



Site Management Plan (Ground Contamination) (DRAFT)

Site ID:	Auckland Surf Park Community: Stage 2	Rev 1, 30 September 2025
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Overview:

AW Holdings 2021 Ltd is developing the Auckland Surf Park, on properties on Dairy Flat Highway and Lascelles Drive, Dairy Flat. The project includes accommodation, residential and work-live units, a data centre and a solar farm.

Stage 1 works are underway with contamination largely remediated. This SMP relates to Stage 2 works with a focus on remediation requirements at 1320 Dairy Flat Highway. There are also protocols for responding to unexpected contamination across the wider Stage 2 site, including at 89 and 105 Lascelles Drive. Refer Figure 1.

Williamson Water & Land Advisory (WWLA) has undertaken a preliminary and detailed site investigation (PSI/DSI)¹ of the Stage 2 site which found:

- The site history review confirmed that the site has only been used for pastoral agricultural purposes and lifestyle blocks since the 1940s.
- Localised surficial soils at 1320 Dairy Flat Highway contain contamination from use of treated timber (Activity I on the Hazardous Activities and Industries List (HAIL)). Arsenic in two areas requires remediation in topsoil and shallow natural soil, provisionally estimated to be to 0.2 m below ground over a 770 m² area (i.e. 160 m³ insitu) (refer **Figure 2**).
- Remediation options are set out in detail in the PSI/ DSI and may involve either removal of the impacted soil from site, relocation within the site, soil mixing, or encapsulation.
- There is potential to undertake delineation sampling to further define the extent of arsenic contaminated soils.

