



Site Management Plan -
North Kumutoto Site 9

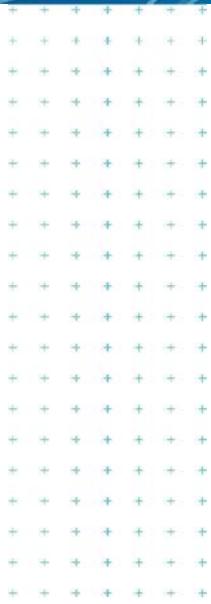
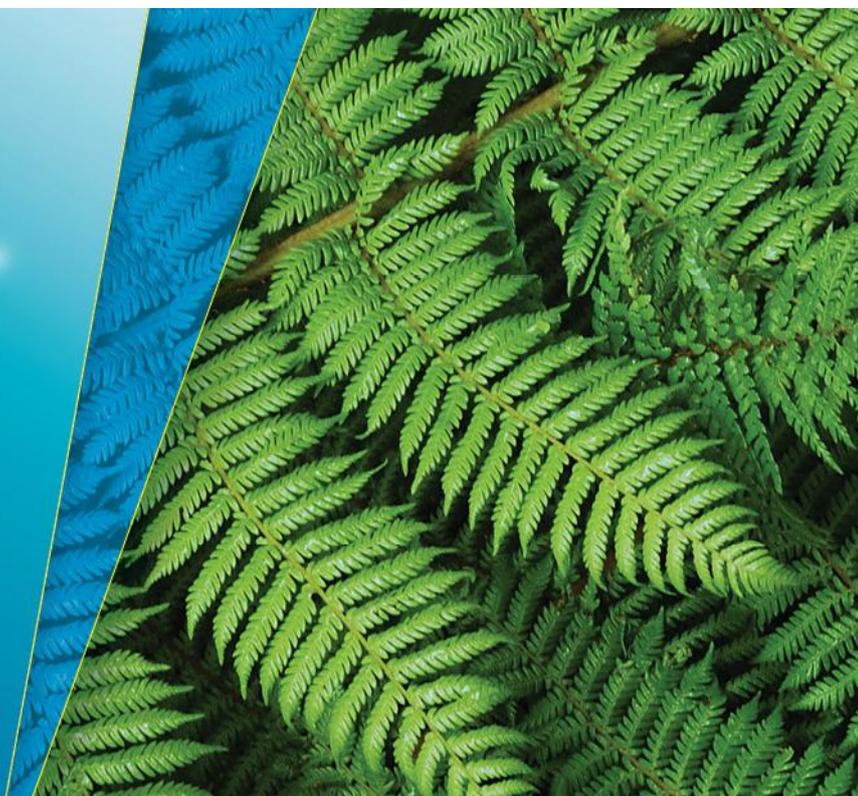
Customhouse Quay, Wellington
Waterfront

Prepared for
Willis Bond Capital Partners No. 3 Limited

Prepared by
Tonkin & Taylor Ltd

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Exceptional thinking together

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Appendix A : Additional procedures for asbestos-related works

1 Introduction

Tonkin & Taylor Ltd has been commissioned by Willis Bond Capital Partners No. 3 Limited to prepare a Site Management Plan (SMP) to manage earthworks in contaminated soil at North Kumutoto Site 9, located on the Wellington Waterfront, Customhouse Quay, Wellington (the site).

This SMP has been prepared to detail excavation procedures, monitoring, management and health and safety requirements during the proposed earthworks and to provide procedures for unexpected contamination should it be encountered during the works.

This SMP has been prepared in accordance with our proposal dated 9 January 2018.

The procedures detailed in the SMP are provisional on completing site investigation works and will require updating prior to the commencement of the proposed earthworks. Once updated, the SMP will provide Willis Bond Capital Partners No. 3 Limited and their contractors with procedures that shall be implemented during earthworks in contaminated soil.

1.1 Site background

Site 9 is located at the northern end of Queens Wharf. It is roughly rectangular in shape and occupies a portion of Lot 1 DP 490659.

