Karioi Wood Processing

Remedial Action Plan

for: Winstone Pulp International Limited

Job No: 68095

Version: Rev2

eTrack No: 200051561

Date of Issue: 10/06/2026

ACKNOWLEDGEMENT OF SUBMISSION

This report was prepared by Charlotte Lucas and reviewed by Hiram Garcia.

Respectfully submitted

Babbage Consultants Ltd

Charlotte Lucas
Environmental Consultant

Hiram Garcia
Principal Environmental Consultant

I have assessed the site in accordance with current New Zealand Regulations and guidance documents and reported in accordance with the current edition of Contaminated Land Management Guidelines No 1: Reporting of Contaminated Sites in New Zealand.
I am considered by Babbage Consultants Limited as a suitably qualified and experienced practitioner (SQEP) pursuant to the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011, based on the company's definition of a SQEP as given below.

Name: Hiram Garcia

Signed:  Date: 10 June 2026

Babbage Consultants Limited: SQEP Definition

Babbage Consultants Limited requires that a SQEP has the following Qualifications/Experience:

- Tertiary education in environmental science, engineering, or other relevant field;
- Ten years of relevant post graduate environmental experience;
- A commitment to continuing professional development; and
- Full membership of an appropriate professional body requiring a commitment to operating in accordance with a professional code of ethics.

Date	Version	eTrack No.	Author(s)	Reviewer(s)
24/04/2026	Rev1	200051337	Charlotte Lucas	Hiram Garcia
10/06/2026	Rev2	200051561	Charlotte Lucas	Hiram Garcia

Remedial Action Plan

Site: Karioi Pulp Mill

This Remedial Action Plan (RAP) has been prepared by Babbage Consultants Limited (Babbage) for the earthworks activity to construct the proposed wetland to be located in the southern portion of the Karioi Wood Processing site (the site), 1002 State Highway 49 as shown on Figure 1 forming part of the resource consent application APP-2006012018.02.

The Detailed Site Investigation (DSI) findings have recommended the preparation of a Remediation Action Plan for the earthworks proposed specifically within the proposed wetland area (referred to as the "investigation area" within the DSI and within this RAP). The investigation area will undergo earthworks for the construction of a new wetland.

This RAP documents the proposed remediation goal, remediation method(s), and method to demonstrate achievement of the remediation goal(s).

This RAP must be read in conjunction with the Detailed Site Investigation Report – Karioi Wood Processing[1].

This RAP meets the requirements outlined in the Ministry for the Environment (MfE) Contaminated Land Management Guideline (CLMG) No. 1[2].

This RAP was prepared under the direction of a suitably qualified and experienced practitioner (SQEP) – as defined by the requirements of the National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) Users Guide[3].

Item	Description
Site description	The site is located north of State Highway 49 in Tangiwai. This RAP applies specifically to the investigation area shown in Figure 1, which consists of 1.84 ha of land proposed to be earth worked for the purposes of constructing a new wetland. The investigation area consists of the existing pond and the surrounding grassed area as shown in Figure 1 below.

[1] Babbage 2026. Karioi Pulp Mill - Detailed Site Investigation Report by Babbage Consultants Limited, dated 20 April 2026.

[2] MfE 2021. Contaminated Land Management Guidelines No. 1. Reporting on Contaminated Sites in New Zealand (Revised 2021).

[3] Ministry for the Environment "Users' Guide National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health", 2012 (MfE).

Item	Description
Scope and purpose of remediation	**Summary of contamination** Soil sample analyses reported the following areas requiring remediation: • Arsenic at concentrations above commercial/industrial land use National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS)[4] Soil Contaminant Standard (SCS) at sample location WA09 at surface which attenuates to below the NESCS commercial/industrial land use SCS in the next subsequent sample collected at 1 meter below ground level (m bgl). • Zinc at concentrations above the Soil Guideline Values for the Protection of Ecological Receptors (ECO-SGVs)[5] criteria at sample location WA18 at 1.5 metres (m) below the bottom of the pond. The nearest sample location collected at 1.5 m below the bottom of the pond identified zinc concentrations in soil below the ECO-SGV. See Appendix A for soil sample results table and sampling location plan. **Remediation strategy** Available remedial options are removal through excavation, capping to isolate contaminants from receptors, or leave in place with no capping which will require a site-specific risk assessment. The proposed remediation for the piece of land is capping to isolate contaminants from receptors. ***Remediation method - In situ capping*** Remediation will involve cut and fill of existing soils to construct a total of two large and four smaller new wetlands across the site (see Figure 1). No excess soils are anticipated to be disposed of. Once the final cut levels are achieved, a high density polyethylene (HDPE) liner will be placed over each wetland which will act as a barrier for both contact and rainwater infiltration in the areas requiring remediation. Each new wetland will consist of an earth berm and be lined with HDPE to prevent water introduced to the wetland from infiltrating downward into the remediation areas. Wetland bedding material will be imported cleanfill or specialty material designed for the wetland. A concept cross-section for the proposed wetland is presented in Appendix B.

[4] Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011

[5] Landcare Research, 2019. Development of soil guideline values for the protection of ecological receptors, June 2019

Item	Description
Remediation method(s)	**Proposed remedial method** ***Remediation method - In situ capping*** Material from investigation areas WA1 to WA8 and WA10 to WA14 will be cut first to create a perimeter earth berm as a sediment and erosion control. The perimeter earth berm will have an approximate 4:1 batter. Once the perimeter earth berm has been established, cut material will be used to infill the existing pond. Visible pieces of observed anthropogenic encountered material such as concrete, rubber, wood, and plastic will be separated and not used as part of fill material for the remedial areas (WA09 and WA18). The existing area where soil sample WA09 is located will be scraped to proposed cut depth and place in the existing pond area as the top layer where the HDPE liner will rest on. The existing pond area where soil sample location WA18 is located will have a 2 to 3m thick cap of material placed on top to isolate contaminants from receptors. The bottom of the pond is approximately 1.5m deep and the zinc ECO-SGV exceedance was identified approximately 1.5m below the pond bottom, therefore at approximately 3m deep with respect to surrounding grassed area. Cut material from WA09 will be placed in the existing pond as the top completion layer. Once the pond has been infilled to final completion depth, a HDPE liner will be installed over the area. Each wetland constructed will also have a wetland earth berm around it. Each wetland earth berm will come from WA1 to WA8 and WA10 to WA14 cut material and have an approximate 4:1 batter which will create additional sediment and erosion controls for the site. When final completion depth is reached for the remedial areas (existing pond which will have WA18 and cut material from WA09 and final cut level of WA09), and a HDPE liner is placed within and over the earth berm of each new wetland above of these remedial areas, the RAP will no longer apply to the remaining wetland construction works. A concept cross-section for the proposed wetland is presented in Appendix B.

