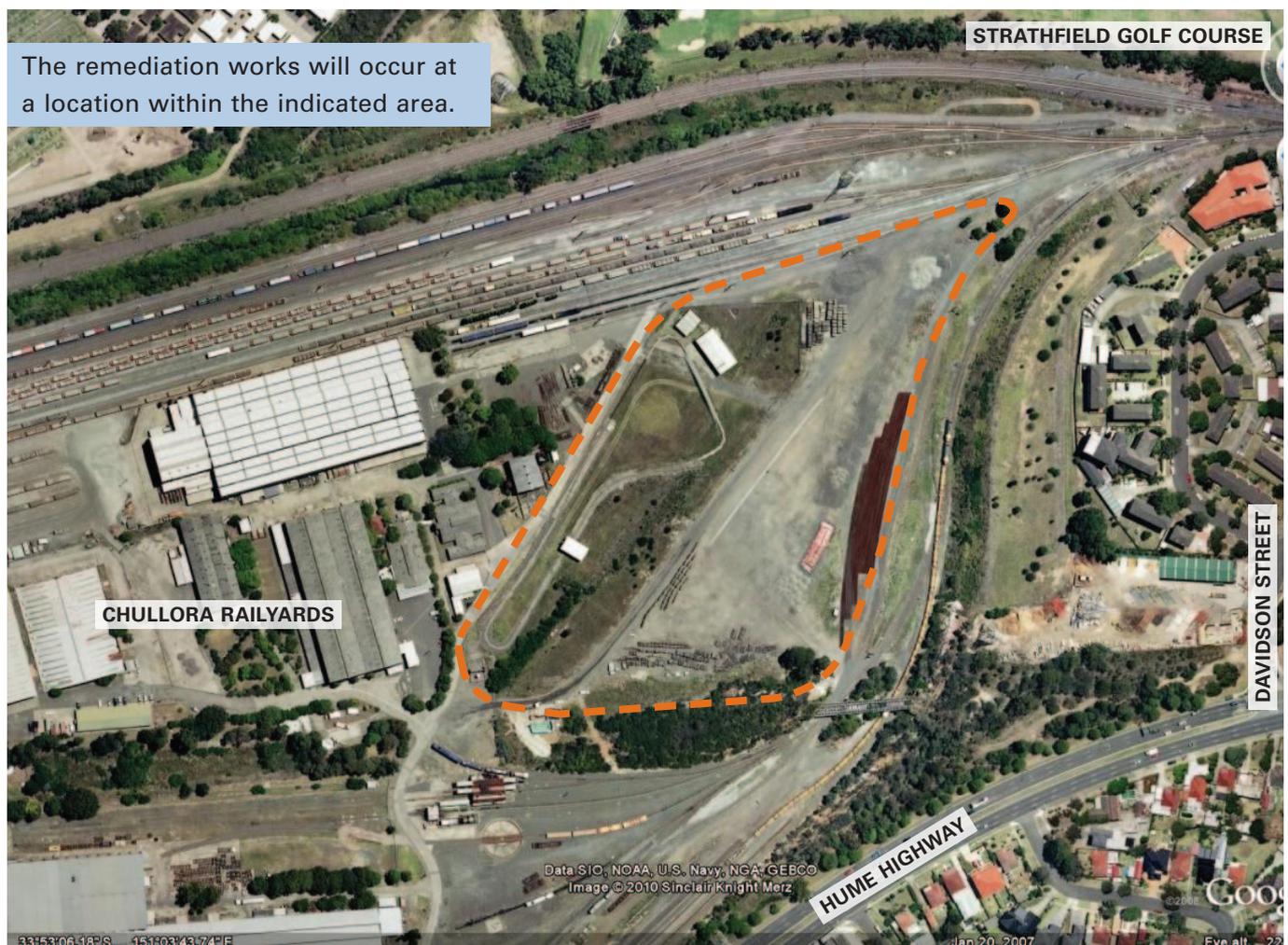
This will be followed by processes to engage specialist contractors to perform the physical site remediation works in accordance with the Minister's approval.

## Further Information

The project team is committed to keeping the local community involved in the planning process and the eventual remediation project.

For more information about the planning process for this project, or to contribute your comments, please contact the project Information Line on 1800 013 342.

Community members will also have the opportunity to provide comments on the Environmental Assessment documents during the public exhibition period.



# RailCorp Chullora Newsletter



Community Newsletter  
April 2012

RailCorp wishes to inform you about planning currently underway for a project to be undertaken on the Chullora Railyards site. The site is located to the north of the Hume Highway and Worth Street, Chullora.

The works are part of a remediation project being undertaken on another RailCorp site located close to Macdonaldtown Railway Station in Erskineville.

Part of the Macdonaldtown site was originally a Gasworks, built in 1892. The site was used for processing coal in furnaces to create gas. The gas was stored in two large steel gasholders, and was piped to the nearby Eveleigh Railyards for the lighting of railway carriages and workshops. The Gasworks was decommissioned in 1958.

