

Annexure 4

Contamination Advisor Assessment

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Dear Matthew

Contaminated Land Assessment of Application - SR514663 - 1 Molesworth Street

1.0 Introduction

AECOM New Zealand Limited (AECOM) has been engaged by Wellington City Council (WCC) to undertake a technical peer review of the documentation related to contaminated land provided as part of a resource consent application (SR514463) for Her Majesty the Queen c/o Parliamentary Service (the applicant).

The applicant is proposing to redevelop parts of the Parliamentary Precinct at 1 Molesworth Street, Wellington by:

- Redeveloping the Executive Wing by deconstructing the earthquake prone Press Gallery and existing link bridge and replacing with a new ministerial building and link bridge;
- Construction of a new Parliamentary building south of Museum Street and to the rear of Parliament House; and
- Construction of a new building on the Ballantrae Place Frontage.

The redevelopment works will require earthworks including the removal of approximately 23,900 m³ of surplus excavated material.

The Parliamentary Precinct is legally described as Section 1 SO 38114.

The advice contained in this letter relates solely to the assessment of contaminated land and the relevant resource consent status under:

- The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (the NES-CS); and
- The WCC Operative District Plan (OWCDP) Chapter 32.

The review is based on the following documentation:

- *Assessment of Effects Report, Parliamentary Precinct, 1 Molesworth Street, Wellington; May 2022* (the AEE).

Relevant documents included in the Application that were reviewed included:

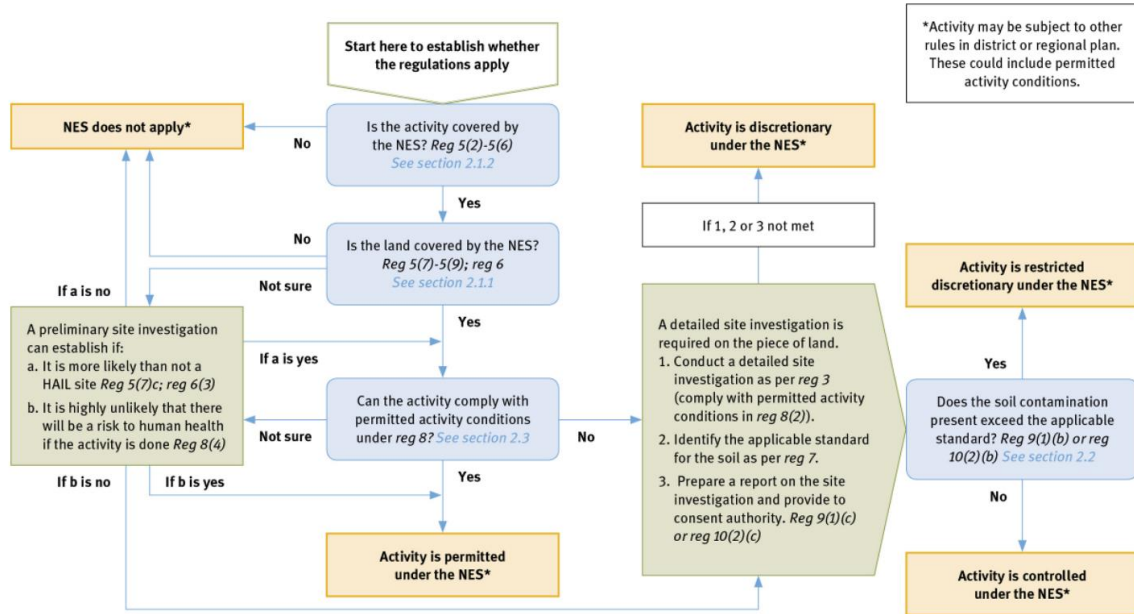
- *Ballantrae Place Detailed Site Investigation*, prepared by Aurecon New Zealand Limited (Aurecon) for Parliamentary Services, dated 5 August 2021 (Ballantrae Place DSI); and
- *Detailed Site Investigation, Rev 1*, prepared by Aurecon New Zealand Limited (Aurecon) for Parliamentary Services, dated 6 August 2021 (Ministerial and Museum Street DSI).

2.0 NES-CS Assessment

The process AECOM has followed in assessing the status of the application under the NES-CS is provided in the following flow chart from the NES-CS Users Guide¹.

¹ *Users' Guide, National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*, April 2012. Ministry for the Environment.

