

The Secretary
Department of Planning and Environment
23-33 Bridge Street
SYDNEY NSW 2000

19 August 2014

Attention: Dan Keary, Director Industry, Key Sites and Social Projects

Dear Mr Keary,

Block 4 Remediation and Land Forming Works (SSD 5897) – Addendum to Response to Submissions Report

We refer to the letter from the Department dated 10 July 2014 requesting further additional information in relation to the Development Application (DA) for Block 4 Remediation and Land Forming Works (SSD 5897) in the form of an Addendum to our Response to Submissions report prepared by JBA dated June 2014 comprising:

- A revised Air Quality Impact Assessment (AQIA) to address NSW Environment Protection Authority (the EPA) concerns; and
- Additional strategies to address predicted exceedances of noise criteria predicted in the Construction Noise and Vibration Assessment.

Concurrent with the issue of this letter, a meeting was held on 22 July 2014 between Lend Lease, the Barangaroo Delivery Authority, the Department and the EPA to clarify what information would be required in order to address the EPA's concerns prior to the determination of the application. It was determined that further information on the proposed methods for managing air quality and odour control during perimeter retention wall construction was required.

In response, we provide this Addendum to the Response to Submissions Report containing the following information:

- A. A table of Response to Issues Raised in Further Submissions (prepared by JBA, dated July 2014), including those raised by the Department in relation to the Construction Noise and Vibration Assessment; and
- B. A Preliminary Air Quality and Odour Control Plan for the development, further information on the proposed methods for managing air quality and odour control during perimeter retention wall construction (prepared by Lend Lease, dated 13 August 2014).

This material supplements the information provided in the June 2014 Response to Submissions Report.

The Response to Issues Raised in Further Submissions includes a response to the issues raised by the Department, as well as comments on the draft conditions of consent recommended by the EPA for the project on the basis of the discussion during the meeting on 22 July 2014.

The measures specified in Preliminary Air Quality and Odour Control Plan are additional to those in the updated Air Quality Impact Assessment (AQIA) (prepared by AECOM, Revision L, dated February 2014) provided with the June 2014 Response to Submissions Report, which superseded the original AQIA lodged for the DA. The Preliminary Air Quality and Odour Control Plan should be read alongside the June 2014 Response to Submissions Report and associated update AQIA and is supplementary to these documents.

Should you have any queries about this matter or require any further information, please contact me on 02 9277 20008 or at clare.hall@lendlease.com.

Yours Sincerely



Clare Hall
Planning Manager – Barangaroo South
Lend Lease (Millers Point) Pty Limited

Attachments –

- A. Response to Issues Raised in Further Submissions (prepared by JBA, dated July 2014); and
- B. Preliminary Air Quality and Odour Control Plan (prepared by Lend Lease, dated 13 August 2014).

Block 4 Development Remediation Works, Bulk Excavation and Retention Wall System Construction, EPA Remediation Site 21122, Block 4, Barangaroo South (SSD 5897-2013)



