

**Submission by Jemena Limited (Jemena)
State Significant Development Application (SSD 5897-2013)**

This document sets out Jemena's objection to the granting of development consent for works which are described in the Environmental Impact Statement (**EIS**) for SSD 5897-2013 to be for the purpose of removing the remediation site declaration (**Declaration**) made by the NSW Environment Protection Authority (**EPA**) for the existing use of the site (ie. the Block 4 VMP Remediation Works).

Jemena submits that:

- (a) the works described as Block 4 VMP Remediation Works are excavation works which Lend Lease needs to undertake to construct buildings for the approved Barangaroo development. The Block 4 VMP Remediation Works are not works which are independent of the proposed redevelopment of Block 4;
- (b) the Block 4 VMP Remediation Works, as described in the EIS, are different to the remediation works that would be undertaken if the site were to be continued to be used for its existing use. There are other, less intrusive ways of managing the contamination within the Declared Area consistent with applicable contamination guidelines and the way that the EPA has recently regulated other former industrial sites which are not undergoing a change to commercial/residential use;
- (c) the EIS and supporting documentation does not adequately describe and assess the undertaking of the Block 4 VMP Remediation Works for continuation of existing use (ie without the Barangaroo development). Development consent cannot be granted for the Block 4 VMP Remediation Works in the absence of an EIS and supporting documents being prepared and exhibited addressing these issues;
- (d) the EIS and supporting documentation does not adequately assess groundwater dependent ecosystems for the purpose of either determining the scope of the Block 4 VMP Remediation Works or the impact of the proposed Barangaroo development on groundwater dependent ecosystems;
- (e) the remediation extent for the Block 4 VMP Remediation Works is significantly larger than that which would appear to be required, based on an analysis of the underlying data; and
- (f) the remediation of the site based on existing use should not occur in the piecemeal fashion, as described in the EIS, involving separate works on Block 4, Block 5 and under Hickson Road.

The details of the submission are set out in the attached document. The document is quite technical because of the history of the site and complex way in which the applicant has divided the bulk excavation of the basement into two categories of works.

SUBMISSION DETAILS

1. BACKGROUND

Jemena is the company which was formerly known as The Australian Gas Light Company (**AGL**). AGL operated a gas works at Millers Point between 1839 and 1921 on land which now forms part of the Barangaroo development and surrounding areas.

The NSW Government compulsorily acquired the gas works site in 1916, and AGL ceased occupation of the gas works in 1921. The NSW Government then undertook extensive excavations to construct wharves, a sewage pumping station and other works on the gas works site. The local council constructed Hickson Road through the gas works site between 1922 and 1925. Further modifications were undertaken in the 1960s when the NSW Government filled the parts of the gas works site previously excavated for wharf purposes and adjacent parts of Darling Harbour.

In 1998, the NSW Government subdivided part of the former gas works site and sold off the land. The developers, through their contractor Bovis Lend Lease, undertook deep excavations and constructed two large buildings on this land directly on the former gas works site. The buildings are located at 30-34 Hickson Road (commercial premises occupied by Lend Lease) and 38 Hickson Road (residential premises). In particular, the development at 38 Hickson Road was constructed on the basis that it was known that the excavation of the basement would lead to contaminated groundwater from the adjacent areas of the former gas works site seeping into the basement but equipment would be installed in the basement of the building to capture and dispose of this contaminated groundwater.

In 2004, the EPA was made aware of odour complaints by occupants of 38 Hickson Road arising from contaminated groundwater seeping into the basement car park. The local council later required the owners of 38 Hickson Road to take action rectifying the equipment in the basement of the building to manage the issue in the short term. The EPA intended to address the issue in the longer term by considering regulation of the other parts of the former gas works site under the *Contaminated Land Management Act 1997* (NSW) (**CLM Act**).

On 9 February 2007 the Minister for Planning granted approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (NSW) (**EP&A Act**) of a concept plan for the Barangaroo Development. The concept plan approval, as modified, includes approval for the development of the remainder of the former gas works site (ie. that portion not already developed as 30-38 Hickson Road) including:

- (a) Commercial and residential buildings within an urban precinct/mixed use zone;
- (b) Excavation below the existing ground level for the purposes of construction of basements associated with the commercial and residential buildings; and
- (c) Construction of a groundwater retention system around the boundary of the development.

