

1.0 APPLICATION DESCRIPTION

Application and property details

Fast-Track project name:

Downtown Carpark Site Development

Fast-Track application number:

FTAA-2512-1158
(BUN60460864, LUC60460865, DIS60460866 and WAT60460867)

2.0 Technical Specialist Memo – Contaminated Land

To:

Sarah Wilson – Lead Planner & Adonica Giborees - PPL

From:

Sarah Pinkerton, Consultant to Contamination, Air & Noise, Specialist Input, Planning & Resource Consents

Qualifications
& Relevant
Experience:

I hold the qualifications of: Bachelor of Science in Geology and Master of Environmental Science and have 23 years of experience in contaminated land. I have prepared expert evidence and technical assessments for resource consent applications, plan changes and notices of requirement for designation and have appeared as an expert witness before consent authorities.

Preparation in
Accordance
with the Code
of Conduct:

I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses (**Code**), and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing, directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.

Signature:



Date:

10 April 2026

3.0 Executive Summary / Principal Issues

The site potentially contains contaminated soil/fill due to previous HAIL activities having occurred on the site. Due to the site currently containing a carparking buildings and other impervious surfaces, a detailed site investigation has not been completed for the site.

The Preliminary Detailed Site Investigation submitted with the application, provides details on the HAIL activities that have occurred on the site, and the potential contaminants of concern that may be present within soil/fill on the site. Due to the potential of contaminated reclamation fill being present on the site, there is the potential for groundwater on the site to be contaminated, which may require appropriate management/removal and disposal during the proposed works on the site.

The Contamination Site Management Plan (CSMP) outlines the proposed detailed site investigation (DSI) to be undertaken following the demolition of the carpark and removal of impervious surfaces. The CSMP also includes the management/mitigation measures to be implemented on the site during the proposed soil disturbance to ensure any potential effects to human health and the environment are no more than minor. The DSI will indicate the extent of contamination present on site, which will confirm if the measures proposed in the CSMP are suitable or additional measures are required to be included with the CSMP prior to soil disturbance occurring.

4.0 Documents Reviewed

The following documents have been reviewed in preparing this memorandum:

- *Downtown Car Park Site Development Fast-track Approvals Act Substantive Application - 2 Lower Hobson Street, Auckland - Assessment of Environmental Effects and Statutory Analysis*, prepared by B&A Limited, and dated 18 December 2025 ('the application report')
- *Appendix 24 Downtown Carpark Site Development – Conditions of Consent*
- *Downtown Carpark Site Development – Preliminary Detailed Site Investigation*, prepared by Tonkin & Taylor Limited, and dated November 2025 ('the PSI')
- *Downtown Carpark Site Development – Contamination Site Management Plan*, prepared by Tonkin & Taylor Limited, dated November 2025 ('the CSMP')
- *Asbestos Management Plan Downtown Carpark*, prepared by AECOM Limited, and dated 7 February 2020

- *Downtown Carpark Site Development Draft Construction Management Plan*, prepared by Precinct Properties New Zealand, and dated 9 October 2025

5.0 Additional Reasons for Consent Not included in AEE / Incorrect Reasons for Consent

- The consents listed in the AEE are the correct consents with regards to Contaminated Land matters, and no other contaminated land consents are required for the proposed disturbance of contaminated soil and or groundwater.

6.0 Specialist Assessment

6.1 Proposal as relevant to soil contamination

- The applicant is proposing to redevelop the Downtown Carpark site into an integrated mixed-use precinct. The redevelopment involves three podium buildings, two towers and six levels of shared basement including new public spaces.
- The existing Downtown Carpark building will be demolished together with the Lower Hobson Street pedestrian bridge and Customs Street West vehicle ramp located within part of the road reserve.
- The excavation for the basement will involve land disturbance of approximately 100,000m³ over an area of 6,442m². Excavations will be to approximately RL-12.4m and localised excavations for tanks and/or lift pits to a depth of RL-16.1m. The excavation is proposed to take approximately ten to twelve months once the building has been demolished.
- All excavated material will be removed from site and disposed of to an appropriate offsite disposal facility.
- Sheet piles will be used to retain the proposed basement excavation. A partially drained site is expected to be used for construction with an impermeable perimeter wall installed prior to earthworks to provide cut-off to the excavation. During construction groundwater flows and rainfall will be collected and pumped to the surface for treatment prior to disposal to either sewer or stormwater depending on the quality of the groundwater. The final basement will be sealed, which will minimise groundwater inflows both during construction and in the long term.

