

TWEED VALLEY HOSPITAL MANAGEMENT PLAN - CONTAMINATION

19/06/2019 | Revision No: 4.0



State Significant Development Conditions

Name of this Plan (as per SSD Conditions): N/A

B25 (j). an unexpected finds protocol for contamination and associated communications procedure;

Refer to Appendix B for unexpected finds protocol.

Sub Plan Revision Status				
Date	Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
30/03/17	2	General update including LLB GMR and legislative amendments.	Tracey Wallbridge	Brian Falls
11/03/19	2.1	Project Specific	LB	Luis Biaggini
26/04/19	2.2	Updated with known contamination sites	Geoff Lobdell	Luis Biaggini
02/05/2019	3	Updated for SSD Conditions	Monique Windley	G. Barrow
19/06/2019	4.0	Final SSD Conditions Issue	Monique Windley	G. Barrow

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1. SCOPE OF PROJECT AND SUB PLAN

Project Details	
Scope of the Sub Plan	<p>This Contamination Management Sub Plan provides details of the controls that will be implemented to identify and handle contaminated soil and water where it is found <u>unexpectedly</u> during site establishment and/or construction. It also identifies mitigation measures for specific construction activities, monitoring requirements and contingency measures where exceedances of specified criteria are identified.</p> <p>Refer to Section 1.1 and 3.1 of the Project EHS Management Plan for clarification on how the EHS Sub Plans form part of the Lendlease Building (LLB) EHS management system.</p>
Objectives of the Sub Plan	<ul style="list-style-type: none"> ● To ensure that contaminated soil and groundwater is identified and managed in accordance with regulatory requirements and guidelines. ● To establish a process for the removal of contaminated soil/water that may be encountered during Early Works or Main Works. ● To identify opportunities for the re-use of contaminated soil and/or groundwater on and/or off-site (in accordance with relevant legislation/guidelines). ● To minimise the environmental and health risks associated with the handling of contaminated materials and future use of an area.
Scope of Works	<p>This Sub Plan has been prepared based on consideration of the following scope of works:</p> <ul style="list-style-type: none"> ● Site establishment including hoarding installation, office and compound setup; ● Construction of the Temporary Access Driveway off Cudgen Road. ● Slip Lanes Construction off Cudgen Rd and Turnock St. ● Infrastructure diversions and/or upgrades including sewer and stormwater diversions, ● Bulk Excavation including vegetation removal, topsoil stripping, cut to fill activities and rock crushing. ● Civil and infrastructure works, including roads, retaining walls, on-grade parking and inground services. ● Main Hospital Building Construction: Further details will be included in subsequent revisions of this plan.

<p>Key Issues and Risks</p>	<p>The potential for soil and/or groundwater contamination at the site is considered low according to previous investigations commissioned by the Principal.</p> <p>The Detailed Site Investigation Report and Remediation Action Plan prepared by <i>Douglas Partners (August 2018)</i> identified that:</p> <ul style="list-style-type: none"> • Pre-demolition hazardous building materials survey of the building structures which comprise the site. It is noted that many of the premises appear to contain some asbestos and other hazardous materials; • Preparation of a remediation action plan (RAP) to address the low-level soil contamination identified in this report, outline additional investigation requirements, and present an unexpected finds protocol; • Post demolition clearance for surface asbestos containing materials (ACM) by an experienced occupational hygienist; • Post demolition sampling and testing of soils in existing building footprints; • Additional delineation sampling in the areas where exceedances were observed to determine the extent of contamination; and • Remediation of impacted soils under the RAP <p>The presence and subsequent disturbance of contaminated soil creates the potential for environmental and health impacts including off-site pollution, if appropriate controls are not identified, implemented and maintained on the site.</p> <p>The following activities are expected to be the key risk sources associated with the handling of contaminated materials found during construction:</p> <ul style="list-style-type: none"> • Exposure of workers or the community to vapours or chemicals in soil and groundwater during detailed and bulk excavation; • Incorrect storage of contaminated soil or groundwater resulting in the on- or off-site migration of contaminants into local ecosystems; • Inadvertent creation of a migration pathway linking the contamination to a sensitive receptor (eg service trench); • Inappropriate re-use or disposal of contaminated materials without approval or required documentation.
<p>Legislation and Guidelines</p>	<p>Federal/National:</p> <p>National Environmental Protection (Assessment of Site Contamination) Measure NEPM (1999)</p> <p>Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (1992) (NOTE: Recinded)</p> <p>AS4482.1:2005 Guide to the Sampling and Investigation of Sites with Potentially Contaminated Soil – Non-volatile and Semi-volatile compounds. https://www.saiglobal.com/PDFTemp/Previews/OSH/as/as4000/4400/4482.1-2005.pdf</p> <p>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</p> <p>Protection of the Environment Operations Act 1997;</p>