On 6 May 2009, the EPA issued the Declaration, which declared part of the former gas works site to be a remediation site for the purposes of the CLM Act. The relevant part of the former gas works site comprises the area within the Barangaroo development footprint and the adjacent

areas of Hickson Road (**Declared Area**). The Declaration specified the following reasons for the EPA making the Declaration:

- Groundwater on the site has been found to be contaminated by TPHs, PAHs, BTEX, ammonia, phenol and cyanide at concentrations significantly exceeding the relevant trigger values for the protection of human health and aquatic ecosystems in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ, 2000)
- These groundwater contaminants include human carcinogens and substances toxic to aquatic ecosystems
- The contaminated groundwater is impacting on the surrounding areas including the basement of a residential building adjacent to the site, potentially exposing humans in that building to harmful vapours; however it is currently being effectively controlled
- Contaminated groundwater is likely to be migrating from the site to Darling Harbour and could ultimately affect aquatic ecosystems

In December 2009, Lend Lease was selected as the developer for “Barangaroo South”, and in March 2010 the Barangaroo Delivery Authority (**BDA**) entered into a Project Delivery Agreement which appointed Lend Lease to develop the Barangaroo South area in accordance with the concept plan approvals. That development area includes the Declared Area.

BDA prepared an Overarching Remediation Action Plan (**RAP**) for the entire Barangaroo development, including the Declared Area, in June 2010. The Overarching RAP outlined a process of having two separate Human Health and Environment Risk Assessments (**HHERAs**) and RAPs for the remediation of the Declared Area – one to remove the Declaration based on existing use and the other for additional remediation works required specifically for the Barangaroo development.

BDA submitted to the EPA a voluntary management proposal for the management of contamination in the Declared Area (**VMP**), and the VMP was approved by the EPA under the CLM Act in July 2010. BDA and Lend Lease then commissioned the preparation of a HHERA and RAP for the Declared Area under the VMP, based on the existing use of the Declared Area.

In the meantime, and before the HHERA and the RAP under the VMP was finalised, BDA and Lend Lease separately proceeded with the “Development HHERA” for the Declared Area, to inform the remediation required for the proposed Barangaroo development. The HHERA was founded upon excavation of the Declared Area for the Barangaroo development and was approved by the EPA in June 2011 as part of the conditions of planning approval for components of the Barangaroo development adjacent to the Declared Area.

BDA and Lend Lease then completed the HHERA and RAP under the VMP. The RAP also included further works required for the development, additional to the VMP works. The RAP for the purposes of the VMP existing use required excavation of the site consistent with the Development HHERA and the Barangaroo project.

Jemena was consulted by BDA in respect of preparation of the HHERA and RAP that were prepared under the VMP. Jemena made submissions to the EPA and BDA on the basis of technical advice received from an accredited contaminated sites auditor, Dr Ian Swane. The submissions raised technical issues in relation to the manner in which the HHERA was undertaken, particularly around the lack of risk assessment for the residents of 38 Hickson Road, the setting of the remediation criteria at the boundary of the Declared Area, the lack of evidence that groundwater contamination

is actually migrating into Darling Harbour at the seawall boundary and that the remediation extent identified in the documents is significantly larger than the underlying data suggests would in fact be needed.

Jemena has submitted to EPA and BDA that:

- the HHERA and RAP set out remediation works which go well beyond what would reasonably be required if the existing use of the Declared Area were to continue; and
- instead, the works set out in the RAP appear to be have been scoped on the basis of an assumption that the Barangaroo development will proceed, rather than a continuation of existing use.

Jemena has also submitted to the EPA and BDA that if the Barangaroo development was not proceeding and the Declaration was required to be removed based on existing use, there would be alternative, less intrusive ways of managing the contamination within the Declared Area consistent with the currently applicable contamination guidelines and the way that the EPA has recently regulated other former industrial sites which are not undergoing a change to commercial/residential use.

The issue is important because, under the CLM Act, BDA has a right to recover costs from other "responsible parties" for undertaking works under an approved VMP to remove the Declaration and has publicly flagged its intention to do so. Any remediation or works required because of proposed redevelopment or change of use of the Declared Area will be relevant to the applicability of the provisions in the CLM Act relating to cost recovery.

It is therefore important that the nature, scope and purpose of the proposed remediation works the subject of the development application are fully and accurately described in the development application and EIS and, if for example, there are separate or dual purposes of undertaking particular works, these are properly described and acknowledged in the documentation.

2. OBJECTION

2.1 Structure of "Remediation Works"

The EIS divides the scope and purpose of the works in the development application into two separate categories:

- (a) Block 4 VMP Remediation Works – works required to remove the Declaration based on existing use of the site. These essentially comprise excavation of an area within Block 4, disposing of excavated material and backfilling where required; and
- (b) Block 4 Development Remediation Works – works required to make the proposed stage 1B basement area suitable for intended future use. These comprise additional excavation, construction of a "groundwater retention wall system" and disposal of excavated material.

Jemena submits that it is artificial and not appropriate for the RAP and EIS to attempt to set out a set of remediation works based on existing use and a separate set of works for the Barangaroo development.