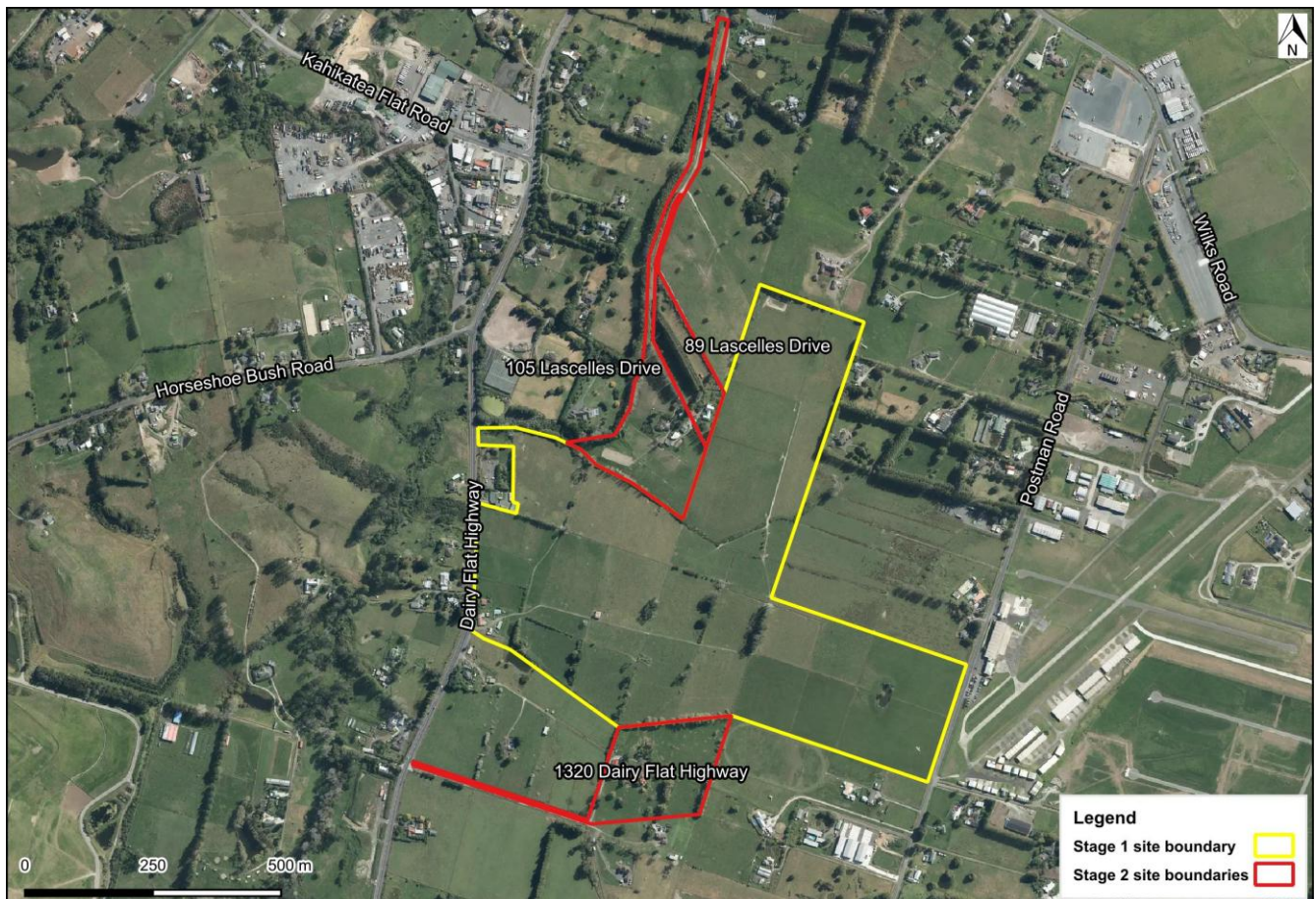


Figure 1. Site location, outlined in red dash with stage one area in solid red (image source: Land Information New Zealand (LINZ), 2024-2025).

¹ Auckland Surf Park: Stage 2, Preliminary and Detailed Site Investigation (Ground Contamination). Report prepared for AW Holdings 2021 Ltd by Williamson Water & Land Advisory Ltd, dated 30 September 2025. Reference: WWLA1368, Rev. 1.

This SMP has been prepared to support the remediation and provides procedures to guide contractors in materials management, efficient onsite reuse, offsite disposal (if necessary), health and safety and across the wider project, response to unexpected contamination encounters.

The contractor is responsible for following the requirements of the SMP and reporting on compliance to the SQEP. Where input is required by a SQEP (i.e. WWLA), it is **highlighted** below.

Procedures understood by the Contractor:	Date:
Induction given by SQEP:	Date:



Task	Description	Check
Pre-works requirements	<ul style="list-style-type: none"> Obtain an asbestos survey of the buildings at 1320 Dairy Flat Highway and carry out demolition in accordance with the Asbestos Regulations if asbestos is present. 	<input type="checkbox"/>
	<ul style="list-style-type: none"> While not compulsory, pre-works sampling is recommended to further delineate the area of remediation, and the depth, as this may reduce the volume of contaminated soil that requires management. Refer to Figure 2 for the HAIL/ remediation plan. The SQEP will determine the sampling plan; provisionally: <ul style="list-style-type: none"> Sampling at 0.4 and 0.5 m depth in two locations in the yards. Sampling on a 10 m grid around the dwelling, at surface, 0.3, 0.4 and 0.5 m bgl. Testing of (selected) samples at an IANZ accredited laboratory for arsenic. 	<input type="checkbox"/>
	<ul style="list-style-type: none"> Confirm the remediation method. Refer to PSI/ DSI for detailed description <ul style="list-style-type: none"> Remediation Method chosen: _____ If soil is to be retained on site, final proposed destination: _____ If offsite disposal is proposed, state destination: _____ 	<input type="checkbox"/>
	<ul style="list-style-type: none"> Inform the SQEP of works commencement date and arrange induction for this SMP. 	<input type="checkbox"/>
	<ul style="list-style-type: none"> Arrange permits if soil is to be disposed offsite. 	<input type="checkbox"/>



Figure 2. HAIL Areas (remediation areas) and PSI/ DSI sampling locations.