A preliminary site investigation (PSI) undertaken by T+T in 2017¹ identified that the site was reclaimed in the early 1900s using a mixture of quarried fill and demolition waste. The site was originally adjacent to the harbour waterfront, until land to the east and south-east was reclaimed in the 1970s using quarried gravel. Shed 15 was constructed on the site in 1904 with asbestos sheeting installed in the roof in late 1943. Fuel oil burners were installed in 1944 (with a small storage tank) and there was possibly oil drum storage in 1977. Shed 15 was used as a cafeteria, offices, storage and recreation. Shed 15 was demolished in 1985, and the site has since been used as a parking lot.

The above activities have the potential to have contaminated soil and groundwater and an assessment of the likelihood, potential magnitude and possible extent of contamination is presented in the July 2017 PSI. The likely contaminants of concern are as follows:

- Metals;
- Polycyclic aromatic hydrocarbons (PAHs);
- Total petroleum hydrocarbon (TPH) and
- Asbestos.

Metals, PAH and suspected TPH have been identified within the soils on the site and asbestos has been identified in soils in the vicinity of the site.

1.2 Proposed work

It is understood that Willis Bond Capital Partners No. 3 Limited intends to redevelop the approximately 1,000 m² site for commercial use.

¹ T+T, 2017. *Ground Contamination Assessment – North Kumutoto Site 9 – Customhouse Quay, Wellington Waterfront*. Tonkin + Taylor, July 2017.

2 Objective of this SMP

This SMP has been prepared to provide methods and procedures for the management of contaminated material, health and safety procedures and measures for mitigating possible discharges during the development of the site. It also outlines the reporting required on completion of the earthworks to verify the site condition and confirm measures set out in this SMP were followed.

2.1 Regulatory compliance

This SMP has been prepared in general accordance with Ministry for the Environment's (MfE) Contaminated Land Management Guidelines No. 1 – *Guidelines for Reporting on Contaminated Sites in New Zealand*.

This SMP is also prepared in general accordance with the soil disturbance related controls referred to in the Resource Management Act (*National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*) Regulations 2011 (NES Soils). The persons preparing and certifying this SMP are suitably qualified and experienced practitioners as required by the NES Soil and defined in the NES Soil User's Guide (April 2012).

2.2 Applicability

This SMP provides a framework for managing contamination hazards on site by identifying potential hazards and proposing mitigation measures relevant to the known site conditions at the time of writing. This SMP provides information and options to manage Health & Safety and environmental protection, but is not intended to relieve the controller of the place of work of either their responsibility for their workers, contractors and the public, or their responsibility for protection of the environment.

The provisions of this SMP are mandatory for all persons (employees, contractor and sub-contractors) who will be involved in undertaking any of the proposed works.

It is recommended that any persons undertaking controlled activities develop a Job Safety Environmental Analysis (JSEA) to complement this SMP and to address other health and safety requirements that may be applicable to their particular works. This document should also be modified to address any specific health, safety or environmental issues that may arise during the works.

The SMP has been prepared on the basis of information available at the date of preparation. The nature and continuity of subsoil away from sample locations are inferred and it must be appreciated that actual conditions could vary from the assumed model.

3 Roles and responsibilities

3.1 Site controller

The Site Controller is a key member of the earthworks team. Prior to commencing any physical works on site, the Contractor shall nominate a Site Controller who shall be responsible for ensuring that all requirements of this SMP are complied with, in particular:

- Ensuring the procedures outlined in this SMP are implemented when work involves soil disturbance;
- Adherence to asbestos related works controls (preliminary controls are detailed in Appendix A);
- The timely securing of permissions and documentation to dispose of spoil at appropriate offsite facilities;
- Adherence to the First Responder's Checklist described in Section 7.1 of this document; and
- Compliance with building and resource consent conditions during the construction works.

3.2 Contaminated land specialist

A Contaminated Land Specialist shall be engaged by Willis Bond Capital Partners No. 3 Limited to provide advice as required during the earthworks (e.g. assessment of unexpected contamination). The Contaminated Land Specialist shall be sufficiently experienced to comply with the term "suitably qualified and experienced practitioner" as stipulated in the NES Soil and defined in the NES Soil Users Guide (April 2012).

