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19095 IA7 Revised RAP endorsement 16Oct19.docx

16 October 2019

Landream Pyrmont Pty Ltd
c/- Mr Harrison Tanke
Project Manager
Property Development Solutions (Aust) Pty Ltd
Level 1, 63 York Street
Sydney NSW 2000

Via email: harrison.tanke@pdsgroup.com.au
cc: ddenaro@jbsg.com.au

Dear Harrison,

Re: Interim Advice 7 (IA7) – Endorsement of Revised Remedial Action Plan (RAP) (JBS&G, October 2019 Rev2) for 14-26 Wattle Street, Ultimo NSW 2007

1 Introduction

Property Development Solutions (Aust) Pty Ltd (PDS), on behalf of Landream Pyrmont Pty Ltd has appointed Rebeka Hall of Zoic Environmental Pty Ltd (Zoic), a NSW EPA Auditor accredited (No. 0802) under the Contaminated Land Management (CLM) Act 1997, to conduct an Audit of the property located at 14-26 Wattle Street, Ultimo, NSW ("the site").

The overall aim of the engagement is to enable a site audit statement (SAS) and associated site audit report (SAR) to be prepared that confirms the suitability of the site for the proposed mixed use redevelopment which includes high density residential apartments, commercial office space, retail, childcare centre, basketball court, recreational and garden areas and basement car parking. A concept development application (D/2019/649) has been lodged with City of Sydney Council.

The current aim of the Audit is to endorse a remedial action plan for the site. The Audit is being conducted in accordance with the requirements outlined in NSW EPA (2017) Contaminated Land Management Guidelines for the NSW Site Auditor Scheme (3rd edition).

2 Scope of Audit and Nature of Interim Advice

NSW EPA (2017) Contaminated Land Management Guidelines for the NSW Site Auditor Scheme (3rd Edition), describes the site assessment and audit process as:

1. The contaminated land consultant, or other relevant party, designs and implements the site assessment and, where required, all remediation and validation activities achieve the stated objectives; and

2. The site auditor independently reviews the works undertaken to ensure that they comply with current regulations, standards and guidelines, and that the site has been assessed, remediated and validated to a standard appropriate to the proposed land use.

Therefore, the contaminated land consultant and other relevant parties should be satisfied that the work to be conducted conforms to all appropriate regulations, standards and guidelines and is suitable based on the site history and the proposed mixed landuse development.

3 Current Interim Advice

The purpose of the current Interim Advice No. 7 (IA7) is to provide the Auditor's opinion on whether the site can be made suitable for the proposed development based on the remedial strategy presented in the current version of the Remedial Action Plan prepared by the appointed environmental consultant JBS&G:

- JBS&G (9 October 2019c) Remedial Action Plan 14-26 Wattle Street Ultimo, New South Wales (Ref: 55900-122315 (Rev 2)).

The Auditor had previously endorsed an earlier conceptual version of the RAP (JBS&G, 13 June 2019) with Interim Advice IA4 (14 June 2019). The endorsement was contingent on the consultant addressing technical queries on the human health risk assessment (HHRA) and conducting a data gap investigation to further characterise and delineate site contamination.

These additional works were completed by JBS&G between September and October 2019. The current RAP incorporates the findings of the recent data gap investigation findings and the risk profile for the current development layout by TZannes provided in JBS&G (9 October 2019c) RAP. This IA7 supersedes IA4 (14 June 2019).

In addition to the current RAP, the Auditor reviewed the following environmental reports:

- JBS&G (9 October 2019a) Proposed Multi-Use Development Data Gap Investigation 2, 14-26 Wattle Street Ultimo, NSW (Ref: 55900/124537 (Rev 0)).
- JBS&G (9 October 2019b) Proposed Multi-Use Development, Human Health Risk Assessment, 14-26 Wattle Street Ultimo, New South Wales (Ref: 55900/122485 (Rev 2)) and earlier versions.
- JBS&G (5 June 2019) Proposed Multi-Use Development, Additional Environmental Assessment, 14-26 Wattle Street, Ultimo, New South Wales (Ref: 55900/121,644 Rev A).
- JBS&G (9 July 2018) Data Gap Investigation Former City of Sydney Works Depot 14-26 Wattle Street Ultimo New South Wales (Ref: 52087/106367 (Rev 0)).
- JBS&G (7 August 2015) Environmental Management Plan Wattle Street Depot 14-26 Wattle Street Pyrmont, NSW (Ref: 50982-101376 (Rev A)).
- JBS&G (5 August 2015) Off-Site Groundwater Assessment, July 2015 - City of Sydney Wattle Street Depot, 14-26 Wattle Street, Pyrmont, NSW (Ref: 50982-101342 L001 CoS Wattle St Depot - Offsite GW assessment July 2015 Rev 0.docx).
- DP (2014) Report on Contamination Investigation Proposed School 14-16 Wattle Street, Ultimo (Ref: 73753.01, August 2014).
- SKM (2005) Site Audit Report, Site Audit 103 by Dr Ian Swane, Review of a Remediation Action Plan for Wattle Street Depot, Ultimo NSW 2007 (Ref: SAS 103, 28 July 2005). It should be noted that this audit was for non-statutory purposes and was based on a different landuse (commercial) and development layout to the one currently proposed.