The process of creating gas was a great industrial achievement; however it produced unwanted by-products such as tar, coke and ash. When the Gasworks was decommissioned these materials were left on the site – a common practice at the time.

## Planning for Remediation

To address these environmental issues, RailCorp is currently planning for remediation of the site to remove and/or treat the industrial by-products.

As part of the remediation process, RailCorp is planning to use a section of our Chullora Railyards site for the temporary treatment of some tarry soils from the Macdonaldtown Gasworks site.

The treatment works at Chullora will be performed in a dedicated facility within the railyards with appropriate environmental controls established on the site. All materials treated at the Chullora facility will be removed off-site at the completion of works.

Environmental monitoring of the process will also be undertaken in accordance with project approval conditions from the Department of Planning and the works will be overseen by the Environmental Protection Authority (EPA).

The Chullora site is owned by RailCorp, and was selected due to its industrial nature, the availability of land and existing security controls. Treatment of materials at the Macdonaldtown site is restricted due to insufficient space along with heritage and geotechnical constraints.

## The Planning Process

The planning process for the remediation project comprises the following key steps:

- » Preparation of a Preliminary Environmental Assessment (PEA) to identify the key issues requiring consideration in the remediation works;

- » Specialist studies on the site to better understand these key issues, and to identify the best way to perform the remediation works;
- » Preparation of a full Environmental Assessment (EA) document to detail the outcomes of the above studies;
- » Lodgment of the EA with the DoP;
- » Public exhibition and feedback on the EA document; and
- » Review and approval by the Minister for Planning.

RailCorp has now lodged the full Environmental Assessment (EA) with the DoP. The EA will be on public exhibition from 26 April 2012 to 1 June 2012.

A full version of the EA can be viewed on the Department of Planning's website at [majorprojects.planning.nsw.gov.au](http://majorprojects.planning.nsw.gov.au)

EA documentation can also be viewed at the following locations:

- » **Department of Planning & Infrastructure**, Information Centre, 23-33 Bridge Street, Sydney;
- » **City of Sydney Council**: One Stop Shop, Level 2, Town Hall House, 456 Kent Street, Sydney (9265 9333)
- » **Bankstown City Council**: Upper Ground Floor, Bankstown Civic Tower, 66-72 Rickard Road, Bankstown (9707 999)
- » **Strathfield Council**: 65 Homebush Road, Strathfield (9748 9999); and
- » **Nature Conservation Council**: Level 2, 5 Wilson Street, Newtown (9516 1488).

RailCorp remain committed to working with our neighbours and the local community on this project. We therefore encourage you to view the EA currently on display and provide your feedback. Submissions about the proposal can be made directly to the DoP, and must be received no later than close of business 01 June 2012 2010.



## Further Information

For more information about the planning process for this project, or to contribute your comments, please contact the Project Information Line on 1800 013 342.

**ATTACHMENT 4 – JBS TECHNICAL CLARIFICATION LETTER DATED 27 JUNE 2012**

Our Ref: JBS40913-50138

27 June 2012

ATT: John Dawson /Bryan Kidd  
Savills Australia  
Level 7, 50 Bridge Street  
SYDNEY NSW 2000

Sent via email: [jdawson@incoll.com.au](mailto:jdawson@incoll.com.au), [bkidd@incoll.com.au](mailto:bkidd@incoll.com.au)  
CC: Daniel Wedgwood (RailCorp), Luke Speechley (RailCorp)

**Response to Strathfield Municipal Council Letter 'Submission to the Proposed Macdonaldtown Gasworks Remediation Project' dated 18 June 2012**

Dear John/Bryan,

JBS Environmental Pty Ltd (JBS) has reviewed the Strathfield Municipal Council (SMC) letter 'Submission to the Proposed Macdonaldtown Gasworks Remediation Project' dated 18 June 2012, provided by Savills Australia (Savills), on behalf of the site owner, Rail Corporation New South Wales (RailCorp). Three items have been raised and relate to the reports prepared by JBS on the project. The following responses are provided:

Comment 1: Council is of the view that the stockpiling of excavated materials from Macdonaldtown on the Chullora site would contaminate land, groundwater, and surface water.

A thorough assessment of potential impacts to soil and water has been conducted. A program of environmental controls has been designed for mitigation of these impacts during treatment works at the site and detailed in 'Environmental Management Plan, Demolition and Remediation, Former Macdonaldtown Gasworks – Chullora Material Receipt Facility', Reference 40913- 15164 (EMP). These are briefly summarised in **Table 1** below.