Contaminated Land Management Act 1997;

State:

Project Approval DA/208/2018

State Government guidelines and contaminated site registers including:

http://www.epa.sa.gov.au/environmental_info/site_contamination

<http://epa.nsw.gov.au/clm/>

State Environmental Planning Policy No. 55 - Remediation of Land

Technical Note: Investigation of Service Station Sites (NSW EPA April 2014)

Best Practice Note: Landfarming (NSW EPA April 2014)

Guidelines for NSW Site Auditor Scheme

SW EPA, Sampling Design Guidelines (EPA, 1995);

NSW OEH, Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (OEH, 2011);

NSW EPA (2017) Contaminated Sites Guidelines for the NSW Site Auditor Scheme 3rd Edition (EPA, 2017);

NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (EPA, 2014a);

NSW EPA Waste Classification Guidelines Part 2: Immobilisation of Waste (EPA, 2014b); and

State Environmental Planning Policy 55 (SEPP55) - Remediation of Land.

Local:

- Local Government Act 1993

Lendlease Requirements:

- GMR: 4.13 Degradation or Pollution of the Environment
- GMR: 4.15 Uncontrolled Release of Stored Energy (non-electrical))
- Lendlease Building Workplace Delivery Code (WDC)

Summary of Site Controls	Works must be undertaken in accordance with the Lendlease GMRs, the Project EHS Plan, this Sub Plan and the Lendlease Building WDC. These documents detail Lendlease’s approach and commitment to pro-active and responsible site management.
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Site specific controls, monitoring, reporting and performance measures have been identified in this Sub Plan to manage unexpected contamination encountered on the site. These include but are not limited to:

- Appointing a suitably qualified consultant to conduct a contamination assessment and testing;
- Obtaining a preliminary waste classification report for spoil proposed to be removed from site.
- Assessing remediation and reuse options;
- Making provision for the segregation of soils and temporary stockpiling;
- Classifying soil and waste prior to removal off site;
- Minimising the exposure of workers and the community to contamination; and
- Validating the site after the removal of contaminated material.

A Contaminated Soil and Water Environmental Management Diagram (EMD) will be prepared for the site and attached in Appendix 1.

Requirements for contamination identification, management and disposal will be included in relevant specifications, contract agreements, subcontractor work method statements and quality assurance processes.

Site inspections and surveillance will be undertaken by Lendlease and subcontractors as detailed in the EHS Plan and the following implementation table.

Unexpected
Find Protocol

If suspected contaminated soil, water or other materials are discovered during site establishment or excavation in an area previously identified as being uncontaminated (clean), the following protocol must be followed:

1. Cease work and evacuate the area immediately (to the upwind side of the contamination);
 2. Contact the EHS coordinator, Site Manager or Construction Manager immediately to report the issue;
 3. Erect barricades to isolate the area. Where possible a minimum distance of 10m should be established between the suspect material and the barrier.
 4. Notify the appropriate regulatory authority as soon as possible (where applicable).
 5. Engage a suitably qualified environmental specialist.
 6. Prevent access to the barricaded area. A Clearance Certificate or written approval from the environmental specialist must be obtained prior to re-gaining entry to the area.
 7. Arrange sampling of the suspect material by the environmental specialist (as advised by the LLB Construction Manager).
 8. In consultation with the environmental specialist, LLB senior site personnel and/or relevant authorities, determine if further remedial action is necessary based on the sample results to enable reuse, treatment or disposal.
 9. Obtain permits to carry out remedial works and implement appropriate environmental and health controls. Obtain a written clearance certificate from the environmental specialist before re-entering the area. Remove the barricade at the completion of the remedial works and resume activities under the direction of the LLB Construction Manager.
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2. IMPLEMENTATION OF THE SUB PLAN