Hold Point: Confirm remediation method and area. SQEP to update SMP to final version

Task	Description	Check	
Site establishment	<ul style="list-style-type: none"> Establish earthworks controls according to Auckland Council's Guideline Document 2016/005, "Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region (GD05)" The remediation area requires separate erosion and sediment control to prevent cross-contamination of cleaner soils (unless soil mixing is proposed). 	<input type="checkbox"/>	
	<ul style="list-style-type: none"> Establish dust controls in accordance with the Ministry for the Environment's <i>Good Practice Guide for Assessing and Managing Dust (2016)</i>, including: <ul style="list-style-type: none"> Regular wetting of the work area and exposed soils. Use of suppression methods that minimise over wetting and surface water runoff, such as hand-held hose with sprinkler nozzle for small areas or misting lines for larger areas. 	<input type="checkbox"/>	
	<ul style="list-style-type: none"> Induct new workers/ subcontractors to requirements of this plan as works progress. 	<input type="checkbox"/>	
Contamination health and safety requirements	<ul style="list-style-type: none"> There are no specific contamination-related health and safety requirements for workers during disturbance of soil. 	<input type="checkbox"/>	
	<ul style="list-style-type: none"> Good hygiene practices should always be followed, such as washing hands before eating and drinking and cleaning boots before entering site sheds or vehicles. 	<input type="checkbox"/>	
Dust controls	<ul style="list-style-type: none"> Maintain dust controls for the duration of soil disturbance works as per MfE <i>Good Practice Guide for Assessing and Managing Dust (2016)</i>. 	<input type="checkbox"/>	
Sediment controls	<ul style="list-style-type: none"> Maintain erosion and sediment controls for the duration of soil disturbance works. 	<input type="checkbox"/>	
	<ul style="list-style-type: none"> Undertake daily checks of remediation area to ensure controls are in good condition. 	<input type="checkbox"/>	
	<ul style="list-style-type: none"> Inspect controls after any storms and regularly, according to the site erosion and sediment control plan (ECSP). 	<input type="checkbox"/>	
Spoil reuse	<ul style="list-style-type: none"> Contaminated topsoil from the remediation area can only be reused in areas where commercial or recreational land use is proposed, unless soil mixing has taken place to reduce contamination concentrations to those appropriate for residential use. The <i>SQEP will confirm on completion of pre-works sampling and remediation decision making</i>. Surplus subsoils (i.e. materials underlying topsoil) and topsoil from the remainder of site are not contaminated and can be placed anywhere on site. 	<input type="checkbox"/>	
Offsite disposal of surplus spoil (all subject to prior approval from disposal site)	Remediation materials (to ~0.2 m in remediation/ HAIL Area)	Managed Fill. If soil is being taken to a transitional facility (e.g. a contractor's yard), the final disposal destination must also be confirmed.	<input type="checkbox"/>
	All other soils	Expected to be suitable for disposal as cleanfill.	<input type="checkbox"/>
Offsite transport of surplus spoil	<ul style="list-style-type: none"> As a minimum, all loads shall be dampened and securely covered. 	<input type="checkbox"/>	
	<ul style="list-style-type: none"> Truck loads shall be tracked and weighbridge dockets retained and <i>provided to the SQEP</i> to confirm appropriate disposal. 	<input type="checkbox"/>	
Imported materials	<ul style="list-style-type: none"> Ensure any imported materials (soil, recycled hardfill/concrete etc.) are clean. These must be either quarry sourced or <i>verified by the SQEP</i> as being from a non-HAIL site or cleanfill as defined in the Auckland Unitary Plan. 	<input type="checkbox"/>	

Task	Description	Check
	 <p>Fill materials.</p>	 <p>Fill materials.</p>
Post works <i>(provide to SQEP)</i>	<ul style="list-style-type: none"> • Photographic records of the soil disturbance works (e.g. areas of cut, areas of fill etc.) • Details of the locations where soil from the remediation area has been reused/ placed on the site (if applicable) • Weighbridge summary of soil disposed from site to managed fill (if any). • Details of any health and safety or environmental incidents during soil disturbance. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Validation reporting	<ul style="list-style-type: none"> • <i>The SQEP</i> shall prepare a site validation report within one month of earthworks completion, detailing the results of validation sampling (refer above), the post-works information provided by contractor(s) (above), and general compliance with this SMP and relevant resource consent conditions. 	<input type="checkbox"/>

