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

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).

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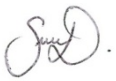
Comment 3: Soil and Water – please also provide a conceptual plan of the stormwater management at each site.

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.

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

Yours Sincerely,



Sumi Dorairaj
Senior Environmental Consultant
JBS Environmental Pty Ltd

Reviewed by

Matthew Bennett
Principal, Contaminated Land
JBS Environmental Pty Ltd

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

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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[1]	Nominated Controls[2]	Monitoring Requirements	Criteria to be achieved on site	Contingency for criteria exceedances[2]
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	• Hourly watering of all surfaces (AQMP03) • Minimise height of uncovered stockpiled soil (AQMP03) • Covering or surface seeding of stockpiles to be left in place for signficant time periods (AQMP03) • Installation of water misting system on boundaries shared with residential properties (AQMP03)	Hourly visual assessment of dust at site boundaries	No visible dust at site boundaries	1. Identification of activities causing exceedances and if required increased monitoring frequencies (AQMP 07) 2. Increased watering frequencies (AQMP07) 3. Use of boundary misting system (AQMP03) 4. Restriction of works to avoid periods of unfavourable weather conditions (AQMP07) 5. Cessation of works and revision of Air Quality Management Plan (AQMP07)
			When dust visible then quantified dust-trak measurements at boundaries at hourly intervals	Dust-trak measured PM_{10} value of 500 mg/m^3	
			Analysis of dust deposition gauges at monthly intervals	Dust deposition gauge value of 2 g/m^2/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	• Hourly watering of all surfaces (AQMP03) • Minimise height of uncovered stockpiled soil (AQMP03) • Covering or surface seeding of stockpiles to be left in place for signficant time periods (AQMP03) • Removal or enclosure of any areas of splash filling associated with the water treatment system (AQMP03) • Installation of water misting system on boundaries shared with residential properties (AQMP03)	RealtimeVOC monitoring of work area(s) using a PID	PID value between 0.1 and 0.9 ppm based on distance to closest receptor	1. Identification of activities causing exceedances and if required increased monitoring frequencies (AQMP06) 2. Increased watering frequencies (AQMP06) 3. Restriction of works to avoid periods of unfavourable weather conditions (AQMP06) 4. Reduction in the volume/size of disturbance to impacted materials (AQMP06) 5. Cessation of works and revision of Air Quality Management Plan (AQMP06)
			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	• Installation of tented enclosure over sources areas, and operation of enclosure under negative pressure (AQMP01) • Venting of all enclosure emissions through an air treatment system fitted with a granular activated carbon (GAC) filter (AQMP01) • 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) • Restriction of the size of surface soil excavations external to enclosure to 400m2 (AQMP01) • Restriction of the size of excavations in the northern retaining wall area external to the enclosure to 25m2 (AQMP01) • Restriction of areas used for stockpiling (i.e. no stockpiles to be placed along boundary with Burren St residences) (AQMP01) • All stockpiles to be covered unless concentration demonstrated to meet odour-based criteria for BTEX, phenol and selected PAHs (AQMP01) • Covering tipper or truck loads of soil external to the tented enclosure (AQMP01) • Contingency odour masking system to be installed along site boundaries (AQMP01)	Daily monitoring of GAC air sampling ports using a PID	10 ppm (for air sampling at GAC)	1. Identification of activities causing exceedances and if required increased monitoring frequency (AQMP05) 2. Replacement of GAC filter (AQMP01) 3. Restriction of works to avoid periods of unfavourable weather conditions (AQMP01) 4. spraying of exposed surfaces with an odour sealing solution (AQMP01 and 05) 5. Covering, to the extent practical, all exposed soil (AQMP01) 6. Implementation of site boundary odour masking system (AQMP02) 7. Cessation of works and revision of Air Quality Management Plan (AQMP05)
			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