The applicant, Lend Lease, has been contracted by BDA to deliver the Barangaroo South development. The development requires the excavation of Block 4 for a car park and basement as contemplated by the concept plan approval. The application seeks consent to excavate Block 4 to a depth of 18 metres below ground level and erection of car park walls to facilitate the development. The works described as Block 4 VMP Remediation Works are actually a subset of the works required to facilitate the Barangaroo development.

To the extent that they purport to be remediation works to remove the Declaration based on existing use, the Block 4 VMP Remediation Works have been specifically chosen because of the proposed Barangaroo development. See for example, sections 11.1 and 11.1.2 where the RAP confirms that the preferred remediation option for the Block 4 VMP Remediation Works is ex situ remediation because *"it is consistent with the proposal to excavate a large basement within Block 4 as part of the Barangaroo South development being undertaken by Lend Lease"* and other parts of the documentation which evaluate costs and benefits for the existing use scenario based on the development proceeding. In other words, the fundamental justification for the Block 4 VMP Remediation Works to address contamination based on existing use relies on the Barangaroo development proceeding.

Jemena submits that the remediation required to remove the Declaration based on existing use would be different to the Block 4 VMP Remediation Works proposed in the EIS. The technical evidence is that the contaminants are not migrating into Darling Harbour and there is no evidence of any ecosystems in the imported fill between the Declared Area and Darling Harbour (even though this appears to be a key factor in determining remediation scope as set out in the RAP). Jemena submits that there are other, more appropriate, options for managing the contamination if the Barangaroo development was not proceeding and the land use of Block 4 was not being changed. This is supported, by way of example, by:

- the site auditor's comments on page 85 of the site audit report; and
- the EPA's recent removal of a site declaration under the CLM Act relating to the former steelworks site adjacent to Newcastle harbour based on a cap and retaining wall remediation strategy instead of full-scale excavation of contaminated materials.

Jemena submits that the application and EIS do not properly set out and assess works which are required to remove the Declaration based on existing use of Block 4. The proposed remediation works stated in the application as being required to remove the Declaration are in fact works required to construct the Barangaroo development.

2.2 Purpose of Development

Jemena objects to the characterisation of part of the works described in the EIS as being for the purposes of removing the Declaration based on the existing use of Block 4 (ie. Block 4 VMP Remediation Works). Jemena submits that the correct description of the development works set out in the EIS is for the purposes of:

- (a) excavating the land for the construction of basements, car parks and foundations for the Barangaroo development (up to a depth of 18 metres below ground level);

- (b) constructing the walls of the car park (ie. groundwater retention walls) to prevent infiltration of seawater and groundwater into the basement and car park areas;
- (c) changing the use of Block 4 from its current port use to commercial/residential use in accordance with the Barangaroo Concept Plan approval; and
- (d) removing the Declaration under the CLM Act based on BDA and Lend Leases' proposed redevelopment and change of use of Block 4 for the Barangaroo development.

BDA obtained Concept Plan approval in 2007 to change the use of the Declared Area for residential/commercial development and to excavate the Declared Area for the purposes of the basement and carpark. Since that time, it has always been BDA's intention to excavate the Declared Area for the purposes of its development and this has dictated the form and content of the RAP presented in the EIS.

Jemena submits that the RAP describes a set of works which have been developed firstly, assuming that Block 4 will be completely excavated for the purposes of the Barangaroo development¹ and then second, to enable the Declaration to be removed based on the proposed Barangaroo development. These works are wrongly characterised as being for the purposes of removing the Declaration based on the existing use of Block 4.

2.3 **Approval for Block 4 VMP Remediation Works Can Not be Granted**

The EIS states that the excavation strategy proposed for the Block 4 VMP Remediation Works can be undertaken independently of any future development works. It is unclear whether Lend Lease is seeking development consent for the Block 4 VMP Remediation Works based on a continuation of the existing use of Block 4 (ie without the Block 4 Development Remediation Works proceeding).

Jemena submits that development consent for undertaking the Block 4 VMP Remediation Works independently of the Block 4 Development Remediation Works cannot be lawfully granted for the following reasons:

- (a) there is not a proper or full description in the EIS of the works proposed to be carried out for the Block 4 VMP Remediation Works if Block 4 is to be continued to be used for existing purposes (for example, there is no description of the location of the proposed "temporary" groundwater retaining walls, refilling of the excavated area, final contour plan). The Block 4 VMP Remediation Works described in the EIS are, in reality, a subset of the overall excavation and basement construction works Lend Lease is proposing to carry out to implement the Concept Plan;
- (b) there is no assessment of the environmental impacts of the Block 4 VMP Remediation Works being undertaken on the basis that the site will continue to be used for existing uses (for example, impacts of the groundwater retaining walls, refilling of the excavated area or leaving the excavated area as is, final contour plan, economic impact of continued existing