**Table 1: Response to Comment 1**

Concern	Nominated controls	Results
Land contamination	Restriction on area of soil external to the enclosure that can remain uncovered (AQMP01) Baseline assessment of treatment area prior to works + post treatment assessment (Remedial Strategy Section 3.4.3)	<ul style="list-style-type: none"> <li>- Soil stockpiles outside of the enclosure will not be exposed to rain.</li> <li>- The pathway for infiltration of rain through the stockpiles and into the ground is not complete.</li> </ul> <p>Additionally the chemicals under consideration are very slow moving the in the ground, would take decades to impact ground water / soils at depth. Any impact would be at the surface only.</p> <p>There is a requirement for restoration of the area to its condition prior to treatment works. This would trigger remediation of any surface impacts. This would also trigger remediation of any deeper impacts in the very unlikely scenario that they have occurred.</p>
Groundwater contamination		
Surface water contamination	Sediment controls as specified in EMP30 Procedure 30 – use of dish drains and sediment fencing and water storage tanks	Eliminates surface water migrating off the treatment area. Eliminates potential for discharge into the Cooks River.

Comment 2: It is unknown whether the stockpiles will be combustible.

No the stockpiles will not be combustible, the material to be received at Chullora will be impacted soil, closer in nature to common bitumen rather than fuel.

Comment 3: Residents in Marlene Crescent being affected by offensive odours .

A through assessment of potential air quality impacts has been conducted that included residents at Marlene Crescent. A program of air quality controls has been designed for mitigation of these impacts during treatment works at the site and detailed in 'Air Quality Management Plan, Remediation of Former Macdonaldtown Gasworks – Chullora Material Receipt Facility', Reference 40913- 16613 (Chullora AQMP), dated August 2011 (JBS 2011d). The required controls are summarised in **Table 2** below (as extracted from JBS 2011c), with full details of the requirements documented in the Chullora AQMP (JBS 2011d).

**Table 2: Summary of Required Air Quality Controls, Chullora**

<b>Site Area / Activity</b>	<b>Proposed Air Quality Control</b>
Soil Handling and Stockpiling	Reduction of exposed untreated materials to 150m <sup>2</sup> for all activities. Dust suppression by hourly watering of all exposed soil surfaces.
Soil treatment – cement stabilisation	Reduction of exposed untreated materials to 150m <sup>2</sup> for all activities. Reduction of area of likely to generate cement emissions to 100m <sup>2</sup> .
Soil treatment - bioremediation	Reduction of exposed untreated materials to 150m <sup>2</sup> for all activities. Dust suppression by hourly watering of all exposed soil surfaces.
Haulage Road use	Dust suppression by hourly watering of all surfaces.

**ATTACHMENT 5 – JBS TECHNICAL CLARIFICATION LETTER DATED 16 FEBRUARY 2012**

Our Ref: JBS40913-50138 Revision 1

16 February 2012

ATT: Bryan Kidd  
Savills Australia  
Level 7, 50 Bridge Street  
SYDNEY NSW 2000

Sent via email: [bkidd@savills.com.au](mailto:bkidd@savills.com.au)

**Response to NSW Planning and Infrastructure Letter 'Macdonaldtown Gasworks Remediation Project (09-0145), EA Adequacy Review – Second Round', Revision 1**

Dear Bryan,

JBS Environmental Pty Ltd (JBS) has reviewed the NSW Planning and Infrastructure letter 'Macdonaldtown Gasworks Remediation Project (09-0145), EA Adequacy Review – Second Round' dated 14 December 2011, provided by Savills Australia (Savills), on behalf of the site owner, Rail Corporation New South Wales (RailCorp). Three comments provided in Attachment 1 of the letter relate to items addressed in JBS reports, regarding 'Air Quality and Health' and 'Soil and Water'. The following responses are provided:

Comment 1: Air Quality and Health, Macdonaldtown – discuss any exceedances and how these would be mitigated. Detail what measures would be implemented if exceedances are recorded during operations.

Assuming worst case conditions (i.e. no air quality controls applied during remediation works):

- The predicted total suspended particulate (TSP) values at the majority of the six off-site receptor locations assessed exceeded the adopted assessment criteria; and
- The predicted odour emissions at all six off-site receptor locations assessed exceeded the adopted assessment criterion.

Detailed breakdown of predicted exceedances are provided in Appendix E of 'Air Quality Assessment, Remediation of Former Macdonaldtown Gasworks', Reference 40913- 15136, dated August 2011 (JBS 2011a). Based on the exceedances described above, a program of air quality controls has been designed for mitigation of these impacts during remediation of the site, and are detailed in 'Air Quality Management Plan, Remediation of Former Macdonaldtown Gasworks', Reference 40913- 15972 (Macdonaldtown AQMP), dated August 2011 (JBS 2011b). The required controls, monitoring and contingencies for each stage of the works are summarised in **Table 1 (Attachment 2)**, with full details of the requirements for these controls documented in the Macdonaldtown AQMP (JBS 2011b).

Comment 2: Air Quality and Health, Chullora– provide similar details as required for the Macdonaldtown site.

Assuming worst case conditions (i.e. no air quality controls applied during remediation works):

- The predicted TSP values at the majority of the six off-site receptor locations assessed exceeded the adopted assessment criteria; and
- The predicted odour emissions at all six off-site receptor locations assessed exceeded the adopted assessment criterion.