- The Preliminary Detailed Site Investigation (PSI) states reclamation fill extends from surface to between 4m to 9m below ground level (bgl) on site. Groundwater has been measured between 2.5m and 4m bgl.
- The PSI has confirmed the following Hazardous Activities and Industries List (HAIL) – HAIL Activity I – Intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment – Reclamation Fill and Asbestos containing materials within the carpark building. HAIL Activity F4 - Motor vehicle workshops; and Activity F7 - Service stations. HAIL Activity F5 – Port activities including dry docks or marine vessel maintenance facilities
- The PSI confirmed a Detailed Site Investigation has not been undertaken on the site, therefore a NES:CS Regulation 11 Discretionary consent and a AUP(OP) E30 Discretionary consent is required for the proposed earthworks.
- The application included a Contamination Site Management Plan that includes a section on the proposed Detailed Site Investigation to be undertaken prior to earthworks commencing, this will include soil sampling and installation of groundwater wells for groundwater monitoring.
- The proposed soil disturbance works are to be carried out in accordance with the CSMP, which provides the details of the proposed soil disturbance, and management procedures for the handling and disposal of potentially contaminated soil and groundwater. The CSMP will be updated following the receipt of the Detailed Site Investigation and its findings.

6.2 Location and Site Description

- The site is legally described as Lot 9 DP 60151 (2 Lower Hobson Street), Lot 7 DP 77037 (29 Customs Street West), Lot 5 DP 63972 & Lot 1 DP 78340 (188 Quay Street) and Lot 1 DP 183125 (204 Quay Street) and covers an area of 14,876m².
- The site is zoned Business – City Centre Zone.
- The site located in downtown Auckland, is generally rectangular in shape and contains the Downtown Car Park building in the west of the Site, HSBC Tower to the east and the AON tower to the northeast which are located on the same podium. While the HSBC and AON Towers form part of the subject site, no works are proposed to these buildings except for the podium to facilitate the new laneway network.
- The published geology states the following: The old relict sea cliffs of the Waitemata Harbour are located immediately on the south side of Custom Street West. A wave cut

platform extended over much of the site and the area has been subject to reclamation in the period 1860 – 1920. The reclamation fill has multiple sources including material excavated from local ridges, dredging and demolition materials. The reclamation fill is underlain by a thin layer of recent marine sediments and Pleistocene sediments of the Tauranga Group. The recent marine sediments consist predominantly of firm to stiff sandy silt with significant amount of organic matter. The Pleistocene sediments consist predominantly of stiff silts with some organic matter. Beneath the sediments is the East Coast Bays Formation (ECBF), part of the local basement Waitemata Group rocks, which underlies much of the Urban Auckland area and consists predominantly of an alternating sequence of siltstone and lithic sandstone. A relatively thin layer (<2m) of extremely weathered material mantles the unweathered rock. The total thickness of this group is inferred to be greater than 300m.

- Groundwater is expected to be between 2.5 and 4 m below ground level and within the reclamation fill. The groundwater level is expected to rise slightly above sea level towards Customs Street West, with levels rising to approximately 1.4 m RL. The groundwater in this area is governed by the presence of the Waitemata Harbour and fluctuates with tidal changes. However, tidal fluctuations based on previous monitoring in the surrounding area indicate negligible fluctuations (100-200mm).
- It is considered that rainfall events have a negligible effect on the groundwater level but flows within fill material and stormwater pipes may locally affect groundwater levels.