Figure 1 Determining resource consent requirements under the NES-CS



2.1 Is the Activity covered by the NES-CS? Regulation 5 (2)-5(6)

The AEE does not clearly state which activity under the NES-CS will be undertaken as part of the proposed redevelopment of the Site. However, the AEE does state that the volume of excavation is expected to be approximately 23,900 m³. Therefore, the activity under the NES-CS to which the proposed redevelopment of the Site appears to be “disturbance of soil”. It does not appear that the activities of subdivision, a change in land use or removal of an underground storage tank apply.

Therefore, the following activity applies:

Regulation 5(4): *An activity is disturbing the soil of the piece of land, which –*

- a. *means disturbing the soil of the piece of land for a particular purpose.*

Although, some parts of the Parliamentary Precinct are changing land use under the proposal i.e., changing from a carpark to a building, the NES-CS is not considered to apply in this instance as under the intended land use, the exposure to soil is not considered reasonably likely to harm human health.

In the Ballantrae Place DSI, Aurecon notes that an underground storage tank will be removed during part of ‘wider works at the site’. The removal of an underground storage tank is also subject to the requirements of the NES-CS; however, the applicant does not appear to have included the removal of an underground storage tank in the proposal. The removal of an underground storage tank will need to meet the permitted activity requirements of the NES-CS, or separate consent will need to be sought.

2.2 Is the Land covered by the NES-CS? Regulation 5(7)-5(9);

Regulation 5(7) states: *The piece of land is a piece of land that is described by 1 of the following:*

- a. *an activity or industry described in the HAIL is being undertaken on it.*
- b. *an activity or industry described in the HAIL has been undertaken on it.*
- c. *it is more likely than not that an activity or industry described in the HAIL is being or has been undertaken on it.*

The Aurecon DSIs identify the following Ministry for the Environment (MfE, 2011) Hazardous Activities and Industry List (HAIL) activities within the proposed redevelopment area:

- A2 - Chemical manufacture, formulation or bulk storage;
- E1 – Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition; and

- G5 – Waste disposal to land (excluding where biosolids have been used as soil conditioners).

Therefore the 'piece of land' to which this application relates is covered by the NES-CS Regulation 5(7).

2.3 Can the activity comply with the permitted activity conditions under Regulation 8?

The relevant permitted activity conditions for disturbing soil are provided for in Regulation 8(3). Disturbing the soil of the piece of land is a permitted activity providing certain requirements are met including an allowance for soil disturbance and removal based on the size of the piece of land (25 m³ per 500 m² for soil disturbance and 5 m³ per 500 m² for soil removal).

The area of the Parliamentary Precinct is approximately 46,000 m². The AEE indicates that the volume of material requiring removal is 23,900 m³, which is greater than the permitted volume to area ratio described above. Therefore, the soil disturbance does not meet the permitted activity requirements

3.0 DSI Review

Two DSIs have been completed for the proposed redevelopment works of the Parliamentary Precinct:

- The Ballantrae Place DSI covers an area currently used for carparking that is proposed to be developed into a building for use by Parliamentary Services.
- The Ministerial and Museum Street DSI covers proposed development associated with a new ministerial annex and a new members building.

A review of the Ballantrae Place DSI is as follows:

The Ballantrae Place DSI report indicates that former HAIL activities that may be applicable to the current carpark include category E1 (asbestos) and category G5 (uncontrolled fill). The intrusive investigation included the drilling of four boreholes to target depth (up to 5 m (below ground level)) and two boreholes which were terminated in a fill layer at approximately 1 m below ground level (bgl). Soil samples were collected from each borehole and were analysed for heavy metals, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX) and asbestos (presence/absence).

Based on the HAIL activities that are applicable to the Ballantrae Place carpark, the analysis completed, with the exception of asbestos (presence/absence) is appropriate. Aurecon noted that "due to the lack of ground exposed samples taken for asbestos analysis are on a presence/absence basis and are not analysed using the semi-quantitative method". Analysis for presence/absence of asbestos allows for assessing whether asbestos is present or not; it does not allow for assessing the potential risk to human health as the semi-quantitative method does. Asbestos (chrysotile, loose fibres) was detected in one soil sample (BH104_0.4-0.5) and therefore, the potential risk to human health from the asbestos present remains unquantified. Aurecon indicated that, as asbestos at this location remains unquantified that removal of material from this area may require Class A asbestos removal controls². Aurecon therefore recommend further test pitting investigation in the areas of BH104 and BH105 to "inform the ground conditions, extent of the demolition fill and the quantity of asbestos present". AECOM concur with the recommendation for further investigation. It is noted that whilst asbestos remains encapsulated on-site it does not present a risk to human health.