Detailed breakdown of predicted exceedances are provided in Appendix E of 'Air Quality Assessment, Remediation of Former Macdonaldtown Gasworks – Chullora Material Receipt Facility', Revision F, Reference 40913- 15137, dated August (JBS 2011c). Based on the exceedances described above, a program of air quality controls has been designed for mitigation of these impacts during treatment works at the site and detailed in 'Air Quality Management Plan, Remediation of Former Macdonaldtown Gasworks – Chullora Material Receipt Facility', Reference 40913- 16613 (Chullora AQMP), dated August 2011 (JBS 2011d). The required controls, monitoring and contingencies for each stage of the works at Chullora are summarised in **Table 1 (Attachment 2)**, in **Table 2 (Attachment 2)**, with full details of the requirements documented in the Chullora AQMP (JBS 2011d).

Comment 3: Soil and Water – please also provide a conceptual plan of the stormwater management at each site.

It is proposed that stormwater management be undertaken in accordance with '*Environmental Management Plan, Demolition and Remediation, Former Macdonaldtown Gasworks, Burren Street, Erskineville, NSW*', (JBS 2011e). Specifically EMP Procedures 11 and 30 in JBS (2011e) provide management procedures for stormwater and sediment control during the proposed works. **Figures 1 and 2 (Attachment 3)** provide a conceptual plan of stormwater controls at each site, in accordance with EMP Procedures 11 and 30, and based on the proposed layout at each site during remediation.

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Should you require further clarification, please feel free to contact me on 8338 1011.

Yours Sincerely,

Reviewed by



Sumi Dorairaj  
Senior Environmental Consultant  
**JBS Environmental Pty Ltd**



Matthew Bennett  
Principal, Contaminated Land  
**JBS Environmental Pty Ltd**

Attachments (1) Limitations  
(2) Tables 1 and 2  
(3) Figures 1 and 2

## **Attachment 1: Limitations**

This letter has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS Environmental Pty Ltd accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This letter should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS Environmental Pty Ltd, and should not be relied upon by other parties, who should make their own enquires.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this letter are based on the information obtained at the time of the investigations.

This letter does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS Environmental Pty Ltd reserves the right to review the letter in the context of the additional information.