Further Response to Submissions

Response to Issues Raised in Further Submissions - July 2014

Issue	Key Issues Summary	Lend Lease Response
Department of Planning and Environment		
1	On 2 July 2014, the Environment Protection Authority (EPA) provided its submission on the RTS to the Department which identified a number of outstanding issues in relation to the air quality, waste and contamination and water (see attached). In particular, the EPA considers that further assessment is required in relation to potential air quality impacts and has recommended that the Air Quality Impact Assessment (AQIA) in the RTS be revised once more to address the concerns outlined in its letter.	A meeting was held on 22 July 2014 between DoPE, EPA and Lend Lease to clarify the EPA letter of 2 July 2014 and confirm their specific requirements. In summary, the EPA requested the following be provided: Further information regarding proposed air quality and odour control measures during retention wall construction. The EPA confirmed they do not require any other further information in relation to the proposed works, prior to project approval. It was agreed detailed design information would be provided prior to works commencement, following contractor procurement. See also response to EPA issues in table below.
2	The Department requests that you provide an addendum to the RTS including a revised AQIA in order to address the issues raised by the EPA. The EPA has indicated that it is prepared to meet with you to discuss these matters. The Department will also make officers available to attend scheduled meetings to help facilitate the timely resolution of these matters.	At the meeting of 22 July 2014, the Department requested Lend Lease provide the further information requested by EPA above (ie. regarding proposed air quality and odour control measures during retention wall construction) as an addendum to the RTS. Per this request, Lend Lease has prepared a Block 4 PRW Preliminary Air Quality and Odour Control Plan, specifically related to perimeter retention wall construction. Please refer to the attached Plan. Note that this Plan has been reviewed by the EPA, and incorporates their feedback on the Plan.
3	The Department also notes that the revised Construction Noise and Vibration Assessment (CNVA) in the RTS predicts cumulative noise levels of up to: 76 dB(A) at residences on Hickson Road (Table 6.3, p. 24) which exceeds the 'highly noise affected level' of 75 dB(A) and may cause a strong community reaction to noise; and 66 dB(A) internally at the 'KU Lance pre-school' on High Street (Table 6.5, p. 26) which exceeds the relevant noise management level (NML) of 55 dB(A) by 11 dB(A). The Department therefore requests that additional strategies are identified to address the above predicted exceedances.	With regards to the Departments' comments on predicted noise levels: - The recommendations outlined in the CNVA will be implemented to mitigate potential noise impact. These mitigation measures include the installation of localised treatments (e.g. barriers) to minimise noise from fixed plant and equipment, as well as equipment selection (and installation of attenuation devices), site planning (i.e. locating noisy equipment to minimise noise impacts), and the installation of a noise barrier on the eastern side of the site. These mitigation measures will be designed and installed with a particular focus of reducing the noise impact on Hickson Road residences below the highly affected noise level of 75 dB(A). - As noted in the CNVA, the exceedances predicted at the pre-school are expected to be worst-case for internal areas with open windows only. The recommendations outlined in the CNVA will be implemented to minimise noise impact. In addition, closing of windows during intensive construction activity could be undertaken, to further reduce impacts.

Block 4 Development Remediation Works, Bulk Excavation and Retention Wall System Construction, EPA Remediation Site 21122, Block 4, Barangaroo South (SSD 5897-2013)



Further Response to Submissions

Issue	Key Issues Summary	Lend Lease Response
Environment Protection Authority (EPA)		
1	Air Quality The EPA's submission on the Environmental Impact Statement (EIS) prepared for the development approval stated among other things that the EPA was unable to recommend conditions of approval until such time that the proponent provided additional information. The EPA can now support the project approval subject to recommended conditions (in Attachment 1) which require the proponent to provide: ▪ A revised AQIA based on detailed/ final design of the project; ▪ An Air Quality Management Plan; and ▪ An Air Quality Monitoring Plan. The EPA notes that the report states that the installation and operation of odour control enclosures may not be feasible during retention wall construction, due to the proposed retention wall construction methodology. The EPA considers that the interception of highly contaminated materials particularly free tar during the retention wall construction has the potential to release highly odorous emissions. Accordingly the EPA recommends that the proponents will need to develop and advise the EPA how it intends to implement best practice alternative controls and contingencies for this phase of the work.	This information was discussed in a meeting with the EPA on 23 January 2014, and was addressed in a revised AQIA (dated 18 February 2014) included in the first Response to Submissions. At the meeting of 22 July 2014, the EPA clarified that the only information they require as part of the EIS, is further information on odour controls during perimeter retention wall construction. Accordingly, a Block 4 PRW Preliminary Air Quality and Odour Control Plan has been prepared (attached) as part of the RtS of the EIS, to outline minimum controls to be implemented as part of retention wall construction. As agreed with the EPA and Department, Lend Lease commits to providing detailed design information prior to commencing each portion of works, following contractor procurement.
2	Waste and contamination The report under chapter 3.0 Mitigation Measures, states: "If off-site treatment is undertaken, all trucks transporting the spoil will be sealed, and receivers of the spoil will be appropriately licensed to receive the material." In relation to the remediation of Block 4, the method of remediation as indicated in the Remedial Action Plan (RAP) and related documents (that all form part of the Planning exhibition) is on-site excavation and on-site immobilisation. The EPA notes that large scale off-site treatment is discussed in the EIS but is not discussed in the Block 4 RAP itself, which may indicate an inconsistency.	With regards to potential treatment of excavated material, the RAP notes that: • Remediation works will include treatment of excavated material (if required) to facilitate off-site disposal to licensed landfill. • This treatment of excavated material is proposed for material that is classified as 'Hazardous Waste', to facilitate proper landfill disposal in accordance with EPA requirements. • If treatment of excavated material is required to facilitate off-site disposal, an Immobilisation Approval will be sought from the NSW EPA prior to off-site disposal.