The Ballantrae Place DSI does not specifically state what criteria have been used to compare soil sample results to, although it is noted that Aurecon do follow the correct hierarchy (Ministry for the Environment Contaminated Land Management Guideline No. 2 – Hierarchy and Application in New Zealand of Environmental Guideline Values (MfE, 2011)). In the table of reported results, Aurecon has used the correct criteria, although they have not included criteria for benzo(a)pyrene equivalent for either the NES CS soil contaminant standards (SCS) or the Ministry for the Environment, Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (revised 2011).

² Building Research Association of New Zealand. November 2017. *New Zealand Guidelines for Assessing and Managing Asbestos in Soil*.

Overall, it is considered that the Ballantrae Place DSI meets the general requirements of a DSI as outlined in the Regulation 3 of the NES-CS.

A review of the Ministerial and Museum Street DSI is as follows:

The Ministerial and Museum Street DSI report indicates that former HAIL activities that may be applicable include category A2 (bulk storage – underground storage tanks), category E1 (asbestos) and category G5 (uncontrolled fill). It is noted that category A2 is generally used for “bulk storage” i.e., tank farms and category A17 may be more appropriate (storage tanks or drums for fuel, chemicals or liquid waste).

The intrusive investigation included the drilling of four bores with installation of standpipe piezometers, mechanical excavation of 8 test pits to 0.6 m bgl, hand excavation to a depth of 0.45 m bgl in two locations. Fill material was encountered at each location at varying thicknesses. Soil samples were collected from each location, groundwater samples were collected from the four boreholes. Soil samples were analysed for heavy metals, TPH, BTEX, polycyclic aromatic hydrocarbons (PAH) and asbestos (presence/absence). Soil sample analytical results complied with relevant soil screening criteria / guidelines and asbestos was not detected in any of the samples analysed for presence/absence of asbestos.

It is noted that locations of the 8 test pits and hand auger locations are shallow (less than 1 m bgl) and were terminated in fill materials. The proposed redevelopment works will likely extend vertically beyond the extent of the test pit and hand auger locations and therefore, the full extent of the proposed soil disturbance has not been adequately characterized. The potential to come across unexpected contamination during redevelopment works can be covered via the development of a contaminated soil management plan (CSMP) which is recommended in both of the DSIs.

Overall, it is considered that the Ministerial and the Museum Street DSI meets the requirements of a DSI as outlined in Regulation 3 of the NES-CS.

4.0 Consenting Status under the NES-CS

As a DSI exists for the site, the applicant has assessed that the soil disturbance associated with the proposed redevelopment should be a restricted discretionary activity in accordance with Regulation 10 of the NES CS.

Regulation 10 (2) states: *The activity is a restricted discretionary activity while the following requirements are met:*

- (a) *A detailed site investigation of the piece of land must exist;*
- (b) *The report on the detailed site investigation must state that the soil contamination exceeds the applicable standard in regulation 7;*
- (c) *The consent authority must have the report;*
- (d) *Conditions arising from the application of subclause (3), if there are any, must be complied with.*

Although not explicitly stated, the results of the Ballantrae Place DSI do not meet the applicable standard in Regulation 7 of the NES CS owing to the detection of asbestos in soil sample BH104_0.4-0.5. Therefore, AECOM concur with the applicant's assessment that the works should be completed as a restricted discretionary activity in accordance with Regulation 10 of the NES-CS.

5.0 OWCDP Rule 32

Rule 32.2 of the OWCDP is outlined below;

32.2.1 Except as provided for the remediation, use, development and subdivision of any contaminated land, or potentially contaminated land (unless it has been confirmed as not being contaminated through investigations in a report forwarded in accordance with Rule 32.1.3.1), is a discretionary activity (restricted) in respect of:

32.2.1.1 The level, nature and extent of contamination in relation to the proposed use, development or subdivision

32.2.1.2 The methods to address the risks posed by contaminants to public health and safety

3.2.1.3 *The effects of contamination on built structures, ecological and amenity values, soil quality and the wider environment*

3.2.1.4 *The approach to the remediation and / or on-going management of the contaminated land and the mitigation measures (including monitoring) proposed to avoid adverse effects on public health, safety and the environment including the provision of a Remediation Plan or Site Management Plan.*

AECOM notes that matters of discretion relating to human health are now superseded by the NES-CS, and therefore discretion under this rule relates only to the effects of contamination (if any) on built structures and the environment (soil quality, water, ecological effects).