6.3 Summary of Preliminary Site Investigation Report

- The PSI undertook a desktop review which included a review of historical aerial photographs, review of council files, and previous investigation reports.
- The PSI has confirmed the site is on land reclaimed with reclamation occurring in stages, from the 1850s through to the 1920s by the Auckland Harbour Board. The reclamation fill comprises both materials cut from nearby, materials dumped from unknown imported sources and dredged materials. The site has since been used for a wide range of commercial purposes, although generally being dominated by retail and offices uses. However, the graving dock that extended over the northeastern to southwestern corners of the site operated until the early 1900's according to council records, the graving dock was infilled in 1923, prior to the reclamation of Quay Street (between Princess Wharf and the site).
- The area occupied by the dry dock (northern portion of the site) appears to have remained vacant until a large commercial building was constructed on it in the 1940's. In the late 1960's and early 1970's the current Downtown Carpark structure appears to have

been constructed after the demolition of the previous commercial building. A service station appears to have operated between the late 1960's, with historical records noting the removal of two underground tanks in 1996. The former service station was located in the south-western corner of the site.

- The PSI has confirmed the following Hazardous Activities and Industries List (HAIL) HAIL Activity I – Intentional or accidental release of a hazardous substances in sufficient quantity that it could be a risk to human health or the environment Reclamation fill is likely to be present beneath the entire site but the occurrence of industrial wastes is likely to be more localised and limited to the upper 5m.
- HAIL Activity F5 – Port activities including dry docks or marine vessel maintenance facilities Wharf operations have been in place adjacent to the site since the start of the 20th Century. Some of these operations, including a former dry dock and dock yard pump house, extended into the site prior to reclamation occurring. However, impacts, if any, are now unlikely to be indistinguishable from subsequent reclamation filling. During pre-works investigations the area around the old pump house and former dry dock is proposed to be targeted to confirm contamination assumptions.
- HAIL Activity I - Potential Activity I - Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment – Asbestos containing materials within the carpark building.
- HAIL Activity F4 - Motor vehicle workshops and Activity F7 - Service stations - The fuel storage systems were removed at a time when sampling was not routinely conducted. In June 2025 one environmental borehole (ENV-BH01) was advanced to a depth of 8m below ground level (bgl). The area within the former service station was not accessible by a drilling rig, therefore the borehole was placed on the downgradient side of the service station within the carpark building to establish whether activities from the former service station had caused significant hydrocarbon contamination and were impacting groundwater.
- The groundwater level was measured at about 4.7m below the Level 1 carpark level, and no separate phase hydrocarbons were observed at the groundwater surface.
- Soil samples were collected from various depths and analysed in the laboratory for total cyanide, heavy metals, total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH), benzene, toluene, ethylbenzene and xylene (BTEX), and asbestos. No significant soil contamination was encountered at the bore location, heavy metals were above background soil concentrations in near surface fill at a depth of 1.1-1.5m bgl from the carpark construction fill. Deeper samples collected from fill and natural soils did

not contain metals above background limits. PAHs and TPH were confirmed at low concentrations in near surface fill material collected at 1.1-1.5m bgl, and to a lesser extent from deeper samples. BTEX was not reported above the level of analytical detection and asbestos was not present.

- A groundwater sample was collected from the borehole in July 2025, the sample was analysed for total cyanide, heavy metals, TPH, PAH, and BTEX. The results confirmed that all parameters analysed were below the level of analytical detection.
- The results from borehole ENV-BH01 indicated there is no widespread significant contamination from the former service station activities.
- A conceptual site model (CSM) was developed and included in the PSI for the proposed development the CSM confirmed that impacts from the reclamation fill will be the main source of contamination. Previous investigations of similar reclamation fill in the area show low levels of heavy metal and hydrocarbon contamination being present, which is below human health and environmental criteria. However, where demolition and/or construction fill is encountered, the surrounding sites have detected isolated hotspots of elevated concentrations of metals and PAHs, and in some cases included TPH and/or the presence of asbestos above environmental criteria and in isolated instances above human health criteria. Cyanide is also typically encountered in fill at depth (> 3.0 m bgl) above laboratory limits of detection but below relevant human health and environmental criteria.
- The CSM also noted contamination within the service station area is still assumed a low risk is present during development, therefore further investigation is required in this area of the site to confirm the risk presented from potential vapours and/or vapour intrusion.
- Limited previous groundwater sampling indicates discharges are anticipated to meet the ANZECC 80% trigger levels for the protection of the marine environment, however, the occasional exceedance is anticipated. The occasional exceedances are unlikely to present a significant risk to the environment given the dilution available within the receiving environment (harbour). However, it is proposed that construction management measures will be in place during the works to control and manage discharges.
- The CSM confirmed there was a possibility that during the proposed works potential migration pathways existed, these being stormwater, groundwater, airborne dust, vapour, and surface sediment runoff, which could lead to the following exposure pathways: Inhalation, ingestion or dermal contact with impacted media, including surface soils, and ponded surface water or groundwater during excavation works. The CSM identified a potential risk to workers during the proposed earthworks and the environment.