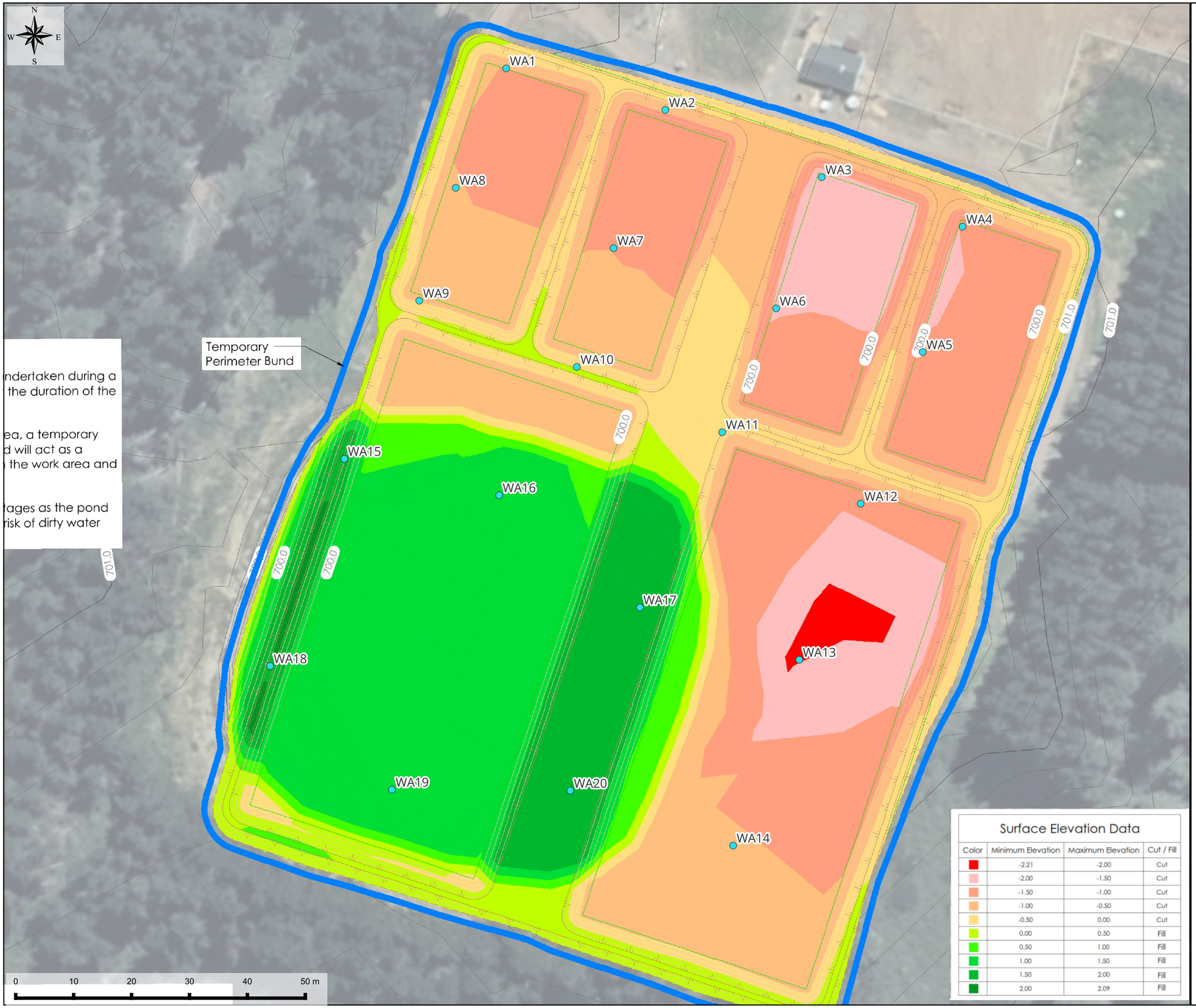
Item	Description
	Proposed timing of remediation The remediation will occur once a contractor has been assigned to the site. It is anticipated that the remedial works will be less than two months from commencement. **Proposed remediation mitigation methods/controls** The following mitigation methods/controls shall be implemented by the earthwork contractor prior to/during the remedial works on site. ***Excavation and disposal*** Babbage understands that cut material will be reused onsite, and therefore no off site disposal will be required. If temporary stockpiling of soils is required as part of general earthworks in the investigation area, the stockpiles must be covered with tarpaulins or similar impervious cover. ***Erosion, sediment, and dust control*** A perimeter earth berm with an approximate 4:1 batter will first be constructed around the earthworks area as a sediment and erosion control measure. A separate earth bermed area will be created as each wetland is constructed, adding additional sediment and erosion control measures. Refer to Cheal's Wetland Construction- Erosion and Sediment Control Plan[6]. ***Worker hygiene*** Workers must follow standard health and safety requirements and adhere to strict hygiene procedures, including no eating, drinking, or smoking in the area where excavation works are being undertaken. These activities must take place away from work areas. Soap and water shall be used for washing hands thoroughly prior to food consumption. **Proposed contamination management measures** The contractor will monitor dust generation during remedial works. Excess soil on plant and equipment should be removed in accordance with the contractors methodology prior to leaving site.