**Attachment 2: Tables 1 and 2**

**Table 1: Summary of Air Quality Controls - Macdonaldtown Site**

Nature of Potential Air Emissions	Stage of Works Potentially Generating Emissions <sup>1</sup>	Nominated Controls <sup>2</sup>	Monitoring Requirements	Criteria to be achieved on site	Contingency for criteria exceedances <sup>2</sup>
Particulates	1A – assessment/soil sampling of northern boundary retaining wall; 1B- construction of internal turning circle, vegetation removal 1C – excavation/validation of the top 0.5m of fill material of the entire site surface. Transfer of excavated soil to Chullora for treatment prior to disposal to landfill 1D – excavation/validation of four hotspots to depths of 1-2m 2A- commission air and water treatment system 2B – excavate/validate areas within enclosure. Transfer of excavated soil to Chullora for treatment prior to disposal to landfill 2C – reinstate enclosure excavation with imported Virgin Excavated Natural Material (VENM) or Excavated Natural material (ENM) 3A – excavate/validate areas external the enclosure. Excavated material unsuitable for onsite bioremediation within enclosure to be transferred to Chullora for treatment prior to disposal to landfill 3B –Material assessed as suitable for remediation by bioremediation to be stockpiled for treatment within enclosure 3C – reinstatement of site using VENM or ENM, landscaping as required	<ul style="list-style-type: none"> <li>Hourly watering of all surfaces (AQMP03)</li> <li>Minimise height of uncovered stockpiled soil (AQMP03)</li> <li>Covering or surface seeding of stockpiles to be left in place for significant time periods (AQMP03)</li> <li>Installation of water misting system on boundaries shared with residential properties (AQMP03)</li> </ul>	Hourly visual assessment of dust at site boundaries	No visible dust at site boundaries	<ol style="list-style-type: none"> <li>Identification of activities causing exceedances and if required increased monitoring frequencies (AQMP 07)</li> <li>Increased watering frequencies (AQMP07)</li> <li>Use of boundary misting system (AQMP03)</li> <li>Restriction of works to avoid periods of unfavourable weather conditions (AQMP07)</li> <li>Cessation of works and revision of Air Quality Management Plan (AQMP07)</li> </ol>
			When dust visible then quantified dust-trak measurements at boundaries at hourly intervals	Dust-trak measured PM <sub>10</sub> value of 500 mg/m <sup>3</sup>	
			Analysis of dust deposition gauges at monthly intervals	Dust deposition gauge value of 2 g/m <sup>2</sup> /month	
Air Toxins	1C – excavation/validation of the top 0.5m of fill material of the entire site surface. Transfer of excavated soil to Chullora for treatment prior to disposal to landfill 1D – excavation/validation of four hotspots to depths of 1-2m 2A- commission air and water treatment system 2B – excavate/validate areas within enclosure. Transfer of excavated soil to Chullora for treatment prior to disposal to landfill 2C – reinstate enclosure excavation with imported Virgin Excavated Natural Material (VENM) or Excavated Natural material (ENM) 3A – excavate/validate areas external the enclosure. Excavated material unsuitable for onsite bioremediation within enclosure to be transferred to Chullora for treatment prior to disposal to landfill 3B –Material assessed as suitable for remediation by bioremediation to be stockpiled for treatment within enclosure 3C – reinstatement of site using VENM or ENM, landscaping as required	<ul style="list-style-type: none"> <li>Hourly watering of all surfaces (AQMP03)</li> <li>Minimise height of uncovered stockpiled soil (AQMP03)</li> <li>Covering or surface seeding of stockpiles to be left in place for significant time periods (AQMP03)</li> <li>Removal or enclosure of any areas of splash filling associated with the water treatment system (AQMP03)</li> <li>Installation of water misting system on boundaries shared with residential properties (AQMP03)</li> </ul>	RealtimeVOC monitoring of work area(s) using a PID	PID value between 0.1 and 0.9 ppm based on distance to closest receptor	<ol style="list-style-type: none"> <li>Identification of activities causing exceedances and if required increased monitoring frequencies (AQMP06)</li> <li>Increased watering frequencies (AQMP06)</li> <li>Restriction of works to avoid periods of unfavourable weather conditions (AQMP06)</li> <li>Reduction in the volume/size of disturbance to impacted materials (AQMP06)</li> <li>Cessation of works and revision of Air Quality Management Plan (AQMP06)</li> </ol>
			Where PID values exceed, VOC monitoring using Draeger tubes	0.5ppm (for draeger tube set for benzene detection)	
Odours	2B – excavate/validate areas within tented enclosure. Transfer of excavated soil to Chullora for treatment prior to disposal to landfill 2C – reinstate enclosure excavation with imported Virgin Excavated Natural Material (VENM) or Excavated Natural material (ENM) 3A – excavate/validate areas external the enclosure. Excavated material unsuitable for onsite bioremediation within enclosure to be transferred to Chullora for treatment prior to disposal to landfill 3B –Material assessed as suitable for remediation by bioremediation to be stockpiled for treatment within enclosure 3C – reinstatement of site using VENM or ENM, landscaping as required	<ul style="list-style-type: none"> <li>Installation of tented enclosure over sources areas, and operation of enclosure under negative pressure (AQMP01)</li> <li>Venting of all enclosure emissions through an air treatment system fitted with a granular activated carbon (GAC) filter (AQMP01)</li> <li>Environmental Consultant to advise of appropriate periods of the day for removal of soil from the tented enclosure and or removal of soil from site (AQMP01)</li> <li>Restriction of the size of surface soil excavations external to enclosure to 400m<sup>2</sup> (AQMP01)</li> <li>Restriction of the size of excavations in the northern retaining wall area external to the enclosure to 25m<sup>2</sup> (AQMP01)</li> <li>Restriction of areas used for stockpiling (i.e. no stockpiles to be placed along boundary with Burren St residences) (AQMP01)</li> <li>All stockpiles to be covered unless concentration demonstrated to meet odour-based criteria for BTEX, phenol and selected PAHs (AQMP01)</li> <li>Covering tipper or truck loads of soil external to the tented enclosure (AQMP01)</li> <li>Contingency odour masking system to be installed along site boundaries (AQMP01)</li> </ul>	Daily monitoring of GAC air sampling ports using a PID	10 ppm (for air sampling at GAC)	<ol style="list-style-type: none"> <li>Identification of activities causing exceedances and if required increased monitoring frequency (AQMP05)</li> <li>Replacement of GAC filter (AQMP01)</li> <li>Restriction of works to avoid periods of unfavourable weather conditions (AQMP01)</li> <li>spraying of exposed surfaces with an odour sealing solution (AQMP01 and 05)</li> <li>Covering, to the extent practical, all exposed soil (AQMP01)</li> <li>Implementation of site boundary odour masking system (AQMP02)</li> <li>Cessation of works and revision of Air Quality Management Plan (AQMP05)</li> </ol>
			Twice daily monitoring of odours using a 'Nasal Ranger'	2 - 4 odour units using nasal ranger	
			Hourly monitoring of odours using a 'Nasal Ranger' when potentially malodourous materials are being disturbed external to the tented enclosure		

**Notes** 1. As per project stages nominated in Table 7.1 of JBS (2011) 'Remedial Strategy, Former Macdonaldtown Gasworks, Burren Street, Erskineville, NSW'

2. AQMP refers to Management Procedure as provided in JBS (2011) 'Air Quality Management Plan, Remediation of Former Macdonaldtown Gasworks'

provided as Appendix B in JBS (2011) 'Environmental Management Plan, Remediation of Former Macdonaldtown Gasworks'