- The PSI recommended a Detailed Site Investigation, which includes a groundwater investigation across the site, be undertaken to assess the site, due to potential impacts to workers and the environment during development on the site.

6.4 Summary of Contamination Site Management Plan

- The application included a Contamination Site Management Plan that outlined the proposed Detailed Site Investigation to be undertaken prior to earthworks occurring on the site, and the proposed site management procedures to be implemented during the works.
- The CSMP included an outline of the Detailed Site Investigation scope which included the following:
 - Soil sampling – at least seven samples targeted around the former dock structure/pump house, former graving dock, and former service station, and at least five systematic samples collected across the remainder of the site. Soil samples will be collected at surface, 0.5 m below ground level, 1 m bgl and 1m thereafter unless signs of contamination are encountered. Target depth for investigations will be at least 1 m into natural soils or a minimum of 4m below surface.
 - Soil samples will be analysed for metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc), semi-volatile organic compounds, volatile organic compounds, total petroleum hydrocarbons, asbestos (semi-quantitative analysis in accordance with NZ Asbestos-in-soil Guidelines) and cyanide.
 - Groundwater wells will be installed (at least two new wells). At least one sampling round will be undertaken from the existing well on site and the two installed wells to characterise contaminant concentrations and to assess potential disposal/discharge options.
 - As well as field parameters collected during groundwater sampling, groundwater samples shall be analysed for dissolved metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc), semi-volatile organic compounds (screen), volatile organic compounds (screen), total petroleum hydrocarbons (TPH), cyanide and pH.
 - Due to a low risk of volatile organic compounds (VOC) from localised areas of TPH which may be present in the area around the former service station and motor vehicle workshop, screening of both the breathing space in the proposed work area and downhole gas concentrations shall be conducted for explosive gases, CO, O₂, H₂S, and volatile ionisable compounds.
 - A detailed site investigation report will be prepared and will detail the soil, groundwater and vapour samples collected and discuss the analytical results

received in relation to the NES:CS, AUP(OP), and disposal options for soil and groundwater.

- The Site Management Plan outlines the site management procedures for safe handling of potentially contaminated soils during the proposed soil disturbance. Controls to minimise discharges to the environment and mitigate risks to human health include:
 - Erosion and sediment control measures in accordance with Auckland Council Guidance Document (GD2016/005): *Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region*
 - Dust suppression measures such as frequent spraying of water over the exposed soils, particularly during dry and windy conditions
 - The disposal of all material required to be removed offsite to a disposal facility that holds a consent to accept the relevant level of contamination
 - Management of temporary stockpiling of contaminated soils on site
 - The adoption of appropriate contingency measures for the discovery of unexpected contamination during the redevelopment works
 - Asbestos management procedures
 - Procedures to manage vapour risk
 - Appropriate personnel hygiene facilities to be provided and protocols followed during the soil disturbance works
 - Stormwater quality monitoring procedures
 - Controls to manage, treat and dispose of surface water and groundwater.

6.5 Summary of resource consent application and reason for consent

- Section 8.4 of the application report states that a discretionary consent pursuant to AUP(OP) E30 is required for the proposed soil disturbance, as the proposal does not meet the control standard E30.6.2.1 (a detailed site investigation has not been undertaken on site).
- Section 8.2 of the application report states that a discretionary consent pursuant to Regulation 11 of the NES:CS is required for the proposed soil disturbance of potentially contaminated soil on site, as the proposal does not meet the permitted activity thresholds in Regulation 8(3) of the NES:CS (a detailed site investigation has not been undertaken on the site).