Block 4 Development Remediation Works, Bulk Excavation and Retention Wall System Construction, EPA Remediation Site 21122, Block 4, Barangaroo South (SSD 5897-2013)



Further Response to Submissions

Issue	Key Issues Summary	Lend Lease Response
	The EPA notes the comment in the report's conclusions: <i>"The proposed remediation, bulk excavation and groundwater retention wall system construction at Block 4, Barangaroo South is State Significant Development which will remove the principal sources of contamination within Block 4 thereby preventing the migration of contaminated groundwater into Darling Harbour and enabling the removal of the EPA Declaration over Block 4"</i>. As stated in previous correspondence to the Department of Planning and Environment (DP&E) regarding the declared area, the EPA does not intend to remove the declaration until all sites (including Hickson Rd) have been remediated to the EPA's satisfaction.	The RAP provides details of potential on-site treatment, followed by landfill disposal. While the option of off-site treatment of hazardous material (followed by landfill disposal) is not specifically referred to in the RAP, we do not consider this is a significant inconsistency to the remediation strategy because: • For on-site or off-site treatment of hazardous waste, the final outcome for the remediated site per the RAP, is the same. That is, for either option, the treated material will be properly disposed off-site to licensed landfill. • For the off-site treatment option noted in the DA, material would only be taken to a facility that is already licensed to accept and treat the type of hazardous waste from the site, in accordance with EPA guidelines and license requirements. • As per the RAP, an Immobilisation Approval will be sought from the NSW EPA for any treatment, prior to off-site disposal. • The off-site treatment option may be preferred to enable the quickest and most efficient remediation of the whole Declaration Area It is acknowledged that the EPA does not intend to remove the Declaration over Block 4 until all areas (Block 5 and Hickson Rd) have been satisfactorily remediated.
3	Water The EPA recommends that the Operational Water Management Plan (OWMP) should be updated to include a short period of more intensive monitoring of both water treatment plant inflows and discharges to characterise the new wastewater stream targeting the key pollutants at the remediation site.	Agreed
4	Other The EPA has no objections on environmental grounds to DP&E conditionally approving the application should it decide to do so, subject to recommended approval conditions (in Attachment 1) and updating all relevant Environmental Management Plans. As you will be aware activities at the Barangaroo site are regulated by conditions attached to Environment Protection Licence (EPL) number 13336 and many of the short-term environmental or amenity impacts associated with this project can be readily regulated by the EPL. Nonetheless, the proponent will need to ensure that all mitigation measures outlined in the EIS, and required in DP&E's final approval will need to be carefully implemented to ensure compliance with the EPL and other relevant environmental legislation.	Agreed

Block 4 Development Remediation Works, Bulk Excavation and Retention Wall System Construction, EPA Remediation Site 21122, Block 4, Barangaroo South (SSD 5897-2013)