[6] Cheal, 2026. Wetland Construction- Erosion and Sediment Control Plan, 9 April 2026, revised 3 June 2026.

Item	Description
	Proposed remedial activity record keeping The required record keeping includes but is not limited to: • Contractor will provide a statement to WPI's Project Manager that the placement of infilling of the existing pond and construction of the new wetland with the HDPE liner has met the RAP. • Email digital photographs of the work to WPI Project Manager. Photographs must be of the infilling of the existing pond and placement of the HDPE liner on the new wetland.
Standard of remediation	**Proposed standard of remediation on completion** The following will be used to determine remediation is completed: • Completion of final wetland level and installation of HDPE liner on the new wetlands to prevent water introduced to the wetland from infiltrating downward into the remedial area.
Soil validation	**Proposed site validation** Photos provided showing the infilling of the exisiting pond and installation of the HDPE liner on the new wetland.
Unexpected contamination discovery protocols	If, during soil disturbance activities, the contractor encounters any visually stained or odorous soil, asbestos containing material (ACM), rubbish/building debris or other materials that appear to be contaminated, they shall stop work within that area and advise Babbage who will then visit the site to determine the nature and extent of the potentially contaminated soil. This is likely to include the collection of soil samples and laboratory analysis, followed by disposal off site to a disposal facility consented to accept the level of contamination identified on site. Subject to the approval of Babbage, the affected material may be temporarily stockpiled as above, while waiting for the laboratory results. Work shall not recommence within this area unless authorised by Babbage.

This document is not intended to relieve the person conducting a business or undertaking (PCBU, previously referred to as the controller of the place of work) of either their responsibility for the health and safety of their workers, contractors and the public, or their responsibility for protection of the environment. Persons undertaking ground disturbance works on the site should develop a site-specific risk assessment (such as a job safety analysis (JSA), or similar) to complement this RAP and to address other health and safety

requirements that may be applicable to their particular works. The site-specific risk assessment should also be modified to address specific health, safety or environmental issues that may arise during the works.



Surface Elevation Data

Color	Minimum Elevation	Maximum Elevation	Cut / Fill
	-2.21	-2.00	Cut
	-2.00	-1.50	Cut
	-1.50	-1.00	Cut
	-1.00	-0.50	Cut
	-0.50	0.00	Cut
	0.00	0.50	Fill
	0.50	1.00	Fill
	1.00	1.50	Fill
	1.50	2.00	Fill
	2.00	2.09	Fill

Babbage Consultants Limited
Level 4, 68 Beach Road, Auckland 1010
PO Box 2027, Shortland Street
Auckland 1140, New Zealand
T 09 379 9980 F 09 377 1170
E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT

Winstone Pulp International Limited

KARIOI WOOD PROCESSING DSI

MAP TITLE

SAMPLING LOCATION PLAN- Cut n Fill overlay

MAP REVISIONS

22/04/2026 Initial version by CL.

Legend

- Site boundary ('the site')
- Wetland area ('piece of land')
- Sampling Locations

NOTES

Aerial Images: Cheal, 2026

DISCLAIMER:
This map/plan is not an engineering draft.
This map/plan is illustrative only and all information should be independently verified on site before taking any action.

SCALE

1:600 @ A3

MAP NO.

FIGURE 1

APPLICABILITY AND LIMITATIONS

Restrictions of Intended Purpose

This report has been prepared solely for the benefit of Winstone Pulp International Limited as our client with respect to the brief. The reliance by other parties on the information or opinions contained in the report shall, without our prior review and agreement in writing, be at such party's sole risk.

Legal Interpretation

Opinions and judgements expressed herein are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions. Where opinions or judgements are to be relied on they should be independently verified with appropriate legal advice.

Maps and Images

All maps, plans, and figures included in this report are indicative only and are not to be used or interpreted as engineering drafts. Do not scale any of the maps, plans or figures in this report. Any information shown here on maps, plans and figures should be independently verified on site before taking any action. Sources for map and plan compositions include LINZ Data and Map Services and local council GIS services. For further details regarding any maps, plans or figures in this report, please contact Babbage Consultants Limited.

Reliability of Investigation

Babbage has performed the services for this project in accordance with the standard agreement for consulting services and current professional standards for environmental site assessment. No guarantees are either expressed or implied.

Recommendations and opinions in this report are based on discrete sampling data. The nature and continuity of matrix sampled away from the sampling points are inferred and it must be appreciated that actual conditions could vary from the assumed model.

There is no investigation that is thorough enough to preclude the presence of materials at the site that presently, or in the future, may be considered hazardous. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants present and considered to be acceptable may in the future become subject to different regulatory standards, which cause them to become unacceptable and require further remediation for this site to be suitable for the existing or proposed land use activities.

Appendix A Soil Sample Results Table and Sampling Location Plan

Babbage

Babbage Consultants Limited
Level 4, 68 Beach Road, Auckland 1010
PO Box 2027, Shortland Street
Auckland 1140, New Zealand
T 09 379 9980 F 09 377 1170
E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT

Winstone Pulp International Limited

Karioi Wood Processing DSI

MAP TITLE

SAMPLING LOCATION PLAN

MAP REVISIONS

24/03/2026 Initial version by CL.

Legend

- Site boundary
- New wetland area ('investigation area')
- Wetland sampling points

NOTES
Aerial Images: LINZ Basemap

DISCLAIMER:
This map/plan is not an engineering draft.
This map/plan is illustrative only and all information should be independently verified on site before taking any action.

SCALE

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MAP NO.