BTEX benzene, toluene, ethylbenzene and xylenes

PAHs polycyclic aromatic hydrocarbons

PID photoionisation detector

GAC granulated activated carbon filter

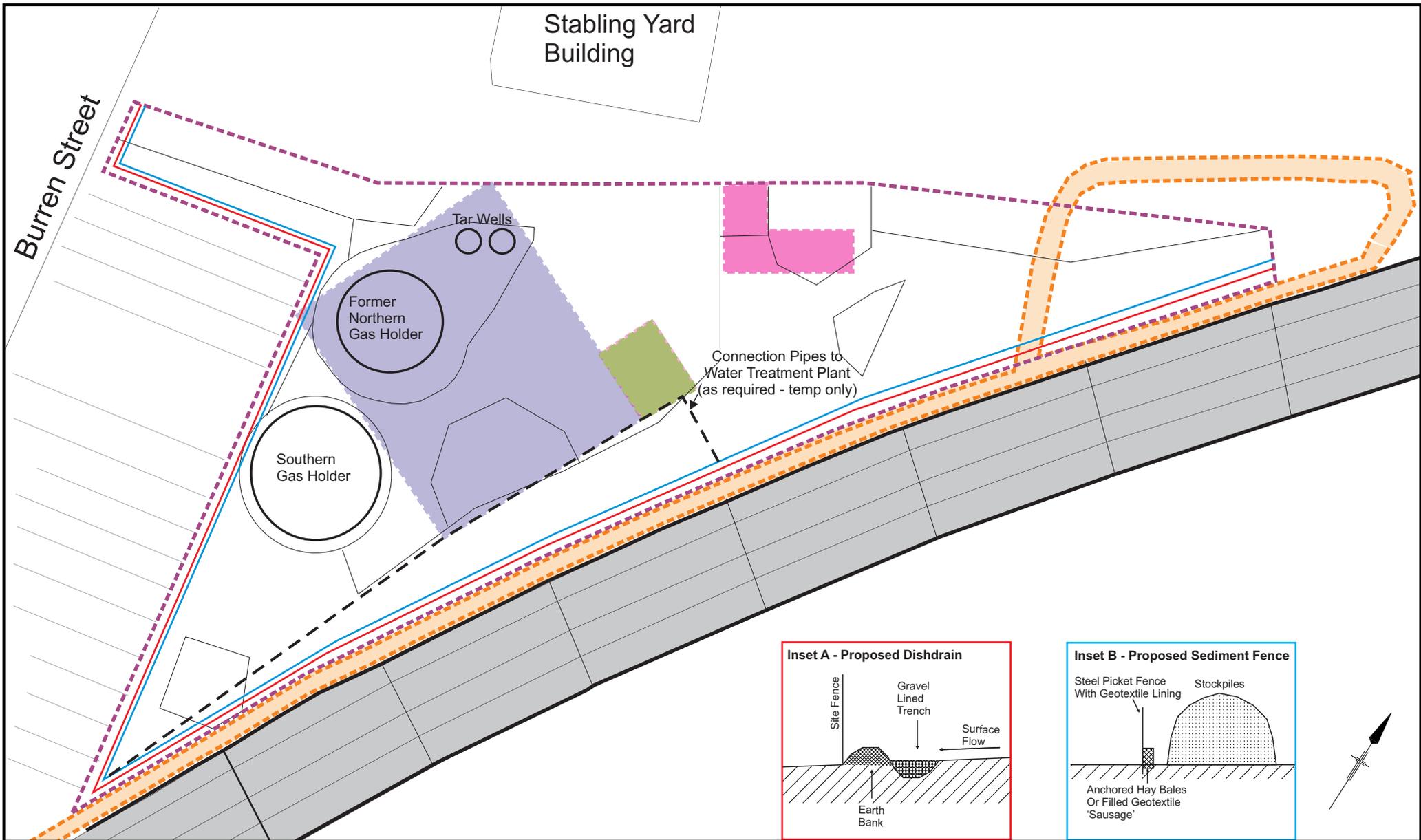
VOC volatile organic compounds

**Table 2: Summary of Air Quality Controls - Chullora Site**

Nature of Potential Air Emissions	Stage of Works Potentially Generating Emissions <sup>1</sup>	Nominated Controls <sup>2</sup>	Monitoring Requirements	Criteria to be achieved on site	Contingency for criteria exceedances <sup>2</sup>
Particulates	Treatment B – receipt of materials for on site treatment and storage until minimum required volume accumulated Treatment C - treatment of soils within enclosure Treatment D - outdoor stockpiling of treated soil until off-site removal	<ul style="list-style-type: none"> <li>Hourly watering of all surfaces (AQMP03)</li> <li>Minimise height of uncovered stockpiled soil (AQMP03)</li> <li>Covering or surface seeding of stockpiles to be left in place for significant time periods (AQMP03)</li> </ul>	Hourly visual assessment of dust at site boundaries	No visible dust at site boundaries	<ol style="list-style-type: none"> <li>Identification of activities causing exceedances and if required increased monitoring frequencies (AQMP 07)</li> <li>Increased watering frequencies (AQMP07)</li> <li>Restriction of works to avoid periods of unfavourable weather conditions (AQMP07)</li> <li>Cessation of works and revision of Air Quality Management Plan (AQMP07)</li> </ol>
			When dust visible then quantified dust-trak measurements at treatment area boundaries at hourly intervals; and	Dust-trak measured PM <sub>10</sub> value of 500 mg/m <sup>3</sup>	
			Analysis of dust deposition gauges at monthly intervals	Dust deposition gauge value of 2 g/m <sup>2</sup> /month	
Air Toxins	Treatment B – receipt of materials for on site treatment and storage until minimum required volume accumulated Treatment C - treatment of soils within enclosure Treatment D - outdoor stockpiling of treated soil until off-site removal	No specific controls for toxin emissions required. Controls established for particulates and odours with realtime monitoring considered adequate	Real-time VOC monitoring of work area(s) using a PID	PID value between 0.1 and 0.9 ppm based on distance to closest receptor	<ol style="list-style-type: none"> <li>Identification of activities causing exceedances and if required increased monitoring frequencies (AQMP06)</li> <li>Increased watering frequencies (AQMP06)</li> <li>Restriction of works to avoid periods of unfavourable weather conditions (AQMP06)</li> <li>Reduction in the volume/size of disturbance to impacted materials (AQMP06)</li> <li>Cessation of works and revision of Air Quality Management Plan (AQMP06)</li> </ol>
			Where PID values exceed, VOC monitoring using Draeger tubes	0.5ppm (for draeger tube set for benzene detection)	