- DP (December 2004) Report on Additional Environmental Assessment Works Wattle Street Depot Ultimo (Ref: 37334).
- DP (February 2004) Report on Supplementary Groundwater Monitoring (Round 4) (Ref: 30284C, February 2004).
- Douglas Partners (DP) (2002) Groundwater Monitoring Wattle Street Depot Ultimo (Ref: 30284, 7 May 2002).
- Coffey (1998) Wattle Street Depot Groundwater Monitoring and Well Installation (Ref: E2035/6-AF, 15 July 1998).
- Coffey (1997) Wattle Street Depot Ultimo Supplementary Environmental Site Assessment (Ref: E2035/2-AF, July 1997).
- Coffey (August 1996) Wattle Street Depot Ultimo Environmental Site Assessment (Ref: E2035/1-AF, 15 August 1996).
- EIS (1994) Report to Sydney City Council on Environmental Investigation for Proposed Redevelopment of Council Depot at Wattle Street, Pyrmont, NSW (Ref: E10242S/a).

4 Summary of Environmental Investigations and Proposed Remedial Strategy

Numerous investigations have been conducted across the site since 1994 with the following contamination identified across various impacted media.

4.1 Soil Conditions

- Heavy metals (specifically arsenic) in soil were detected above ecological criteria.
- Total recoverable hydrocarbons (TRH) F1, F2, F3 and F4, benzene, naphthalene) were detected above human health and ecological criteria (HSL, ESL and/or management limits) generally across the site.
- Naphthalene and BaP were detected above ecological screening levels (ESL) in a number of locations and BaP TEQ was detected above HIL B generally across the site.
- Some VOCs (dichloromethane, 2-chlorotoluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 4-isopropyl toluene, Isopropylbenzene, n-butylbenzene, styrene, acetone) were detected above the level of reporting (LOR) in some soil samples.
- An asbestos fragment was detected in 1 sample, noting that only qualitative asbestos assessment has been conducted to date.
- JBS&G concluded that remediation/management of soil impact is required to render the site suitable for the proposed landuse.

4.2 Groundwater Conditions

- Elevated total recoverable hydrocarbons (TRH), benzene, xylenes, naphthalene, benzo-a-pyrene (BaP) were detected in one or more samples, noting that the results could not be compared with NEPM (2013) Health Screening Levels (HSL) for vapour intrusion as the proposed basement level is below groundwater level and therefore, the potential risk was assessed as part of the HHRA.
- Some volatile organic compounds (VOC) were detected above the LOR, similar to soil.

- The extent of contaminant plumes were provided to the extent practicable, given site access constraints. Previous investigations conclude that groundwater flow is to the west, however some tidal influence has been recorded in the past.
- Separate phase has not been measured, however oily sheen was previously identified by DP during well development of MW/BH119. Additionally, free tarry residues were observed within the soil matrix at BH33. Diesel and petroleum products were observed at the water table as sheen (encountered during drilling) in Areas 3, 4, 5, 6 of the area of underground storage tanks (UST) (DP, December 2004).

4.3 Soil vapour:

- Benzene and naphthalene exceeded human health criteria (HSL A/B (for sand)) at sample point SVJ09 with TRH F1 and F2 detected above HSL A/B criteria in a number of other vapour wells.
- Some VOC were detected above the level of reporting (LOR), similarly detected in soil and groundwater samples.

4.4 Hazardous ground gas monitoring

Three rounds of sampling were conducted by JBS&G (in April 2019) with results indicating a low risk of hazardous ground gas the site.

4.5 Human Health Risk Assessment (2019)

The JBS&G (JBS&G, 9 October 2019b) HHRA provides a human health risk assessment for applicable onsite receptors based on the current development plans by TZannes provided in JBS&G (9 October 2019c) RAP, with offsite receptors being qualitatively assessed. The outcomes of the HHRA were as follows

- Exceedances above risk and hazard criteria were identified for all of the receptors assessed, including:
  - Resident
  - Recreation centre
  - Commercial/retail worker
  - Childcare centre (commercial worker)
  - Childcare centre (child)
  - Lift/basement maintenance worker
  - Subsurface/excavation worker
- The exceedances were as a consequence of:
  - Potential inhalation of the maximum concentrations of benzene, naphthalene, trimethylbenzenes from soil vapour (from soil and/or groundwater impact) and
  - Potential direct contact to the maximum concentration of BaP TEQ and TRH from soil impact and TRH from groundwater impact.
- In addition:
  - The HHRA requires placement of imported growing medium in areas of accessible soils, noting that underlying site soils will require ongoing management to prevent potential human and/or ecological exposures.