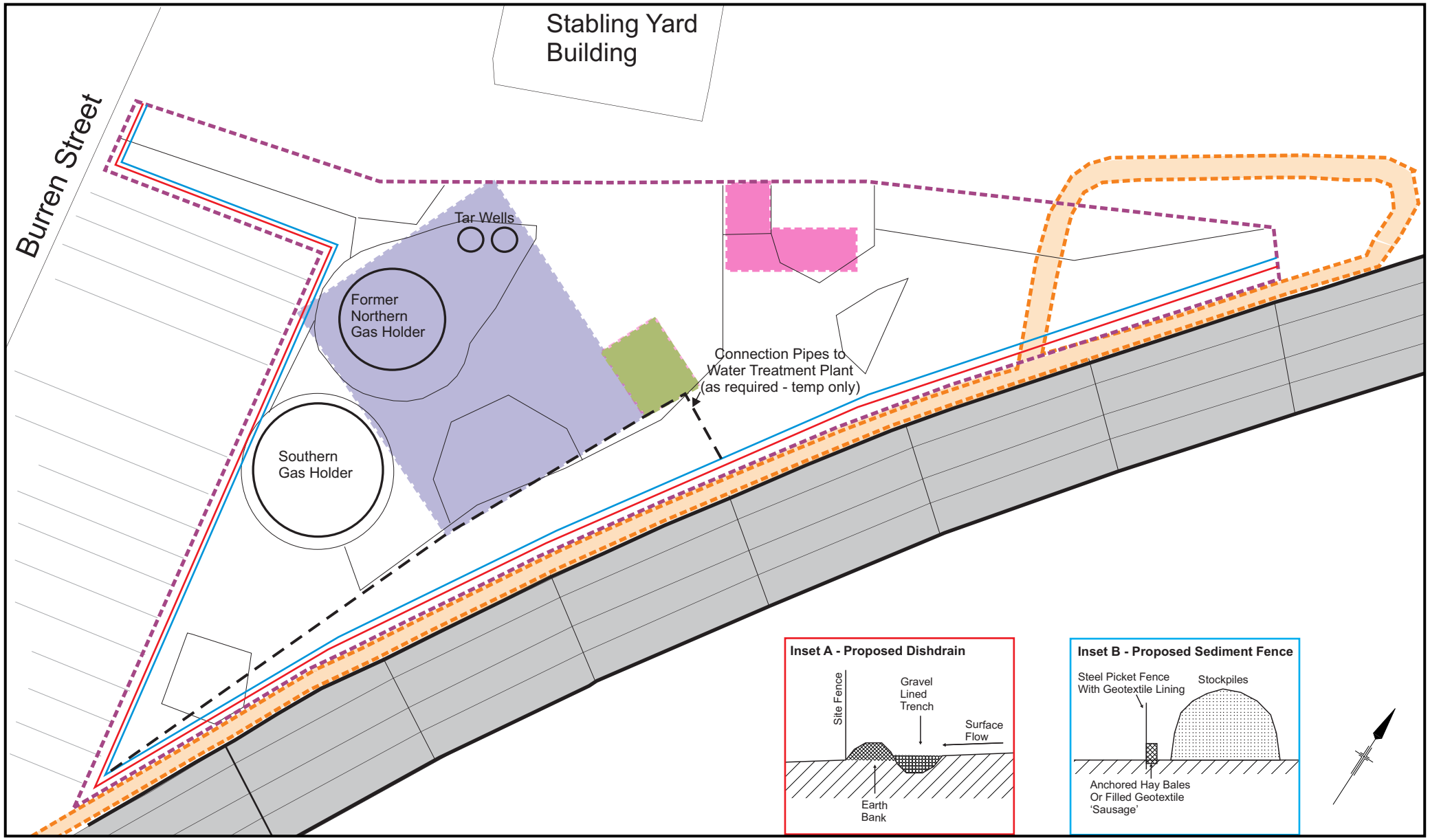
Nature of Potential Air Emissions	Stage of Works Potentially Generating Emissions[1]	Nominated Controls[2]	Monitoring Requirements	Criteria to be achieved on site	Contingency for criteria exceedances[2]
Particulates	Treatment B – receipt of materials for on site treatment and storage until minimum required volume accumulated Treatment C - treatment of soils within enclosure Treatment D - outdoor stockpiling of treated soil until off-site removal	• Hourly watering of all surfaces (AQMP03) • Minimise height of uncovered stockpiled soil (AQMP03) • Covering or surface seeding of stockpiles to be left in place for signficant time periods (AQMP03)	Hourly visual assessment of dust at site boundaries	No visible dust at site boundaries	1. Identification of activities causing exceedances and if required increased monitoring frequencies (AQMP 07) 2. Increased watering frequencies (AQMP07) 3. Restriction of works to avoid periods of unfavourable weather conditions (AQMP07) 4. Cessation of works and revision of Air Quality Management Plan (AQMP07)
			When dust visible then quantified dust-trak measurements at treatment area boundaries at hourly intervals; and	Dust-trak measured PM_{10} value of 500 mg/m^3	
			Analysis of dust deposition gauges at monthly intervals	Dust deposition gauge value of 2 g/ m2/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 mnitoring 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	1. Identification of activities causing exceedances and if required increased monitoring frequencies (AQMP06) 2. Increased watering frequencies (AQMP06) 3. Restriction of works to avoid periods of unfavourable weather conditions (AQMP06) 4. Reduction in the volume/size of disturbance to impacted materials (AQMP06) 5. Cessation of works and revision of Air Quality Management Plan (AQMP06)