Figure 2

Table 6: Soil analytical results - metals and other elements, asbestos, general chemistry

					Asbestos[1]	Metals and other elements- Screen														General Chemistry				SPLP
					Asbestos Containing Material (ACM) (Presence / absence and type)	Arsenic	Cadmium	Chloride	Chromium	Copper	Cyanide	Iron	Lead	Manganese	Mercury	Nickel	Phosphorus	Sodium	Zinc	pH	Ammoniacal Nitrogen	Nitrate Nitrogen	Sulphate-sulfur	Zinc (pH 4.2)
					-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	mg N/kg	mg N/kg	mg/kg	mg/L
NESCS SCS Soil - Commercial / Industrial[2]					**N/A**	**70**	**1,300**	N/A	**>10,000**	**>10,000**	**1600 [6]**	N/A	**3,300**	N/A	**4,200**	**6,000 [5D]**	N/A	N/A	**400,000 [5D]**	N/A	N/A	N/A	N/A	N/A
ECO-SGVs - Commercial/ Industrial [3]					**N/A**	**150**	**33**	N/A	**650**	**320**	N/A	N/A	**2,500**	N/A	N/A	N/A	N/A	N/A	**620**	N/A	N/A	N/A	N/A	N/A
Predicted Background Soil Concentrations [4]					**NAD**	**4.1**	**0.35**	N/A	**15.5**	**23.5**	N/A	**9,149-68,875[8]**	**11.4**	**74-1,295[8]**	N/A	**9.5**	**114-1,823[8]**	**80-2,503[8]**	**62.9**	**5.5-5.7[7]**	N/A	N/A	N/A	N/A
ANZG - Fresh Water (Level of Protection 80%)[9]					**N/A**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.03**
Waste Acceptance Criteria - Cleanfill (Envirofill South)[10]					**N/A**	**12**	**0.65**	N/A	**125**	**90**	N/A	N/A	**65**	N/A	**0.45**	**320**	N/A	N/A	**1,160**	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Managed fill (Ridge Road Quarry)[10]					**Presence**	**140**	**7.5**	N/A	**400**	**280**	N/A	N/A	**460**	N/A	N/A	**320**	N/A	N/A	**1,200**	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Hampton Downs landfill[10]					**Accepted**	**100**	**1.2**	N/A	**362**	**200**	N/A	N/A	**200**	N/A	N/A	**320**	N/A	N/A	**500**	N/A	N/A	N/A	N/A	N/A
Property Address	**Sample ID**	**Sample depth (m bgl)**	**Material Type**	**Sampled Date**																				
WPI Wetland	WA01	0.1	FILL	30/03/2026	-	2.05	0.27	34	**39.2**	**44.1**	<5	7,530	7.6	60.8	<0.1	7.7	949	617	51	5.5	7	24	26	-
	WA02	0.1	FILL	30/03/2026	-	2.47	0.24	35	14.4	**63.1**	<5	6,130	6.3	23.5	<0.1	4.4	1,300	475	44	**4.2**	6	1	54	-
	WA03	0.1	FILL	30/03/2026	-	1.76	0.05	59	**65**	**27**	<5	18,300	5.2	254	0.2	**13.4**	377	791	**94**	5.5	2	1	7	-
	WA04	0.1	FILL	30/03/2026	NO ASBESTOS DETECTED	1.76	**0.36**	89	**45.6**	**35.9**	<5	6,330	4.8	46.8	<0.1	7.1	930	589	**93**	**4.6**	6	8	81	-
	WA05	0.1	FILL	30/03/2026	-	0.94	**0.58**	76	11	**47.5**	<5	2,480	2.7	26.3	<0.1	3.1	346	228	**189**	**4.4**	4	3	26	-
	WA06	0.1	FILL	30/03/2026	-	1.41	**0.4**	96	**17.5**	**46.7**	<5	5,000	3.5	41.4	<0.1	4.9	838	304	**107**	**4.2**	9	7	36	-
	WA07	0.1	FILL	30/03/2026	-	1.98	0.32	34	**28**	**57.3**	<5	11,200	7.5	55.5	<0.1	8.1	1,120	593	**122**	**4.6**	179	1	5	-
	WA08	0.1	FILL	30/03/2026	-	1.35	0.26	62	15	**29.7**	<5	6,130	**18.1**	60.8	<0.1	5	770	680	**68**	**4.7**	10	11	148	-
	WA09	0.1	FILL	30/03/2026	-	135	0.19	61	**175**	**104**	<5	4,790	**29.9**	61.8	<0.1	6	615	397	**151**	**4.9**	12	4	200	-
	WA09	1.0	FILL	30/03/2026	-	1.32	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-
	WA10	0.1	FILL	31/03/2026	-	2.81	**0.49**	77	**51**	**54.3**	<5	6,380	5.8	110	<0.1	**25.5**	1,240	573	**139**	**4.8**	9	4	54	-
	WA11	0.1	FILL	31/03/2026	-	1.26	0.25	64	14.3	**35.1**	<5	7,400	3.8	141	<0.1	5.8	613	422	**75**	**5.1**	5	3	46	-
	WA12	0.1	FILL	31/03/2026	-	1.53	**0.53**	37	**18.6**	**55.9**	<5	4,500	3.3	80.4	<0.1	6.1	589	528	**173**	**4.9**	9	3	28	-
	WA13	0.1	FILL	31/03/2026	NO ASBESTOS DETECTED	2.2	0.15	47	15.2	**39.3**	<5	18,200	6.3	228	<0.1	9.3	377	727	**100**	**5.1**	5	16	23	-
	WA14	0.1	FILL	31/03/2026	-	1.88	0.04	57	**20.1**	**40.8**	<5	23,900	5.7	214	<0.1	**10.4**	190	621	34	**5.9**	4	1	12	-
	WA15	0.1	Pond sludge	31/03/2026	-	1.3	0.23	40	**19.1**	**52.3**	<5	24,400	5.6	127	<0.1	**12.2**	681	**4,280**	**116**	**9.3**	239	5	84	-
	WA16	0.1	Pond sludge	31/03/2026	-	1.26	0.28	61	11.2	**29**	<5	11,500	5.1	121	<0.1	6.8	518	1,390	**105**	**8.1**	284	1	124	-
	WA17	0.1	Pond sludge	31/03/2026	-	1.22	**1.38**	-	**17.3**	**71.2**	<5	1,720	3.4	44.4	<0.1	6.8	958	2,430	**416**	**7.6**	265	8	35	-
	WA18	0.1	Pond sludge	31/03/2026	-	1.51	**1.46**	-	**18.4**	**81.2**	<5	5,370	4.2	98	<0.1	**9.6**	1,310	**4,920**	**418**	**7.5**	369	9	40	-
	WA18	1.5	SILT	31/03/2026	-	**6.45**	**4.12**	19	**112**	**194**	<5	5,300	**33.9**	95.2	<0.1	**38.2**	409	2,380	**1,340**	**7.1**	308	3	126	2.19
	WA19	0.1	Pond sludge	31/03/2026	-	1.41	**1.51**	-	**19.4**	**76.6**	<5	1,970	3.9	51.7	<0.1	8.6	982	**4,180**	**470**	**7.4**	617	14	81	-
	WA20	0.1	Pond sludge	31/03/2026	-	1.44	**1.66**	-	**61.6**	**84.3**	<5	1,910	3.8	57.4	<0.1	**32.4**	1,210	**4,920**	**482**	**7.8**	398	7	33	-
	WA20	1.5	SILT	31/03/2026	-	2.87	0.1	136	**31.1**	**64.6**	<5	32,500	**11.5**	252	<0.1	**17.1**	1,620	**4,080**	61	**8.9**	309	1	147	-
	WA66 (Duplicate of WA08 0.1)	0.1	FILL	31/03/2026	-	1.46	0.34	-	**18.7**	**31.5**	-	-	**16.3**	-	<0.1	5.8	-	-	**80**	-	-	**-**	-	-
	WA67 (Duplicate of WA14 0.1)	0.1	FILL	31/03/2026	-	1.44	0.03	-	15.1	**29.7**	-	-	4.4	-	<0.1	7.4	-	-	24	-	-	-	-	-