3.3 Health and safety officer

An environmental and health and safety officer (HSO) shall be appointed by the Contractor for the duration of the works to ensure that contaminated land-related health and safety procedures are adhered to, alongside those required under the Contractor Health and Safety Plan. The HSO shall have basic first aid training.

The HSO shall ensure that all relevant personnel are familiar with the application and use of the personal protective equipment (PPE) and procedures specified in this SMP before commencement of site work.

3.4 Implementation

Responsibility for the implementation of the SMP lies with the Contractor appointed by Willis Bond Capital Partners No. 3 Limited and sub-contractors. In the case of unexpected contamination, the Contractor shall notify Willis Bond Capital Partners No. 3 Limited (or its designated project manager) immediately. Further information regarding first response is provided in Section 7.

A contaminated land specialist (i.e. a "suitably qualified and experienced practitioner" as required by the NES Soil regulations) will be required to carry out inspections and provide advice as required during the works.

3.5 Distribution

A copy of the SMP shall be kept onsite at all times. It is the responsibility of Willis Bond Capital Partners No. 3 Limited to distribute the plan to their Contractor. It is the Contractor's responsibility to distribute the SMP to any sub-contractors or other parties carrying out the earthworks.

3.6 Review and update

Statutory requirements or operating procedures may vary and may require that this plan be updated.

Any variations to the SMP proposed by the Contractor shall be approved by the Contaminated Land Specialist prior to works commencing, or the variation being implemented if works have already commenced.

It is the responsibility of Willis Bond Capital Partners No. 3 Limited to distribute any changes to the plan to the Contractor. It is the Contractor's responsibility for distribution any changes to the plan to any sub- contractors or other parties carrying out earthworks.

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4 Site management procedures

The procedures set out below are soil-related earthworks procedures for managing contaminated soil, while Section 5 sets out controls to manage the effects of dust, sediment, and stockpiling of soils at the site.

4.1 Overview of site management procedures

The procedures described in this SMP shall be implemented and followed during, but not limited to:

- All excavation, ground disturbance or intrusive works;
- Temporary stockpiling of excavated materials;
- Loading of excavated materials and transportation of these materials offsite (soil and/or dewatered/surface water); and
- Disposal of soil materials and/or water, including dewatering.

If the proposed works fall outside of those assumed then further investigation and/or additional management procedures may be required.

4.2 Pre-works investigations

Prior to the commencement of works, a detailed site investigation (DSI) shall be undertaken to determine contaminant concentrations at the site and the impact ground contamination may have on the proposed works. The procedures presented in this SMP may need to be modified to address any changes in the contamination risk profile that may be identified once the DSI has been completed.

4.3 Health and safety

Details on health and safety requirements relating to contamination hazards are addressed in Appendix A. The Contractor shall put in place the following health and safety facilities relating to potential presence of contamination in soil that is being disturbed:

- Personal protective equipment (PPE) stores;
- Wash facilities for workers to wash hands;
- First aid point.; and
- Additional facilities that must be provided if asbestos is present are set out in Appendix A.

The Contractor shall ensure that health and safety inductions are completed prior to allowing workers to operate onsite, including for works required as part of the site establishment.

4.4 Soil disturbance procedures

The following procedures shall be adhered to during the excavation and disposal works:

- Project relevant earthwork controls shall be in place during soil disturbance as per Section 5;
- Number and extent of stockpiles shall be minimised to enable effective controls to be implemented;
- The following procedures shall be adhered to when removing material from site:
 - Pre-disposal planning shall be undertaken to ensure necessary permits are in place for disposal.
 - Where possible, soil shall be placed directly on to a truck.

- Trucks shall be loaded within the site where runoff and possible spills during loading can be controlled and contained.
- Trucks transporting soil offsite shall have their wheels cleaned of debris and there shall be no tracking of material offsite.
- All materials leaving the site shall be transported in trucks lined and covered in polythene. Alternatively, lined and sealed skip bins could be utilised.