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measurement
Planning and Site Establishment					
Undertake a Preliminary Contamination Assessment (PCA) for the site OR obtain a copy of existing (relevant) contamination reports and determine the current site conditions.	Prior to works commencing	<p>Appoint a suitably qualified consultant to assess the work area, to determine the extent and nature of the contamination and the risk of harm to human and environmental health.</p> <p>Assess potential risks, address unexpected finds in the construction program and identify acceptable work methods.</p> <p>Review any existing data available.</p> <p>Include relevant requirements into subcontractor WMSs and contract documentation.</p>	CM SM	<p>PCA prepared.</p> <p>Copy provided to Client.</p> <p>WMSs prepared.</p> <p>Requirements incorporated into subcontract documentation.</p>	<p>No works performed in areas within PCA.</p> <p>Need for remedial works identified.</p> <p>No inappropriate disposal of contaminated materials.</p> <p>No adverse impact on the health of workers or the community.</p>
Prepare a Contaminated Soil and Water Environmental Management Diagram (EMD) showing the location of potentially contaminated areas, stockpile locations, and sensitive receptors.	Prior to works commencing	Prepare EMD (Appendix 1) showing details of contaminated areas, storage locations/stockpiles and reuse areas (if available).	CM SM	Diagram prepared prior to works commencing.	<p>Storage areas located away from sensitive receivers.</p> <p>No spills or incidents.</p>
Undertake preliminary waste classification testing to facilitate the identification of contamination, remediation options and determine the waste classification of the spoil (as required).	Prior to works commencing	<p>Engage a specialist.</p> <p>Arrange for the testing and classification of spoil and groundwater (if risk is identified).</p> <p>Assess options for remediation, reuse and recycling of spoil.</p>	CM SM	<p>Waste classification details available.</p> <p>Options identified and feasibility assessment provided to Client.</p>	Waste disposed of in accordance with the waste classification report.

		Identify waste types, volumes and landfill facilities approved for disposal.		Suitable treatment and/or disposal sites identified.	
Include information in the Site Induction about the risks and impacts of unexpected contamination.	Prior to works commencing	Revise Lendlease standard induction package to include site specific information. Deliver induction material.	CM SM	WMSs prepared by subcontractors address contaminated material identification, storage, handling and disposal.	Site induction delivered to all workers on site.
Implement the Unexpected Find Protocol if contaminated material is exposed or suspected during works.	As required during early works	Implement protocol immediately.	CM SM	As per the protocol (above). Report to RBU EHS Manager.	Protocol followed. Minimal disturbance to suspected contaminated material. No impact on the environment or workers due to exposure.

Handling of Contaminated Materials

If identified, establish stockpile areas in appropriate locations within the site.	Prior to works commencing	Make provision for the on-site temporary storage of soil pending waste classification or advice from the Client. Contractor to prepare area based on specification (must be sealed, bunded and drained appropriately). Segregate soils pending re-use, remediation and/or off-site disposal.	SM	Daily surveillance to assess stockpile conditions. Weekly/Monthly inspection checklist.	No uncontrolled or off-site pollution associated with material storage. Capacity appropriate for volumes expected.
Obtain relevant approvals and permits for remediation and transport, reuse and/or disposal of contaminated soil and/or water.	Prior to any material leaving site	Identify suitable waste transport contractors. Obtain details of civil works contractor licences and approvals to	SM	Copies of licences and approvals reviewed. Disposal/weighbridge documents retained and	No waste leaving site without approval. Copies of permits/approvals kept on site.

		transport contaminated or hazardous materials. Check landfill/disposal facility licence details to confirm their suitability to accept the material.		waste details captured in Footprint.	
Undertake environmental monitoring (i.e. VOC, asbestos, dust) to assess ambient conditions.	Establish prior to works commencing and maintain during works	Engage a suitably qualified consultant to identify the extent, frequency and duration of monitoring requirements.	CM Specialist consultant	Daily surveillance and analysis of results.	Results available and acceptable.
Segregate contaminated soil/water from other wastes to prevent cross contamination.	At all times	Based on advice from the consultant, segregate soils and provide identification signage. Ensure spoil and water storage areas are secure and environmental controls (bunds and dewatering collection points) have been established to prevent uncontrolled discharges.	SM Specialist consultant	Daily inspection of stockpiles and water storage facilities. Weekly/monthly inspection checklist. Testing by NATA accredited laboratory.	Waste correctly classified. Cross contamination avoided. Signage present. Stockpiles stable and no uncontrolled discharge evident.
Store contaminated soils/groundwater safely and securely.	At all times	Contractor to prepare designated waste storage areas with appropriate environmental controls and monitoring.	SM Specialist consultant	Inspection prior to commencement of excavation and storage.	No uncontrolled runoff from stockpiles. No cross contamination of waste.
Minimise worker and community exposure to contaminated materials.	At all times	Contractor to prepare WMS. Provide appropriate PPE, instruction and training on contaminated material handling.	SM Specialist consultant	Daily surveillance of work areas. Weekly/monthly inspection checklist.	No elevated monitoring events. PPE evident. SWMS followed.