Comments

Results are in milligrams per kilogram (mg/kg) or milligrams per litre (mg/L) unless specified.

1 = BRANZ, 2017. New Zealand Guidelines for Assessing and Managing Asbestos in Soil.

2 = MfE, June 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.

3 = Landcare Research, 2019. Development of soil guideline values for the protection of ecological receptors, June 2019

4 = Landcare Research, 2025. PCB- Predicted Background Soil Concentrations, New Zealand (H3 Resolution), 11 June 2025

5 = in the absence of available NESCS SCS Soil criterion for nickel and zinc, the criterion has been adopted from Assessment of Site Contamination National Environment Protection Measures (ASC NEPM) Toolbox – http://www.nepc.gov.au/nepms/assessment-site-contamination/toolbox. Health-based Investigation Levels (mg/kg) A=low density residential scenario, B=high density residential scenario, C=developed open space scenario, D=commercial/industrial scenario

6= A conservative value has been taken from MfE, August 1997. Guidelines for Assessing and Managing Contaminated Gasworks Sites in New Zealand, Residential criteria, Table 4.2.7.4 due to exceeding industrial/commercial values.

7= Landcare Research, June 2024. Soils Map Viewer. Retreived from https://soils-maps.landcareresearch.co.nz/

8=GNS, 2023. Geochemical Atlas of Aotearoa New Zealand.

9=ANZG, 2023. Australian and New Zealand Guidelines for Fresh and Marine Water Quality

10 = Disposal criteria is based of analytica data and may vary. Verify with disposal facility prior to disposal.

N/A = Not Applicable.

<LoR - below laboratory reporting limits.

BOLD: exceeds background concentrations

BOLD : exceeds applicable NES:CS SCS criteria

BOLD : exceeds ECO-SGV soil acceptance criteria and ANZG water acceptance criteria

BOLD: exceeds applicable NES:CS SCS land use and ECO-SGV soil acceptance criteria

above Cleanfill exceptance criteria for Envirofill South

exceeds Managed Fill acceptance criteria for Ridge Road Quarry

exceeds Landfill acceptance criteria for Hampton Downs landfill

- : not tested for

m bgl: metre below ground level

Table 7: Soil analytical results - PCBs

					PCB - Screen														
					PCB 1	PCB 5	PCB 8	PCB 28	PCB 29	PCB 37	PCB 44	PCB 47	PCB 49	PCB 52	PCB 60	PCB 66	PCB 70	PCB 74	PCB 77	PCB 82	PCB 87
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NESCS SCS Soil - Commercial / Industrial[1]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ECO-SGVs - Commercial/ Industrial [2]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Predicted Background Soil Concentrations [3]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Cleanfill (Envirofill South)[5]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Managed fill (Ridge Road Quarry)[5]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Hampton Downs landfill[5]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Property Address	**Sample ID**	**Sample depth (m bgl)**	**Material Type**	**Sampled Date**																	
WPI Wetland	WA01	0.1	FILL	30/03/2026	<0.01	<0.06	<0.06	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	WA02	0.1	FILL	30/03/2026	<0.01	<0.06	<0.06	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	WA03	0.1	FILL	30/03/2026	<0.01	<0.06	<0.06	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	WA04	0.1	FILL	30/03/2026	<0.01	<0.06	<0.06	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Results are in milligrams per kilogram (mg/kg) unless specified.

1 = MfE, June 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.

2 = Landcare Research, 2019. Development of soil guideline values for the protection of ecological receptors, June 2019

3 = Landcare Research, 2025. PCB- Predicted Background Soil Concentrations, New Zealand (H3 Resolution), 11 June 2025

4 = NEPC, February 2014. NEMP Toolbox HIL D- Commercial/ Industrial. Retreieved from https://www.nepc.gov.au/nepms/assessment-site-contamination/toolbox

5 = Landfill and Managed Fill criteria may vary. Verify with accepting facility prior to disposal.

*** Sum of PCBs calculated using lower toxicant equivalent (<LOR=0)**

NA = Not Applicable.