- Petroleum and naphthalene odours have been identified associated with the highest levels of petroleum hydrocarbon impact anticipated to be associated with a tar source impact.

- Based on the outcome of the HHRA, JBS&G recommends the following remedial works:
  - Remediate petroleum hydrocarbon affected soils located in proximity of soil vapour sample location SVJ09. These soil vapour sample locations are located in the southern portion of the site in proximity of a suspected historical UST; and
  - Remediate gross levels of petroleum hydrocarbons as associated with areas of tar impact on the site, potentially present at the southwestern (MW21) and central (MW201) extent of the site on the basis of historical groundwater data.

4.6 Overview of the proposed Remedial Strategy

Based on the outcome of the investigations and the HHRA findings, JBS&G conclude that remediation of the site is required to render the suitable for the proposed development. The remedial strategy outlined in the JBS&G (9 October 2019c) RAP can be summarised as follows:

- Excavation and offsite disposal for the identified hotspots, petroleum infrastructure, tar impacted and malodorous soil;
- Capping and containment of any residual contamination;
- Onsite treatment (via controlled landfarming) as a contingency strategy for hydrocarbon impacted soil; and
- Preparation of a long term Environmental Management Plan (LT EMP) detailing ongoing management/maintenance/ monitoring for residual contamination and to ensure the integrity of the proposed cap is maintained.

5 RAP Endorsement

The RAP prepared by JBS&G (9 October 2019c) has been reviewed with respect to its application and robustness in addressing contamination currently identified at the site. The RAP presents contingencies and required actions should contamination be greater than anticipated, or for any unexpected finds, and if the proposed remedial approach does not achieve the remedial goal of rendering the site suitable for the proposed mixed use.

Although the Auditor has determined that the site is capable of being made suitable subject to the successful implementation of the JBS&G RAP (9 October 2019c), it must be recognised that data gaps exist in the area with current access constraints (south western portion of site).

The Auditor considers that the remedial strategy as presented in JBS&G (9 October 2019c) is appropriate for the known contamination and the site is capable of being made suitable if implemented, subject to the following conditions:

1. Completion of further site characterisation (across all media) in areas not currently investigated (primarily in the south western portion of the site and further down gradient if required) due to site access constraints. Depending on those findings, the RAP may need amending.
2. As part of remedial and validation works, the Auditor expects assessment for asbestos and ecological risks to be in accordance with NEPM (2013) for areas that will not be capped (if any). Further, the leaching potential of any contaminated material remaining onsite and

potential presence of DNAPL (associated with former coal tar processing and use) should be conducted to ensure it will not leach and continue to be a source of groundwater impact.

As part of basement excavations, walls and base (s) should be sampled and validated as per NEPM (2013).

Material proposed to be reused onsite must be reused beneath the cap, unless otherwise appropriately assessed as being suitable for reuse above the cap and its reuse is approved by the Auditor.

Consistent vapour intrusion criteria should be adopted for soil vapour and groundwater (Section 5.5.3 and 5.5.4).

3. The assumptions in the HHRA may need to be reviewed depending on final development layout. These may include (but not limited to):
    a. Ventilation rate adopted in the HHRA should be demonstrated to be able to be met by the proposed building design.
    b. Basement height.
    c. Attenuation factor
4. Where there is any change in the development plans, the Auditor will require confirmation that the most current versions of the HHRA and RAP remain valid to ensure appropriate remediation occurs to render the site suitable for the indented landuses, or amended as appropriate.
5. Any amended HHRA or RAP should be provided to the Site Auditor for review and endorsement. This includes the design of any cap and containment and/or engineering controls incorporated into the development, as well as due consideration to any changes in NSW EPA guidance documents for contaminated land.
6. Prior to commencement of any remediation works, a detailed WHS Plan and CEMP must be prepared and implemented by the appointed remediation contractor to ensure that potential risks to human health (on and off site) and the environment are appropriately managed during the works.
7. Any unexpected finds or deviations from the RAP must be discussed with the Site Auditor at the earliest possible opportunity.
8. The Auditor will require involvement during the course of remediation and validation activities, and requests regular reporting on progress of remedial works.
9. At the completion of remediation, a validation report and long term EMP are to be provided to the Site Auditor for review and endorsement, to enable the preparation of a Site Audit Statement and Report to confirm the suitability of the site for the approved development.

This interim advice does not constitute a SAS or a SAR, but rather is provided to assist the Client in the assessment and management of contamination issues at the site. The information provided herein should not be considered pre-emptive of the final Audit conclusions. It represents the Auditor's opinion based on the review of currently available information.

Should you have any queries or wish to discuss any points, please do not hesitate to contact the undersigned.

Yours sincerely,

Rebeka Hall
Site Auditor (NSW EPA 0802)
Zoic Environmental Pty Ltd

Cheryl Halim
Senior Environmental Engineer
Zoic Environmental Pty Ltd