Remediation, Pre-treatment, Reuse, Disposal and Validation (including transport)

Treat contaminated soil and groundwater on site for reuse or to achieve a lower waste classification.	Where feasible	<p>Seek advice from the environmental consultant on treatment, remediation and reuse options.</p> <p>Obtain relevant approvals.</p> <p>Arrange for validation of treated materials to confirm fit for purpose/reuse.</p>	<p>CM Specialist consultant</p> <p>EHS Manager</p>	<p>Approvals received.</p> <p>Remediation test reports obtained.</p> <p>Validation of remediated soils and water.</p>	<p>No environmental incidents during treatment.</p> <p>No complaints regarding odour during treatment.</p> <p>No soil/water reused without consent.</p> <p>Reuse achieved.</p>
Reuse treated soils/groundwater on site where acceptable results have been achieved.	Where remediation successful.	Specialist to confirm that material is fit for purpose (based on testing and visual assessment).	SM Specialist consultant.	<p>Remediation test reports confirming materials are fit for purpose.</p> <p>Client consent.</p>	<p>No soil or water reused without consent.</p> <p>Validation certificate for all reused wastes/</p>
Review the safety and environmental risks involved in the transport of contaminated soil/water to off-site receiving facilities.	Prior to material being removed from site	<p>Contractor to provide details on transport route.</p> <p>Assess route and risks.</p> <p>Drivers to be advised and instructed in safe transport and agreed route.</p> <p>Licensed contractors only used.</p>	SM	Inspect contractor licences, approvals, insurance and vehicle condition.	<p>Copies of relevant documents retained in site files.</p> <p>No use of unauthorised traffic routes.</p> <p>No transport incidents or loss of materials onto public roads.</p>
Dispose of contaminated soils and ground/water that cannot be reused or recycled to an appropriately licensed landfill or facility.	Where remediation and on-site reuse is not feasible	<p>Confirm classification of the waste.</p> <p>Engage licenced solid and liquid waste contractors.</p> <p>Contractor to prepare and communicate requirements of a WMS addressing the handling, transport and disposal of contaminated materials.</p> <p>Contractor to obtain disposal approvals, permits and licence</p>	<p>SM Contractor Specialist consultant.</p>	<p>Inspect permits, approvals and transport vehicles.</p> <p>Waste report.</p> <p>Copies of waste dockets to verify disposal to an approved facility.</p> <p>Capture waste data in Enablon.</p>	<p>No loss of material onto public roads.</p> <p>No illegal disposal of waste.</p> <p>Waste dockets correspond with expected waste volumes/types.</p>

		details and retain waste disposal documentation.			
Validate excavations/materials.	At the completion of excavation	Engage a specialist to perform and validate remediation and reuse areas and materials.	CM Specialist consultant	Validation report.	Re-used remediated materials validated. Areas deemed fit for use.
Decontamination					
Establish worker decontamination areas.	Prior to and during remediation and removal activities	<p>Seek specialist advice from an OHS hygienist.</p> <p>Contractor to prepare a WMS and instruct workers.</p> <p>Establish suitable facilities for worker decontamination, the removal of coveralls and the cleaning of masks and boots. Respirators must remain on during the decontamination process.</p> <p>Dispose of used clothing and equipment as contaminated waste.</p>	SM Contractor	<p>Daily surveillance of decontamination operation.</p> <p>Personal monitoring or testing (as recommended by the specialist hygienist).</p> <p>Waste dockets/reports.</p> <p>Inspection by specialist.</p>	<p>Monitoring implemented and results available and assessed.</p> <p>No exceedance of monitoring criteria.</p> <p>Correct waste disposal.</p>
Establish plant decontamination areas.	Prior to and during remediation activities	<p>Seek specialist advice from an OHS hygienist on the set-up of wash out/decontamination areas.</p> <p>Contractor to prepare a WMS and instruct workers.</p> <p>Identify designated parking areas within the contaminated zone for the wash down of excavators/trucks, plant and tools.</p> <p>Contractor to provide suitable PPE for activity.</p>	SM	<p>Daily surveillance.</p> <p>Weekly/monthly inspection checklist.</p> <p>Inspection by specialist.</p> <p>Waste dockets/reports.</p> <p>Waste captured in Enablon.</p>	<p>No uncontrolled discharge of wash water.</p> <p>No waste to leave site until classified.</p>

	<p>Provide environmental controls to capture wash-water and transfer to a truck outside the contaminated zone.</p> <p>Arrange for testing and classification of the waste prior to disposal.</p>			
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APPENDIX A – KNOWN LOCATIONS OF POTENTIAL SOIL CONTAMINATION

- Farm dam
- Farm rubbish deposit
- Farm shed
- Cattle Dip
- Farm House



APPENDIX B – UNEXPECTED CONTAMINATION PROCEDURE

UNEXPECTED FINDS PROTOCOL

Unexpected Find items can include, but are not limited to, hazardous building material, potential burial site or item of heritage or archaeological significance, medical paraphernalia, illicit items including weapons and drugs related objects