<LoR - below laboratory reporting limits

BOLD:	exceeds background concentrations
BOLD :	exceeds applicable NES:CS SCS criteria
BOLD :	exceeds ECO-SGV soil acceptance criteria
BOLD:	exceeds applicable NES:CS SCS land use and ECO-SGV soil acceptance criteria
	above Cleanfill exceptance criteria for Envirofill South
	exceeds Managed Fill acceptance criteria for Ridge Road Quarry
	exceeds Landfill acceptance criteria for Hampton Downs landfill
- :	not tested for
m bgl:	metre below ground level

Table 7: Soil analytical results - PCBs cont

	PCB- Screen																							
	PCB 98	PCB 99	PCB 101	PCB 105	PCB 114	PCB 118	PCB 126	PCB 128	PCB 138	PCB 153	PCB 154	PCB 156	PCB 158	PCB 166	PCB 169	PCB 170	PCB 171	PCB 179	PCB 180	PCB 183	PCB 187	PCB 189	PCB 201	Sum of PCBs*
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NESCS SCS Soil - Commercial / Industrial[1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**7** [4]
ECO-SGVs - Commercial/ Industrial [2]	N/A	N/A	N/A	N/A	N/A	**N/A**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Predicted Background Soil Concentrations [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Auckland Background Concentrations (volcanic range)[3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Cleanfill (Envirofill South)[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Managed fill (Ridge Road Quarry)[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Hampton Downs landfill[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Property Address	**Sample ID**	**Sample depth (m bgl)**	**Material Type**	**Sampled Date**																				
WPI Wetland	WA01	0.1	FILL	30/03/2026	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.06
	WA02	0.1	FILL	30/03/2026	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.06
	WA03	0.1	FILL	30/03/2026	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.06
	WA04	0.1	FILL	30/03/2026	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.06

Results are in milligrams per kilogram (mg/kg) unless specified.

1 = MfE, June 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.

2 = Landcare Research, 2019. Development of soil guideline values for the protection of ecological receptors, June 2019

3 = Landcare Research, 2025. PCB- Predicted Background Soil Concentrations, New Zealand (H3 Resolution), 11 June 2025

4 = NEPC, February 2014. NEMP Toolbox HIL D- Commercial/ Industrial. Retreieved from https://www.nepc.gov.au/nepms/assessment-site-contamination/toolbox

5 = Landfill and Managed Fill criteria may vary. Verify with accepting facility prior to disposal.

*** Sum of PCBs calculated using lower toxicant equivalent (<LOR=0)**

NA = Not Applicable.

<LoR - below laboratory reporting limits

BOLD: exceeds background concentrations

BOLD : exceeds applicable NES:CS SCS criteria

BOLD : exceeds ECO-SGV soil acceptance criteria

BOLD: exceeds applicable NES:CS SCS land use and ECO-SGV soil acceptance criteria

above Cleanfill exceptance criteria for Envirofill South

exceeds Managed Fill acceptance criteria for Ridge Road Quarry

exceeds Landfill acceptance criteria for Hampton Downs landfill

- : not tested for

m bgl: metre below ground level

Table 8: Soil analytical results - OCPs

					OCP - Screen																														
					2,3-Diuron	24'-DDT	24'-DDD	24'-DDE	a-BHC	a-chlordane	Aldrin	b-BHC	Chlordane (total)	cis-Permethrin	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin ketone	Gamma-Chlordane	HCH delta-	Heptachlor	Heptachlor Epoxide	Hexachlorobenzene	Lindane (g-BHC)	Methoxychlor	pp'-DDD	pp'DDE	pp'-DDT	Procymidone	Propanil	Sum of DDT and isomers	Toxaphene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NESCS SCS Soil - Commercial / Industrial[1]					N/A	N/A	N/A	N/A	N/A	N/A	**160**	N/A	N/A	N/A	**160**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**1,000**	N/A
ECO-SGVs - Commercial/ Industrial [2]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Predicted Background Soil Concentrations [3]					<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR	<LoR
Waste Acceptance Criteria - Cleanfill (Enviro South)[4]					N/A	N/A	N/A	N/A	N/A	N/A	**0**	N/A	N/A	N/A	**0**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.08**	N/A
Waste Acceptance Criteria - Manged fill (Ridge Road Quarry)[4]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.2**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**12**	N/A
Waste Acceptance Criteria - Hampton Downs landfill[4]					N/A	N/A	N/A	N/A	N/A	N/A	**0.02**	N/A	N/A	N/A	**0.02**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**12**	N/A
Property Address	**Sample ID**	**Sample depth (m bgl)**	**Material Type**	**Sampled Date**																																	
WPI Wetland	WA01	0.1	FILL	30/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA02	0.1	FILL	30/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA03	0.1	FILL	30/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA04	0.1	FILL	30/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA05	0.1	FILL	30/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.18	<0.05
	WA06	0.1	FILL	30/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA07	0.1	FILL	30/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA08	0.1	FILL	30/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA09	0.1	FILL	30/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA10	0.1	FILL	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA11	0.1	FILL	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA12	0.1	FILL	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA13	0.1	FILL	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA14	0.1	FILL	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA15	0.1	Pond sludge	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA16	0.1	Pond sludge	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA17	0.1	Pond sludge	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA18	0.1	Pond sludge	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA18	1.5	SILT	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA19	0.1	Pond sludge	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA20	0.1	Pond sludge	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05
	WA20	1.5	SILT	31/03/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05

Results are in milligrams per kilogram (mg/kg) unless specified.

1 = MfE, June 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.

2 = Landcare Research, 2019. Development of soil guideline values for the protection of ecological receptors, June 2019

3 = Landcare Research, 2025. PCB- Predicted Background Soil Concentrations, New Zealand (H3 Resolution), 11 June 2025

4 = Landfill and Managed Fill criteria may vary. Verify with accepting facility prior to disposal.

N/A = Not Applicable.