Attachments:

Laboratory data for disposal permitting (if required)

Table A1. Summary soil analytical results

Sample information	Sample Location	NESCS commercial/ industrial/ outdoor worker ¹	NESCS high-density residential ¹	NESCS residential (10% produce) ¹	AUP permitted activity discharge criteria ²	Published background (non-volcanic) ³	1320 Dairy Flat Highway						89 Lascelles Drive			105 Lascelles Drive						
	Depth (m bgl)						S1	HA1	HA2	HA3		HA4	HA5	S2	S3	HA10	HA6	HA7	HA8		HA9	
	Date						0 m	0.1 m	0.1 m	0.1 m	0.3 m	0.1 m	0.1 m	0 m	0 m	0.1 m	0.1 m	0.1 m	0.5 m	1.0 m	0.1 m	
	Material type						14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025	14/07/2025
Asbestos	ACM (bonded) % w/w ⁵	0.05	0.04	0.01	-	-	NAD	-	-	-	-	-	-	-	-	-	-	-	-	-		
	AF+FA* %w/w ⁵	0.001	0.001	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Metals	Arsenic	70	45	20	100	12	69.1	3.5	5.6	54.4	16.1	24.7	13.9	5.4	7.3	1.4	1.8	1.2	1.2	0.84	8.9	
	Cadmium	1,300	230	3	7.5	0.65	0.28	0.18	0.3	0.51	0.094	0.551	0.46	0.21	0.29	0.3	0.14	0.23	0.4	0.026	0.4	
	Chromium	6,300	1,500	460	400	55	43.5	9.4	9.9	76.4	8.7	22.6	12	12.6	11	5.7	4.9	5.7	4.9	4.8	16.1	
	Copper	>10,000	>10,000	>10,000	325	45	62.1	34.2	29.5	83.7	19.4	43.7	29	25	19.1	10.2	8.47	11.1	4.6	2.8	49.2	
	Lead	3,300	500	210	250	65	26.9	16.4	15.3	15.6	12.5	22.8	15.7	9.54	15.2	5.99	6.39	6.12	7.21	6.1	5.65	
	Nickel	6,000 ⁴	1,200 ⁴	400 ⁴	105	35	10.9	19.2	11.4	9.58	6.45	8.93	6.07	12.8	7.32	4.7	4.2	5.84	2.8	1.1	10.5	
	Zinc	400,000 ⁴	60,000 ⁴	7,400 ⁴	400	180	139	30.7	27.3	137	21.4	69.8	63	87.3	231	18.1	12.7	16.3	16.5	4.6	114	
OCPs	All tested	-	-	-	-	-	-	-	-	<LR	<LR	<LR	<LR	-	-	-	-	-	-	-	<LR	
PAHs	All tested	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<LR	<LR	-

All values are presented in mg/kg except where noted (asbestos).

*FA = fibrous asbestos, AF = asbestos fines.

ND denotes no asbestos detected.

<LR indicates concentration below the laboratory limit of reporting.

Grey values are below expected background values, black values exceed background concentrations, bold values exceed the human health criteria applicable to that property

1. MfE, 2011 Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health (unless otherwise stated). Soil Contamination Standard - Commercial/industrial land use, standard residential (10% produce) and high-density residential use as appropriate

2. Auckland Unitary Plan permitted activity discharge criteria (Standard E30.6.14).

3. Auckland Regional Council, Technical Publication 153, October 2001. Background Concentrations of Inorganic Elements in Soils from the Auckland Region.

4. National Environment Protection Council [Australia] - National Environment Protection Measure (Assessment of Site Contamination). Health Investigation Levels - Commercial/industrial land use (HIL D), residential (HIL A) and high density residential (HIL B) as appropriate

5. BRANZ, 2024. New Zealand Guidelines for Assessing and Managing Asbestos in Soil.