4.5 Soil disposal

Soil sampling will be required to be undertaken prior to the commencement of works to determine an appropriate, authorised disposal location. The contractor shall liaise with the landfill operator prior to disposal, undertake any additional sampling and obtain the necessary documentation and permission to dispose.

All weighbridge dockets must be retained by the Contractor and provided to the Contaminated Land Specialist for inclusion in the validation report (refer to Section 8).

4.6 Dewatering procedures

Groundwater can be managed through one of the following options:

- Soakage on site (for shallow excavations above groundwater level); or
- Disposal via the stormwater or tradewaste network (subject to consent conditions and authorisation, and following appropriate treatment).

Groundwater accumulating in excavations where contaminated material is present shall be assumed to be contaminated unless testing is undertaken to confirm otherwise.

Dewatering is to be regularly observed by the Contractor in order to ensure appropriate procedures are being followed.

Any requirements of any permits or consents for discharge of groundwater must be met at all times.

Water shall be treated before disposal to stormwater or tradewaste, for example through the use of settlement tanks, filters, and (if necessary) flocculants. A hydrocarbon separator system may also be required within the treatment train.

4.7 Imported material

Any soil imported to the site shall be quarried hard fill or clean fill (e.g., for landscaping, subject to geotechnical suitability).

5 Earthworks controls

5.1 Erosion and sediment controls

Erosion and sediment control during construction shall be in accordance with GWRC erosion and sediment control guidelines for small sites. Prior to works commencing the following erosion and sediment control measures shall be established:

- A stabilised entry/exit point shall be established so sediment is not tracked on and off the site; and
- Silt fences and runoff diversion bunds will be installed where appropriate to capture sediment in surface water runoff.

The following procedures shall be adhered to during the earthworks:

- Avoid work in heavy rain;
- Stockpiling shall be undertaken in accordance with Section 5.3; and
- Dewatering shall be undertaken in accordance with Section 4.5.

Erosion and sediment control measures shall remain in place until surface reinstatement.

To ensure good practice:

- Aggregate will be reapplied to the entry/exit point if excessive sediment build up occurs;
- Erosion and sediment control measures will be upgraded/ modified where necessary;
- Sediment fences will be replaced if the fabric is ripped or otherwise damaged. They will be retrenched if needed; and
- The weather conditions along with the performance of the erosion and sediment control measures will be monitored.

Erosion and sediment control measures shall remain in place until the earthworks are complete and suitable containment is in place.

Monitoring shall be undertaken by the Contractor and shall involve regular inspection of the earthworks areas for:

- Sediment control and compliance with the SMP; and
- Water accumulation.

The Contractor shall carry out all maintenance requirements to ensure the effectiveness of the control measures if inspections show that this is required.

5.2 Dust controls

There may be situations (e.g. during soil disturbance, truck loading, stockpiling) where any dust generated may have the potential to contain contamination, including asbestos fibres. If not suppressed during windy conditions or during vehicle movements over contaminated soil, discharge of airborne contaminants may occur.

To avoid dust generation, should dry or windy conditions prevail, the following control and monitoring shall be undertaken by the Contractor in areas identified as potentially contaminated:

- Frequent spraying of water over the excavation and truck loading area to ensure that working surfaces remain damp;
- Wetting of the loaded material once placed on the truck; and

- Use of a water truck or portable water sprays in trafficked areas to dampen dust.

5.3 Stockpiling controls

If stockpiling of contaminated soil is required onsite, the stockpiles shall be:

- Placed on sheeting or similar to prevent contamination of underlying clean material. Should contaminated soil be directly stockpiled on clean material, the surface soils of the underlying material will be required to be excavated and disposed of as contaminated material;
- Covered with polythene to prevent rainfall induced erosion and dust; and
- Fenced or otherwise secured so that the general public cannot access the stockpile.