I concur with these reasons for consent identified by the applicant.

6.6 Technical review of application and effects

I consider that the PSI and the CSMP have been prepared in general accordance with the *Contaminated Land Management Guidelines, No.1: Reporting on Contaminated Sites in New Zealand* (MfE, revised 2021) by a suitably qualified and experienced contaminated land practitioner (SQEP), as required by the NES:CS, providing sufficient information to determine the potential soil and groundwater contamination on site, and outlining the management strategies nominated in the CSMP.

6.7 Assessment of effects on human health and the environment

The applicant has provided a PSI which confirms potential soil and groundwater contamination on the site. There is a potential risk to human health, from soil, vapour and groundwater contamination during the proposed soil disturbance works. The proposed works could also cause contaminant discharges to the environment. The CSMP has confirmed soil, vapour, and groundwater sampling will be undertaken prior to earthworks commencing on the site to characterise soils and groundwater.

The CSMP outlines proposed mitigation measures to ensure the risks to human health are adequately managed during the proposed soil disturbance works. The CSMP also contains specific management measures to minimise the risk of contaminant discharges and subsequent effects on the environment. Particularly, the CSMP contains measures to minimise discharges of potentially contaminated sediment and water from the site by adhering to *Auckland Council Guideline Document GD2016/005* and measures to manage, treat, and dispose of surface water and groundwater encountered.

6.8 Review conclusion

For effects on human health and the environment the application report states the following:

“As a DSI has not been completed, a preliminary Contaminated Site Management Plan (CSMP) has been prepared which outlines procedures to manage potential ground contamination effects on human health and the environment during ground disturbance activities associated with the proposed site development works and include requirements for pre-works sampling and testing prior to earthworks commencing.

On this basis and by implementing the measures contained within the CSMP during the earthworks phase, it is our overall conclusion that any adverse effects on human health and the environment will be avoided, remedied or mitigated.”

I concur with these conclusions and consider that the recommended conditions of consent which include the requirement for a Detailed Site Investigation to be undertaken prior to soil disturbance, and implementation of the mitigation measures detailed in the CSMP shall ensure that the potential contamination within soil and groundwater disturbed, as part of the soil disturbance works, will have appropriate management, and mitigation measures to avoid, remedy, and mitigate potential adverse effects to human health and the environment.

7.0 Section 67 Information Gap

I have identified that there are no section 67 information gaps.

8.0 Recommendation

With regard to adverse effects on human health and the environment, the assessment in this memo does not identify any reasons to withhold consents. The aspects of the proposal considered by this memo could be granted consents, subject to recommended conditions, for the following reasons:

- Subject to the imposition of consent conditions, it is considered that the effects on human health and the receiving environment will be appropriately managed and mitigated.
- The sensitivity of the receiving environment to the adverse effects of the contaminant discharge will not be compromised, given the level of the discharge and appropriate on-site management techniques.

9.0 Proposed Conditions

The draft conditions relating to contaminated land provided with the application are appropriate, however I would recommend the following additions in red to be included in Condition 141 and Condition 142.

We suggest the following amendments to be considered to the conditions below.

*141. **At least 20 working days** prior to soil disturbance occurring on the Site, a Detailed Site Investigation (DSI) must be undertaken on the Site. The DSI must be undertaken in accordance with the certified CSMP, referenced in Condition 42.*

Comment: This ensures enough time has been allowed for the laboratory analysis to be completed and the completion of the DSI required by Condition 142 prior to any soil disturbance occurring.

*142. The DSI report documenting the site investigation, required by Condition 141, must be submitted to the Council for **review at least 10 working days prior to soil disturbance occurring**. The DSI report must confirm whether the stormwater quality monitoring and management/mitigation measures, proposed in the CSMP, referenced in Condition 42, are appropriate for the level of contamination onsite.*

Comment: This ensures the Council has enough time to review the DSI prior to any soil disturbance occurring on the site.