Further Response to Submissions

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	In this regard it is likely that the EPL will need to be varied to permit the new scheduled activity of "Contaminated Soil Treatment" and/or related new conditions associated with these works. If DP&E grants approval for this development the BDA should apply to the EPA to vary EPL number 13336.	
5	Attachment 1 Draft Recommended Approval Conditions - State Significant Development Application (SSD 5897) Block 4' Development Remediation Works, Bulk Excavation and Retention Wall System Construction, EPA Remediation Site 21122 'Block 4' (Stage 1B), Barangaroo South. Unless otherwise agreed in writing by the EPA all remediation activities are to be conducted in enclosures fitted with suitable ventilation arrangements and pollution control equipment. The enclosures must be operated under negative pressure.	Agreed, with minor suggested amendments as follows (insertions in bold, deletions in bold strikethrough): <i>Unless otherwise agreed in writing by the EPA all remediation excavation activities are to be conducted in enclosures fitted with suitable ventilation arrangements and pollution control equipment. The enclosures must be operated under negative pressure.</i> <i>Perimeter retention wall activities are to be conducted in accordance with the Block 4 PRW Preliminary Air Quality and Odour Control Plan.</i>
	- Prior to construction and commencement of project operations, a detailed design plan of the proposed Odour Control Structures to be submitted to the EPA for review and comment. As minimum the plan must include: - The nomination of all point source discharge parameters; - Emission performance specifications for pollution control equipment. Specifically the emission performance for all compounds of interest; - Proposed monitoring programs for the emission control systems, including arrangements for monitoring activated carbon breakthrough;	Agreed, with minor suggested amendments as follows: - Prior to construction and commencement of project excavation operations, a detailed design plan of the proposed Odour Control Structures to be submitted to the EPA for review and comment. As minimum the plan must include: - The nomination of all point source discharge parameters; - Emission performance specifications for pollution control equipment. Specifically the emission performance for all compounds of interest; - Proposed monitoring programs for the emission control systems, including arrangements for monitoring activated carbon breakthrough; - Prior to retention wall construction, a detailed contractor methodology for Odour Control during retention wall construction is to be provided to the EPA for review and comment. The methodology must: - Demonstrate that the works will meet minimum requirements specified in the Block 4 PRW Preliminary Air Quality and Odour Control Plan. - Provide detailed design of odour control measures to be implemented during retention wall construction - Proposed air quality and odour monitoring to be implemented during works.
	- Prior to construction and commencement of project operations, the proponent must submit a revised Air Quality Impact Assessment (AQIA) to the EPA. The AQIA must - Be conducted in strict accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (the Approved Methods); - Assess all key Chemicals of Potential Concern (COPC) in relation to the	Agreed, with minor suggested amendments as follows: - Prior to construction and commencement of project excavation operations, the proponent must submit a revised Air Quality Impact Assessment (AQIA) to the EPA. The AQIA must - Be conducted in strict accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (the Approved Methods); - Assess all key Chemicals of Potential Concern (COPC) in relation to the

Block 4 Development Remediation Works, Bulk Excavation and Retention Wall System Construction, EPA Remediation Site 21122, Block 4, Barangaroo South (SSD 5897-2013)



Further Response to Submissions

Issue	Key Issues Summary	Lend Lease Response
	contaminated areas and particulate matter; - o Incorporate all final design information such as point source arrangement and emission performance specifications for proposed controls; - o Nominate relevant emission concentration limits that reflect proper and efficient operation and are protective of the health and amenity of the surrounding environment. - o Incorporate all necessary mitigation measures necessary to demonstrate compliance with the relevant impact assessment criteria as nominated within the Approved Methods; - o Include a revised Air Quality Management and Monitoring Plan incorporating any additional management and monitoring requirements specific to the remediation works proposed. As a minimum the plan must include: ▪ Air emission management strategy consisting of: 1. Objectives and targets; 2. Risk assessment; and 3. Improvement plan; ▪ For all pollutant emission sources: • Key performance indicator(s) for emission controls; • Monitoring method(s) including location, frequency and duration; • Response mechanisms; • Responsibilities; • Record keeping; • Compliance repotting. • Prior to construction and commencement of project operations, the proponent must prepare and implement a revised Air Quality Monitoring Plan incorporating any additional monitoring requirements specific to the remediation works proposed.	contaminated areas and particulate matter; - o Incorporate all final design information such as point source arrangement and emission performance specifications for proposed controls; - o Nominate relevant emission concentration limits that reflect proper and efficient operation and are protective of the health and amenity of the surrounding environment. - o Incorporate all necessary mitigation measures necessary to demonstrate compliance with the relevant impact assessment criteria as nominated within the Approved Methods; • Prior to construction and commencement of project excavation operations, the proponent must submit a revised Air Quality Management and Monitoring Plan incorporating any additional management and monitoring requirements specific to the remediation works proposed. As a minimum the plan must include: ▪ Air emission management strategy consisting of: 1. Objectives and targets; 2. Risk assessment; and 3. Improvement plan; ▪ For all pollutant emission sources: • Key performance indicator(s) for emission controls; • Monitoring method(s) including location, frequency and duration; • Response mechanisms; • Responsibilities; • Record keeping; • Compliance repotting. The below is covered off in the above, so suggest it is not required: • Prior to construction and commencement of project operations, the proponent must prepare and implement a revised Air Quality Monitoring Plan incorporating any additional monitoring requirements specific to the remediation works proposed.
	• Prior to construction and commencement of project operations, the proponent must prepare and implement an Air Quality Management Plan incorporating as a minimum: - o Air emission management strategy consisting of: 1. Objectives and targets; 2. Risk assessment; and 3. Improvement plan;	This appears to be a duplication of an earlier condition above, so suggest it is not required.