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6 Contingency measures

In the event that unforeseen contamination is identified during the works, the first response procedures outlined in Section 7.1 shall be followed. In the event of an uncontrolled discharge of potentially contaminated soil or water to the environment, the following notification process shall be used:

- Cease work in the area immediately and take all practical steps to contain the discharge and prevent further discharge;
- Update the site Hazard Board and prevent unnecessary access to the area by personnel;
- The Contractor shall notify the Contaminated Land Specialist;
- A strategy to remedy the situation is to be determined by the Contaminated Land Specialist. The agreed strategy shall be implemented by the Contractor;
- All details of the discharge (volume, type, location), and procedures taken to remedy the situation, are to be recorded and included in the validation report to be submitted to all parties on the completion of works; and
- If there is any doubt as to whether or not a discharge of contaminants has occurred, the Contractor shall contact the Contaminated Land Specialist for further advice.
- Review and update the controls implemented under this plan, if required, to minimise the risk of further discharge.

6.1 Emergency procedures

The following procedures apply for incidents involving contaminated soil or groundwater:

- Any incident or potential emergency situation shall be reported to the HSO for immediate assessment and action. To minimise the impact of an emergency situation at least one other field person besides the HSO shall have immediate access to a first aid kit;
- If an incident occurs within a contaminated area, immediately isolate and immobilise the relevant equipment; and
- The HSO shall notify Willis Bond Capital Partners No. 3 Limited.

6.2 Unforeseen contamination procedures

Given the history of the site, it is possible that previously unidentified contamination could be encountered. Visual and olfactory indications of contamination can include the following:

- Odour (petroleum hydrocarbons or oil);
- Discolouration of soil (for example black, blue, grey or green staining); and
- Asbestos-containing materials (for example plasterboard, lagging, or cement board).

The following is a “first response” checklist for the Contractor to follow should unexpected contamination be encountered during the works.

Table 7.1: Potential Contaminated Materials First Response Checklist

First Response Checklist	
Stop work in the immediate vicinity of the contamination discovery and isolate the area by taping, coning or fencing off.	<input type="checkbox"/>
Advise the Contractor's Site Manager.	<input type="checkbox"/>
Update the site Hazard Board and prevent unnecessary access to the area by personnel.	<input type="checkbox"/>
If unexpected ACM is observed provide P2 dust masks to all staff entering the isolated area.	<input type="checkbox"/>
The Site Controller is to contact a Contaminated Land Specialist to inspect, sample and advise on specific controls if appropriate.	<input type="checkbox"/>
The Contractor's Site Manager is to contact the client.	<input type="checkbox"/>
Contain surface water/sediment and dust as per the SMP.	<input type="checkbox"/>

6.3 Asbestos containing material

Asbestos has been identified in soils in the vicinity of the site and it is possible that asbestos-containing material (ACM) may be encountered during works. Asbestos controls are provided in Appendix A. They must be applied if further investigations (DSI, refer Section 4.2) show that asbestos is present.

6.4 Water discharges

If a significant oil sheen or sediment is noted in the treated water, or laboratory test results exceed the limits allowed for discharge (which we anticipate will be developed in discussion with Wellington Water), then the following actions shall be undertaken:

- Divert discharge (e.g. divert stormwater discharge to tradewaste, or tradewaste to ground, as appropriate). If diversion is impractical, then discharge shall cease;
- The Contractor shall notify the contaminated land specialist who will notify Wellington City Council and Greater Wellington Regional Council;
- A strategy to remedy the situation is to be determined by the Contaminated Land Specialist in consultation with WCC and GWRC. The agreed strategy shall be implemented by the Contractor; this may involve changing this SMP; and
- All details of the discharge (volume, type, location), and procedures taken to remedy the situation, are to be recorded and included with the Site Validation Report to be submitted to all parties at the completion of works.

7 Validation and report

7.1 Groundwater discharge reporting

A suitably qualified and experienced individual shall provide the following reports to the Manager, Environmental Regulation, Greater Wellington Regional Council within 7 days of receipt of laboratory results.