Odours	Treatment B – receipt of materials for on site treatment and storage until minimum required volume accumulated Treatment C - treatment of soils within enclosure Treatment D - outdoor stockpiling of treated soil until off-site removal	<ul style="list-style-type: none"> <li>Installation of tented enclosure over treatment area, and operation of enclosure under negative pressure (AQMP01)</li> <li>Venting of all enclosure emissions through an air treatment system fitted with a granular activated carbon (GAC) filter (AQMP01)</li> <li>Environmental Consultant to advise of appropriate periods of the day for removal of soil from the tented enclosure and or receipt of untreated soil at the site (AQMP01)</li> <li>Restriction of the size of exposed untreated soils to 150m<sup>2</sup> for all activities (AQMP01)</li> <li>Covering tipper or truck loads of soil external to the tented enclosure (AQMP01)</li> <li>Contingency odour masking system to be installed along treatment area boundaries (AQMP01)</li> </ul>	Daily monitoring of GAC air sampling ports using a PID	10 ppm (for air sampling at GAC)	<ol style="list-style-type: none"> <li>Identification of activities causing exceedances and if required increased monitoring frequency (AQMP05)</li> <li>Replacement of GAC filter (AQMP01)</li> <li>Restriction of works to avoid periods of unfavourable weather conditions (AQMP01)</li> <li>Spraying of exposed surfaces with an odour sealing solution (AQMP01 and 05)</li> <li>Covering, to the extent practical, all exposed soil (AQMP01)</li> <li>Implementation of site boundary odour masking system (AQMP02)</li> <li>Cessation of works and revision of Air Quality Management Plan (AQMP05)</li> </ol>
			Twice daily monitoring of odours using a 'Nasal Ranger'	2 - 4 odour units using nasal ranger	
			Hourly monitoring of odours using a 'Nasal Ranger' when potentially malodorous materials are being disturbed external to the tented enclosure		

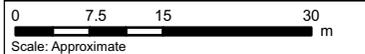
- Notes**
- As per project stages nominated in Table 7.1 of JBS (2011) 'Remedial Strategy, Former Macdonaldtown Gasworks, Burren Street, Erskineville, NSW'
  - AQMP refers to Management Procedure as provided in JBS (2011) 'Air Quality Management Plan, Remediation of Former Macdonaldtown Gasworks - Chullora Material Receipt Facility', provided as Appendix D in JBS (2011) 'Environmental Management Plan, Remediation of Former Macdonaldtown Gasworks'
- BTEX benzene, toluene, ethylbenzene and xylenes  
PAHs polycyclic aromatic hydrocarbons  
PID photoionisation detector  
GAC granulated activated carbon filter  
VOC volatile organic compounds

**Attachment 3: Figures 1 and 2**



Source: Base Image: adapted from Figure 4 CH2M Hill 2007

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Datum: MGA94 Zone 56 - AHD			
A4			
0	Original Issue - L13	SE	18-01-2012
Rev	Description	Drn.	Date

- Legend:**
- - - Site Boundary
  - Temporary Enclosure
  - Air Emissions Treatment System
  - Water Treatment System
  - Site Access Road
  - Water Treatment System
  - Proposed Dishdrain - as per EMP 11 (Inset A)
  - Proposed Sediment Fence - as per EMP 11 (Inset B)