Block 4 Development Remediation Works, Bulk Excavation and Retention Wall System Construction, EPA Remediation Site 21122, Block 4, Barangaroo South (SSD 5897-2013)



Further Response to Submissions

Issue	Key Issues Summary	Lend Lease Response
	- o For all pollutant emission sources: ▪ Key performance indicator(s) for emission controls; ▪ Monitoring method(s) including location, frequency and duration; ▪ Response mechanisms; ▪ Responsibilities; ▪ Record keeping; ▪ Compliance reporting.	



**Development Application SSD 5897
Proposed Block 4 Perimeter Retention Wall Construction
Preliminary Air Quality and Odour Control Plan – 13 August 2014**

Introduction

This document has been prepared to supplement the Response to Submissions issued by Lend Lease for Development Application SSD 5897. This document has been prepared at the request of the Department of Planning and Environment (DoPE), at a meeting held between DoPE, Lend Lease and NSW EPA on 22 July 2014.

This document provides a preliminary plan of air quality and odour controls proposed during perimeter retention wall (PRW) construction, as part of SSD 5897. Measures in this plan are additional to those in the Air Quality Impact Assessment (AQIA) prepared and revised by AECOM for Block 4.

It is noted that this preliminary plan provides an overview of minimum air quality/odour controls to be implemented during retention wall construction as part of SSD 5897, when working in areas where gasworks tar or other odorous material is present. Prior to commencing works, detailed design of controls will be prepared based on selected contractor methodology, and provided to EPA for review and comment along with an updated Air Quality & Odour Management Plan and Air Quality Monitoring Plan.

Please see attached Block 4 PRW Preliminary Air Quality and Odour Control Plan.

Proposed Works	Perimeter Retention Wall (PRW) construction at Block 4 (Stage 1b)
Purpose of Works	Retaining soil and water to facilitate excavation
Type of Works	PRW type to be determined following procurement and contractor selection, anticipated to comprise either: 1. Secant or contiguous concrete piles; or 2. Diaphragm wall or sheet piles installed through bentonite slurry trench.
Source of Potential Odour/Air Quality Impact	Sub-surface tar – particularly present in historic gasworks structure on part of eastern boundary – that may be encountered and removed during PRW construction.
Preliminary Odour Control Methodology	
Primary Controls	Objective: Minimise the quantity of free tar exposed, to minimise odour generation / air emissions. The following air quality/odour control measures are proposed (to the extent practical), at locations where tar is anticipated:
Use construction method that limits odour generation / air emissions	• Where diaphragm wall or sheet pile method is used, conduct works under a bentonite slurry to minimise exposed excavation faces and free tar, and subsequent potential for odour generation / air quality impacts. • Where piling method is used, limit the extent of open excavation at any one time to a discrete hole (generally up to 1200mm diameter). Drill each hole using a rotary auger and then fill with a concrete slurry. This method will limit the amount of tar exposed at any one time, thereby minimising potential for odour generation / air quality impacts.
Secondary Controls	Objective: Control the impact of potential odours / air emissions generated. The following air quality/odour control measures are proposed (to the extent practical), at locations where tar is anticipated:
Manage odour/air emissions from spoil arisings / stockpiles	• Use a dedicated labour resource to manage odours in work area. • Install vertical barriers around the work area and adequately sealed, to help minimise risk of odour off-site. • Use odour suppressants (e.g. BioSolve) or misting sprays in or around the work area. • Spray odorous spoil / drill arisings with foaming agents (e.g. Rusmar) once brought to the surface. • Cover stockpiles with tarps, non-odorous material or foaming agents, or place into sealed drums. • Where possible, solid covers will be used in preference to suppressant foams and sprays • Dispose of stockpiles off-site as soon as practicable. • Use water spray on excavated or stockpiled material to mitigate particulate emissions. • Cover open excavations overnight. • Collect and treat run-off water, or promptly store in sealed containers.
Manage trucks to minimise fugitive odours/air emissions	• Load material promptly and with care to reduce loading times and spillage. • Use sealed trucks to control potential for spilling material through the site or off-site. • Cover loads prior to leaving loading zones, with odour suppressant foam and automatic tarps. Where possible, solid covers will be used in preference to suppressant foams and sprays. • Immediately clean truck and loading areas upon loading. • Use truck and wheel wash facilities prior to leaving the site.
Undertake monitoring and response	• Undertake detailed air quality / odour monitoring on and off-site to allow works/controls to be modified as required. • Undertake weather monitoring and modify works based on weather conditions, if required.