The reports shall include:

- Laboratory transcripts;
- The results of the water quality monitoring tabulated against the water quality limits agreed with GWRC. Exceedances of the criteria shall be highlighted;
- Recommendations for any additional water quality treatment to ensure compliance with the water quality limits; and
- Recommendations for further water quality testing to ensure sampled water meets the water quality limits.

7.2 Validation

Validation is the process of confirming the objectives of the works have been achieved, confirming works were undertaken according to agreed procedures and reporting on any incidents. Contaminated soils may remain on the site on completion of the earthworks, however exposure pathways for site users will be incomplete due to the presence of the proposed building and hardstanding across the entire site.

Should contaminated material remain onsite, soil validation sampling and analytical analysis may be required. If required, validation sampling shall be undertaken by the Contaminated Land Specialist.

7.3 Information required from the contractor

The following information is required from the Contractor for inclusion in the validation report:

- Copies of weigh bridge docket for the disposal of all contaminated soil;
- Excavation records; and
- Details of unexpected encounters/events and the actions taken.

The Contractor shall provide the required information within one month of completion of the works to which the information relates.

7.4 Works observation

Observation visits shall be made on at least three occasions by the Contaminated Land Specialist during the works to confirm that the works are being undertaken in accordance with this SMP.

7.5 Validation reporting

The Contaminated Land Specialist shall provide a validation report, which includes the following:

- Confirmation that works were completed according to this SMP and documenting any variations to the procedures during the works;
- Confirmation that there were no environmental or human health incidents during the works. If there were any incidents then the report shall detail the nature of the incidents and the measures taken to mitigate effects; and

- Confirmation of the disposal destination of all soil, based on documentation provided by the Contractor.

The validation report shall comply with the MfE's Contaminated Land Management Guidelines No. 1: Reporting on contaminated sites in New Zealand (revised 2011).

7.6 Ongoing monitoring and management

The requirement for ongoing monitoring or management with respect to ground contamination will be assessed on completion of the DSI and on completion of the earthworks.

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8 Applicability

This report has been prepared for the exclusive use of our client Willis Bond Capital Partners No. 3 Limited, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd

Report prepared by:

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Appendix A: Additional procedures for asbestos-related works

Introduction

Should asbestos be identified in the DSI or during the redevelopment works then appropriate Health & Safety procedures as stated in the New Zealand Guidelines for Assessing and Managing Asbestos in Soils (November 2017) must be implemented. The scope of procedures will depend on the nature and level of asbestos identified (refer Table 6 and Table 7 of the Asbestos in Soils guidelines).

The following procedures are assumed to apply at this stage when asbestos contaminated soils are exposed at the site, and are in addition to those detailed in the SMP for other types of contaminants.

Site Access

Access shall be strictly controlled and limited to essential personnel only. Appropriated fencing and warning signs shall be erected to provide physical separation between the management areas.

Security and signage

The site hazard board (located by general site entrance) will include details pertaining to the asbestos related works.

General safety requirements

All works involving asbestos will be carried out in accordance with the New Zealand Guidelines for Assessing and Managing Asbestos in Soils, the Health and Safety at Work (Asbestos) Regulations 2016 and in accordance with Worksafe NZ guidance. If large quantities of asbestos are identified, a licensed asbestos removalist may be required to be engaged.

The HSO shall determine, and ensure adequate supply of, additional PPE and other safety requirements for works in the Asbestos-related works area, which may comprise:

- Respiratory protective equipment (eg P2 or P3 mask);
- Disposable gloves;
- Disposable (e.g. Tyvek) coveralls (to be changed after each use); and
- Disposable boot covers or dedicated footwear (including toe and sole protection) not for other use until fully decontaminated.

Protective equipment shall be replaced as appropriate and in accordance with the manufacturer's recommendations.

Disposal of soil

Asbestos-containing soils are to be kept wet at all times and the procedures detailed in Section 5.2 are to be implemented throughout the excavation of asbestos-containing soils.

All excavated soils containing asbestos shall be disposed to landfill as asbestos waste. Excavated surplus material shall, where possible, be placed directly on a lined truck/in lined skip and covered in polythene, for offsite disposal.