<LoR - below laboratory reporting limits

BOLD:	exceeds background concentrations
BOLD :	exceeds applicable NES:CS SCS criteria
BOLD :	exceeds ECO-SGV soil acceptance criteria
BOLD:	exceeds applicable NES:CS SCS land use and ECO-SGV soil acceptance criteria
	above Cleanfill exceptance criteria for Envirofill South
	exceeds Managed Fill acceptance criteria for Ridge Road Quarry
	exceeds Landfill acceptance criteria for Hampton Downs landfill
- :	not tested for
m bgl:	metre below ground level

Table 9: Soil analytical results - PAHs

					PAH - Screen												
					Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo(a)pyrene TEQ (lower bound)	Benzo[b+k]fluoranthene	Benzo[g,h,i]perylene	Chrysene	Dibenzo[a,h]anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NESCS SCS Soil - Commercial / Industrial[1]					N/A	N/A	N/A	**refer BAPeq**	**35**	**refer BAPeq**	N/A	**refer BAPeq**	**refer BAPeq**	**refer BAPeq**	N/A	**refer BAPeq**	**210[5]**	N/A	NA[5]
ECO-SGVs - Commercial/ Industrial [2]					N/A	N/A	N/A	**refer BAPeq**	**47**	**refer BAPeq**	N/A	**refer BAPeq**	**refer BAPeq**	**190**	N/A	**refer BAPeq**	N/A	N/A	N/A
Predicted Background Soil Concentrations [3]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Cleanfill (Ridge Road Quarry)[4]					N/A	N/A	N/A	N/A	**0**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0**	N/A	N/A
Waste Acceptance Criteria - Managed fill (Ridge Road Quarry)[4]					N/A	N/A	N/A	N/A	**125**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Acceptance Criteria - Hampton Downs landfill[4]					N/A	N/A	N/A	N/A	**1**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**200**	N/A	N/A
Property Address	**Sample ID**	**Sample depth (m bgl)**	**Material Type**	**Sampled Date**															
WPI Wetland	WA01	0.1	FILL	30/04/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	WA04	0.1	FILL	30/04/2026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Comments

Results are in milligrams per kilogram (mg/kg) unless specified.

1 = MfE, June 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.

2 = Landcare Research, 2019. Development of soil guideline values for the protection of ecological receptors, June 2019

3 = Landcare Research, 2025. PCB- Predicted Background Soil Concentrations, New Zealand (H3 Resolution), 11 June 2025

4 = Landfill and Managed Fill criteria may vary. Verify with accepting facility prior to disposal.

5 = in the absence of available NESCS SCS Soil criterion for Napthalene and Pyrene, the criterion has been adopted from MfE 1999. Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Revised 2011. Tier 1 Soil acceptance criteria for residential landuse, ALL PATHWAYS, SANDY

NA = Not Applicable.

<LoR - below laboratory reporting limits

BOLD:	exceeds background concentrations
BOLD :	exceeds applicable NES:CS SCS criteria
BOLD :	exceeds ECO-SGV soil acceptance criteria
BOLD:	exceeds applicable NES:CS SCS land use and ECO-SGV soil acceptance criteria
	above Cleanfill exceptance criteria for Envirofill South
	exceeds Managed Fill acceptance criteria for Ridge Road Quarry
	exceeds Landfill acceptance criteria for Hampton Downs landfill
- :	not tested for
m bgl:	metre below ground level

Appendix B Wetland Drawings

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NOTES:

1. All work shall be done in accordance with NZS 4404:2010 Land Development and Subdivision Infrastructure.
2. Heights in terms of NZVD 2016
   On site datum: M53
   RL: 695.50
   Coordinates: NZGD 2000
   Circuit: Tuhirangi 2000
   Contour Interval = 0.2m
3. Contractor to locate and identify existing utility location and depths prior to construction. The project engineer shall be informed of any discrepancies to the information depicted on these plans immediately for revised drawings.
4. Contractor shall install and maintain all stormwater, dust and erosion control during construction as per earthworks management plan and the Horizon Regional Council Erosion and Sediment Control - "Guidelines for soil disturbing activities".
5. All disturbed areas shall be re-topsoiled and grassed within 30 days upon completion of contract works.
   Dust control shall be maintained until grassed areas have become established.

LEGENDS:

- Bottom of Wetland
- Top of Wetland Bund
- Toe of Wetland Bund

Rev	Date	Amendment	By	Chk	App
A	01/04/26	Issued For Client Review	AC	AT	SP

Project Title

Babbage Consultants Limited
1002 State Highway 49
Tangiwai, Ohakune

Drawing Title

Finished Contours Plan

Surveyed	-	-	-
Designed	A. Chand	01/04/26	AC
Drawn	A. Chand	01/04/26	AC
Checked	A. Thomas	01/04/26	AT
Approved	S. Prasad	01/04/26	SP

Status **REVIEW**

Scale A1 1:500
A3 1:1000

A1

Drawing Number 260156-200

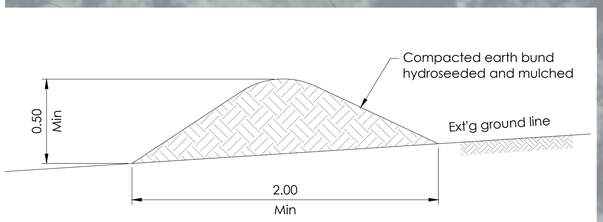
Rev A

Erosion & Sediment Control Notes:

The earthworks within the wetland are proposed to be undertaken during a favourable weather window, with no rainfall forecast for the duration of the works.

Prior to the commencement of any activity within the area, a temporary perimeter bund will be installed around the site. This bund will act as a precautionary measure to contain any dirty water within the work area and to divert any clean surface water away from the site.

The temporary bund may be progressively removed in stages as the pond excavation is completed and once there is no longer a risk of dirty water leaving the work area.



Temporary Perimeter Bund
Scale: NTS

Surface Elevation Data			
Color	Minimum Elevation	Maximum Elevation	Cut / Fill
	-2.21	-2.00	Cut
	-2.00	-1.50	Cut
	-1.50	-1.00	Cut
	-1.00	-0.50	Cut
	-0.50	0.00	Cut
	0.00	0.50	Fill
	0.50	1.00	Fill
	1.00	1.50	Fill
	1.50	2.00	Fill
	2.00	2.09	Fill

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (m²)	Cut (m³)	Fill (m³)	Net (m³)
Cut & Fill Volume	Earthworks	1.00	1.500	17146.53	10447.47	9994.57	452.90 <Cut Excess>

5.0 0 10.0 20.0 30.0 40.0 50.0
metres
1:500

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   Dust control shall be maintained until grassed areas have become established.