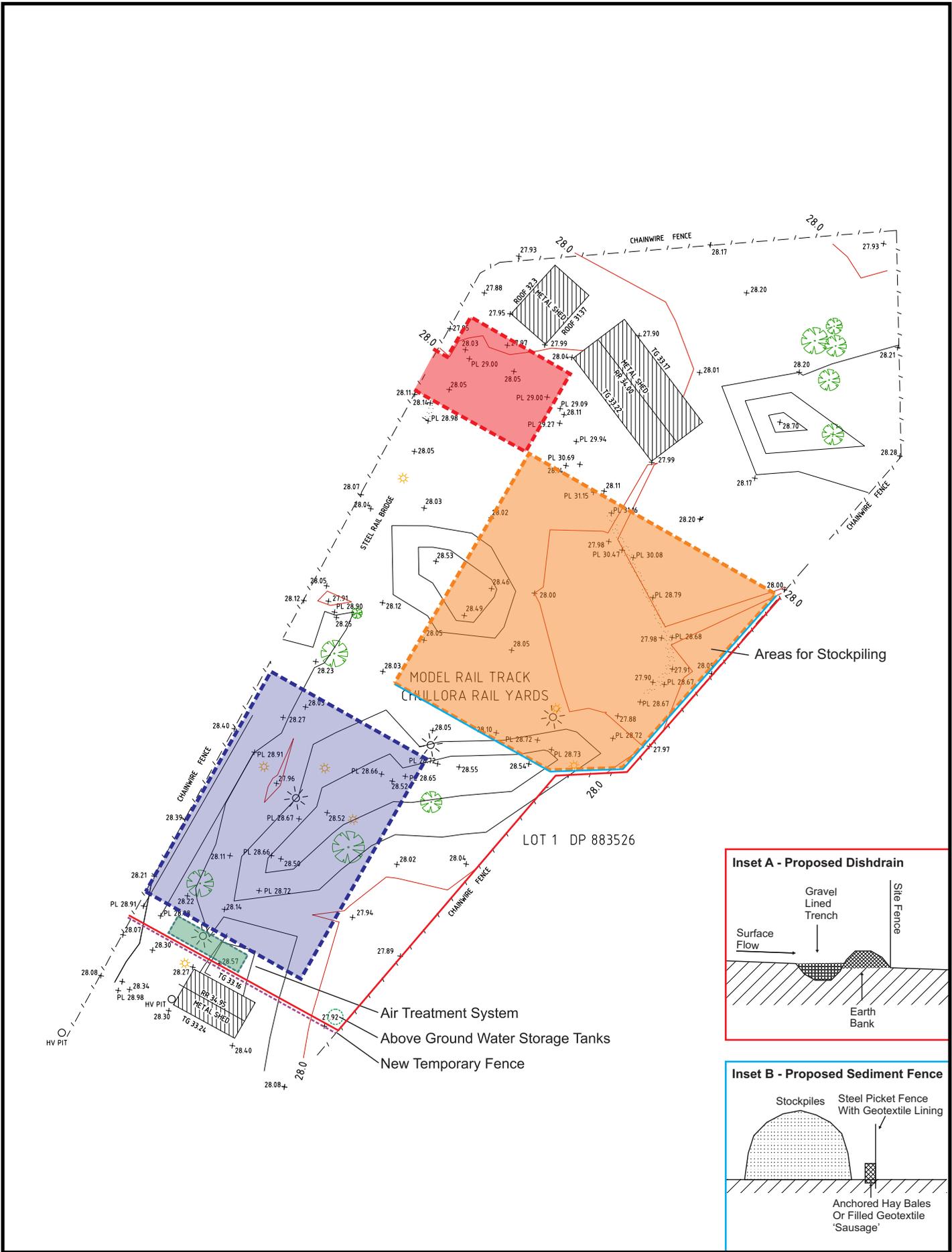
**Figure 1: Macdonaldtown Remediation Proposed Site Setup**

Client: Incoll Management

Project: RailCorp Macdonaldtown Approvals

Job No: 40913

File Name: 40913\_01



Source: Base Image: © 2011 Lynton Surveyors Pty Ltd - 2011C107\_DET.dwg

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0 10 20 40 m			
Scale: Approximate			
Datum: MGA94 Zone 56 - AHD			
A4			
0	Original Issue - L013	SE	29-01-2012
Rev	Description	Drn.	Date

<b>Legend:</b>			
	New Temporary Fence		Air Treatment System
	Temporary Enclosure		Area for Stockpiling
	Decontamination Area / Wheel Wash		Proposed Dish Drain (Inset A)
	Proposed Sediment Fence (Inset B)		



**Figure 2: Proposed Chullora Treatment Area Setup**

Client: Incoll Management	
Project: RailCorp Macdonaldtown Approvals	
Job No: 40913	File Name: 40913_02