			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 requried volume accumulated Treatment C - treatment of soils within enclosure Treatment D - outdoor stockpiling of treated soil until off-site removal	• Installation of tented enclosure over treatment area, and operation of enclosure under negative pressure (AQMP01) • Venting of all enclosure emissions through an air treatment system fitted with a granular activated carbon (GAC) filter (AQMP01) • 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) • Restriction of the size of exposued untreated soils to 150m2 for all activities (AQMP01) • Covering tipper or truck loads of soil external to the tented enclosure (AQMP01) • Contingency odour masking system to be installed along treatment area boundaries (AQMP01)	Daily monitoring of GAC air sampling ports using a PID	10 ppm (for air sampling at GAC)	1. Identification of activities causing exceedances and if required increased monitoring frequency (AQMP05) 2. Replacement of GAC filter (AQMP01) 3. Restriction of works to avoid periods of unfavourable weather conditions (AQMP01) 4. Spraying of exposed surfaces with an odour sealing solution (AQMP01 and 05) 5. Covering, to the extent practical, all exposed soil (AQMP01) 6. Implementation of site boundary odour masking system (AQMP02) 7. Cessation of works and revision of Air Quality Management Plan (AQMP05)
			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 - 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

0 7.5 15 30 m
Scale: Approximate

Datum: MGA94 Zone 56 - AHD

Rev	Description	Drn.	Date
A4			
0	Original Issue - L13	SE	18-01-2012

Legend:

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

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Figure 1: Macdonaldtown Remediation Proposed Site Setup

Client: Incoll Management

Project: RailCorp Macdonaldtown Approvals

Job No: 40913 File Name: 40913_01

Inset A - Proposed Dishdrain

Inset B - Proposed Sediment Fence

Source: Base Image: © 2011 Lynton Surveyors Pty Ltd - 2011C107_DET.dwg

0 10 20 40 m

Scale: Approximate

Datum: MGA94 Zone 56 - AHD

Rev	Description	Drn.	Date
A4			
0	Original Issue - L013	SE	29-01-2012

Legend:

- 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)

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Figure 2: Proposed Chullora Treatment Area Setup

Client: Incoll Management

Project: RailCorp Macdonaldtown Approvals

Job No: 40913 File Name: 40913_02