Rev	Date	Amendment	By	Chk	App
A	01/04/26	Issued For Client Review	AC	AT	SP

Project Title
Babbage Consultants Limited
1002 State Highway 49
Tangiwai, Ohakune

Drawing Title
Cut & Fill and
Erosion & Sediment Control Plan

Surveyed	-	-	-
Designed	A. Chand	01/04/26	AC
Drawn	A. Chand	01/04/26	AC
Checked	A. Thomas	01/04/26	AT
Approved	S. Prasad	01/04/26	SP

Status REVIEW

Scale A1 1:500 | A1
A3 1:1000

Drawing Number 260156-201 | Rev A

Datum: 690.00m

Existing GL	700.29	700.33	699.41	698.88	698.88	698.89	698.90	698.91	698.95	699.31	700.87	700.74	700.78	701.02	701.32	701.20	700.95	700.83
Finished GL			700.00	700.00	700.00	700.00	700.00	700.00	700.00	700.00	700.00	700.45	700.00	700.00	700.00	700.00		
Cut and Fill			0.59	1.12	1.12	1.11	1.10	1.09	1.05	0.69	-0.87	-0.29	-0.78	-1.02	-1.32	-1.20		
Chainage	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	165.03

Section A Wetland Section A

Scale: H 1:500
Scale: V 1:500

Datum: 690.00m

Existing GL	700.51	700.94	701.22	701.16	701.10	701.15	701.46	701.70	701.69	701.66	701.51	701.31	701.15	701.00
Finished GL		700.33	700.00	700.18	700.00	700.00	700.90	700.58	700.00	700.00	700.00	700.00	700.87	
Cut and Fill		-0.61	-1.22	-0.99	-1.10	-1.15	-0.56	-1.11	-1.69	-1.66	-1.51	-1.31	-0.28	
Chainage	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00

Section B Wetland Section B

Scale: H 1:500
Scale: V 1:500

Datum: 690.00m

Existing GL	700.22	698.86	698.89	698.92	698.94	698.96	698.99	699.02	700.03	701.34	701.29	701.33	701.09	700.85
Finished GL		700.72	700.00	700.00	700.00	700.00	700.90	700.90	700.00	700.00	700.00	700.00	701.02	
Cut and Fill		1.86	1.11	1.08	1.06	1.04	1.91	1.88	-0.03	-1.34	-1.29	-1.33	-0.07	
Chainage	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00

Section C Wetland Section C

Scale: H 1:500
Scale: V 1:500

5.0 0 10.0 20.0 30.0 40.0 50.0
1:500
metres

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NOTES:

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Rev	Date	Amendment	By	Chk	App
A	01/04/26	Issued For Client Review	AC	AT	SP

Project Title

Babbage Consultants Limited
1002 State Highway 49
Tangiwai, Ohakune

Drawing Title

Wetland Cross Sections

Surveyed	-	-	-
Designed	A. Chand	01/04/26	AC
Drawn	A. Chand	01/04/26	AC
Checked	A. Thomas	01/04/26	AT
Approved	S. Prasad	01/04/26	SP

Status **REVIEW**

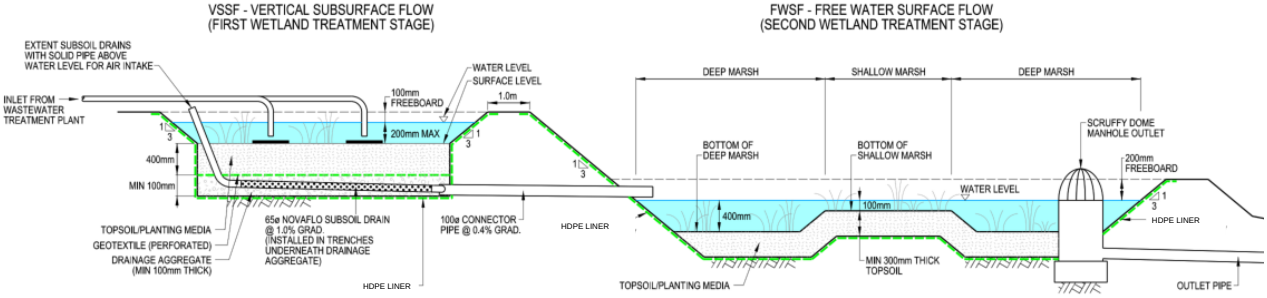
Scale A1 1:500
A3 1:1000

A1

Drawing Number 260156-202

Rev A

Figure 3. Concept cross-section for the proposed constructed wetland system (not to scale).



Auckland

Address | Level 4, 68 Beach Road, Auckland 1010

Post | PO Box 2027, Shortland Street, Auckland 1140, New Zealand

Ph | 64 9 379 9980

Fax | +64 9 377 1170

Email | contact-us@babbage.co.nz

Hamilton

Address | Unit 1, 85 Church Road, Pukete, Hamilton 3200

Post | PO Box 20068, Te Rapa, Hamilton 3241, New Zealand

Ph | +64 7 846 7010

Fax | +64 9 377 1170

Email | contact-us@babbage.co.nz

Christchurch

Address | 128 Montreal Street, Sydenham, Christchurch 8023

Post | PO Box 2373, Christchurch 8140, New Zealand

Ph | +64 3 379 2734

Fax | +64 3 379 1642

Email | solutions@babbage.co.nz

Babbage Consultants Australia Pty Ltd – Melbourne

Address | Suite 4, Level 2, 1 Yarra Street, Geelong,

Victoria 3220, Australia

Ph | +61 3 8539 4805

Email | contact-us@babbage.co.nz