¹ See for example, page 85 of the site auditor's report which confirms that "since the development of Block 4 will require extensive excavation for basements, soil falling within proposed basement areas is required to be excavated from the site regardless of contamination status".

use, works being undertaken in Block 4 but not Block 5 and Hickson Road in circumstances where existing use and no Barangaroo development is proposed);

- (c) the selection and development of the Block 4 VMP Remediation Works in the RAP and presented in the EIS assume the works described as the Block 4 Development Remediation Works would be carried out (see sections 11.1 and 11.1.2 of the RAP, which state that the reason for selection of the excavation strategy for the Block 4 VMP Remediation Works is that it is consistent with the proposed excavation of a large basement in Block 4); and
- (d) the EIS does not adequately assess the application of the National Environment Protection Measure (Assessment of Site Contamination) 1999 (as amended) (**NEPM**) for the Block 4 VMP Remediation Works for the continuation of existing use (ie where it is not intended to excavate Block 4 for the development and to continue to use the Declared Area for its existing use). The amended NEPM took effect under section 105 of the CLM Act on 11 June 2013. The NEPM sets out a requirement for the site assessor to take into account the preferred hierarchy of options for site clean-up and/or management which is:
 - (i) on-site treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level; and
 - (ii) off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level after which soil is returned to the site; orif the above are not practicable:
 - (iii) consolidation and isolation of the soil on site by containment with a properly designed barrier; and
 - (iv) removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material; or
 - (v) where the assessment indicates remediation would have not environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

In section 2.2.4 of the RAP, reference is made to the amended NEPM and a representation made that the RAP is consistent with the amended NEPM. However, there is no assessment in the EIS, RAP or site auditor's report of application of the remediation principles as set out in the amended NEPM to the Block 4 VMP Remediation Works for the continuation of existing use in circumstances where it is not proposed to undertake the development works on Block 4.

Further, Jemena submits that development consent for the Block 4 VMP Remediation Works undertaken with the Block 4 Development Remediation Works cannot be lawfully approved to the extent that they are described and assessed to be for the purposes of removing the Declaration based on continuation of the existing use of the site for the same reasons as set out above.

2.4 Groundwater Dependent Ecosystems

Section 7.1.3 of the RAP records a direction being made by the EPA for the adoption of groundwater compliance criteria at the western boundary of the Declared Area to be protective of groundwater dependent ecosystems between the Declared Area and Darling Harbour. The adoption of the criteria at this boundary was an important part of the determination of the remediation extent and content of the Block 4 VMP Remediation Works as presented in the HHERA, Remediation Extent, RAP and EIS.

As the EPA and the RAP has identified groundwater dependent ecosystems as an ecological receptor sufficiently important to be relevant to setting remediation criteria at the boundary of the Declared Area, it is important that the EIS should incorporate adequate baseline data about such ecosystems and an assessment of the impacts of the proposed development on these ecosystems as required by the Director-General's Requirements. Alternatively, if the ecosystems are not present or are not sufficiently important to include in the assessment in the EIS, then the ecosystems should not form part of basis for determining the scope and extent of the Block 4 VMP Remediation Works as presented in the RAP and EIS.

Jemena therefore submits that the EIS as presented is deficient and does not adequately assess groundwater dependent ecosystems for the purpose of either determining the scope of the Block 4 VMP Remediation Works or the impact of the proposed works on groundwater dependent ecosystems. Given the approach of the EPA and the importance attributable to groundwater dependent ecosystems by the applicant and EPA in the HHERA, Remediation Extent and RAP in determining the remediation to be undertaken, it is incumbent on the consent authority to ensure that a full assessment of such ecosystems, relevance to the remediation and impact of the proposed works, be undertaken before the application is determined.

2.5 Piecemeal Remediation

Jemena objects to the remediation of the Declared Area based on existing use being undertaken in a piecemeal manner (with separate applications proposed for Block 4, Block 5 and Hickson Road).

The piecemeal development of the former gas works site led to the problems at 38 Hickson Road which was one of the reasons the EPA made the Declaration in the first place. Jemena submits that the piecemeal development approach increases the risk of a similar future occurrence.

The construction of the basement at 38 Hickson Road created a localised groundwater sink. This localised groundwater sink does not seem to be expressly mentioned in the EIS documentation. Given the reasons for making the Declaration, the HHERA, RAP and EIS should specifically address the existing contamination risks at 38 Hickson Road arising from the contamination in the Declared Area and the impacts of the proposed works in Block 4, particularly the retention wall, on the existing groundwater and contamination flows into the basement at 38 Hickson Road (where these works are carried out independently of the proposed remediation of Hickson Road and Block 5).