Rule 32 of the OWCDP will need to be addressed by the completion of a Contaminated Land Management Plan (CLMP) and/or Remedial Action Plan (RAP) prior to the works commencing.

6.0 Recommended Conditions

The soil disturbance constitutes a restricted discretionary activity under the NES-CS and under Rule 32 the OWCDP.

AECOM recommend the proposed conditions with regards to contamination as outlined below:

- Additional soil quality sampling shall be completed to supplement the Ballantrae Place DSI completed by Aurecon in 2021. The additional soil quality sampling shall be completed under the guidance of a suitably qualified and experienced practitioner (SQEP). The additional soil quality sampling shall be carried out in accordance with the *Ministry for the Environment's (MfE) Contaminated Land Guidelines No.5 (CLMG 5), June 2021* and the *New Zealand Guidelines for Managing and Assessing Asbestos in Soil (Building Research Advisory Council New Zealand, 2017)*.
- A report summarizing the additional soil quality sampling should be prepared by a SQEP in general accordance with *MfE Contaminated Land Guideline No. 1 (CLMG 1), June 2021*. The additional soil sampling report must be submitted to the WCC Council Officer for approval prior to earthworks commencing.
- If the additional soil quality sampling confirms a risk to human health for the proposed land use, a remediation action plan (RAP) shall be prepared by a SQEP.
- A Contaminated Land Management Plan (CLMP) for the proposed development will be completed by a SQEP and submitted and approved by the WCC Council Officer prior to earthworks being undertaken at the site. The CLMP should include the following:
 - Date and version control.
 - A summary of soil sampling results including the further soil sampling undertaken as part of the additional soil quality sampling.
 - A summary of the proposed redevelopment works.
 - Roles and responsibilities and contact details for the parties involved, including the SQEP.
 - Health and safety and environmental management procedures for implementation during the works including but not limited to:
 - Personal protection and monitoring.
 - On site soil management practices including stockpile management and stormwater and sediment controls.
 - Off site soil transport and disposal.
 - Asbestos in soil removal procedures in accordance with the approved code of practice *Management and Removal of Asbestos*, November 2016 and Building Research Association of New Zealand, November 2017. *New Zealand Guidelines for Assessing and Managing Asbestos in Soil (BRANZ Guidelines)*.
 - Contingency measures in the event of accidental/unexpected discovery including the discovery of asbestos and asbestos related controls.

- Post development controls on the management of remaining contamination in soils.
- Soil disturbance works are to be undertaken in accordance with the approved RAP and/or CLMP.
- If unexpected soil conditions, such as staining, odorous material or evidence of potential asbestos containing materials are encountered during the soil disturbance works, work in that area shall cease and the Council notified. Any unexpected contamination and contingency measures shall be overseen and assessed by a SQEP.
- All soil material with contaminant concentrations above background concentrations that requires removal from the site shall be disposed of at a licensed facility that holds a consent to accept the relevant level of contamination.
- If remedial works are required, a Site Validation Report will be prepared in general accordance with *MfE CLMG No. 1* and shall be provided to WCC within 3 months of completion of the soil disturbance activities. The Site Validation Report should include the following:
 - The location and dimensions of the excavations carried out, including a relevant site plan.
 - Records of any unexpected contamination encountered during the works.
 - Soil validation results, if applicable (i.e. if remediation is carried out or unexpected contamination is encountered).
 - Copies of the disposal dockets for the material removed from the site and any clean fill imported onto the site.
 - Specify the requirements for ongoing monitoring and management (if required).
 - The report should outline the site's suitability for the intended use (commercial/residential).

Advice Note

The removal of underground storage tanks will need to meet the permitted activity requirements of the NES-CS or separate consent will need to be sought.

7.0 Closing

If you require any further information please do not hesitate to contact the undersigned.

Yours faithfully



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Suzanne Lowe is a Principal Environmental Consultant in the Geoscience and Remediation Services team at AECOM New Zealand Ltd. She holds Bachelor of Science and Technology (BSc (Tech)) from the University of Waikato, majoring in Earth Science. Ms Lowe is an experienced contaminated land professional who has provided advice and expertise in respect of contaminated land assessment and remediation for over 17 years.

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