

Version No: 02 Issue Date: 21/10/2024 Portfolio: Discrete Water Quality	Horizons Regional Council	Section No: 15.7 Appendix No: 54 Page: 1 of 7
horizons <small>regional council</small> 	Hydrology Operations Manual	

Version 3.2.23/01/2020

Water Quality Monitoring Run Guide

HOKOWHITU LAGOON

LAKES SAMPLING (Monthly Sampling)

Job Hazard & Task Analysis












Hazard Identification – tick all that apply, write additional hazards identified:

The yellow highlighted hazards are known hazards at the time of compiling this document. This **does not negate** the need to assess for and potentially eliminate or isolate any hazards at *each* sample location at *every* visit

Hazard	Yes	Hazard	Yes	Hazard	Yes
Confined space	<input type="checkbox"/>	Suspended loads	<input type="checkbox"/>	Noise – plant and equipment	<input type="checkbox"/>
Difficult entry/exit	<input checked="" type="checkbox"/>	Falling objects	<input checked="" type="checkbox"/>	Communication – means of	<input type="checkbox"/>
Oxygen deficiency/excess	<input type="checkbox"/>	Working near cranes and crane runways	<input type="checkbox"/>	Remote area	<input type="checkbox"/>
Poisonous fumes/gas	<input type="checkbox"/>	Live rails-gantry cranes	<input type="checkbox"/>	Temperature extremes	<input checked="" type="checkbox"/>
Explosive gas	<input type="checkbox"/>	Trip hazards	<input checked="" type="checkbox"/>	Reduced visibility	<input type="checkbox"/>
Flammable materials	<input type="checkbox"/>	Slippery surfaces	<input checked="" type="checkbox"/>	Unauthorized persons	<input type="checkbox"/>
Combustible materials	<input type="checkbox"/>	Manual handling	<input type="checkbox"/>	High pressure water	<input type="checkbox"/>
Hazardous substances	<input type="checkbox"/>	Sharp materials	<input type="checkbox"/>	Vacuum	<input type="checkbox"/>
Drowning	<input checked="" type="checkbox"/>	Line of fire	<input type="checkbox"/>	Air emissions – dust, fumes	<input type="checkbox"/>
Engulfment	<input type="checkbox"/>	Pressurized fluids	<input type="checkbox"/>	General waste	<input checked="" type="checkbox"/>
UV Radiation	<input checked="" type="checkbox"/>	Pressurized air/gas	<input type="checkbox"/>	Hazardous waste	<input type="checkbox"/>
Electrical – low /high voltage	<input type="checkbox"/>	Traffic / vehicle movements	<input checked="" type="checkbox"/>	Hydrocarbon / chemical spill	<input type="checkbox"/>
Multiple electrical feeds	<input type="checkbox"/>	Machinery – mobile plant	<input type="checkbox"/>	Soil disturbance/erosion	<input type="checkbox"/>
Working at height	<input type="checkbox"/>	Moving parts	<input type="checkbox"/>	Habitat disruption	<input type="checkbox"/>
Ladders	<input type="checkbox"/>	Chemical reaction (Pyrophoric iron)	<input type="checkbox"/>	Lighting	<input type="checkbox"/>
Elevated work platforms	<input type="checkbox"/>	Transport of hazardous substances	<input type="checkbox"/>	Weather extremes	<input checked="" type="checkbox"/>
Potential for difficult rescue	<input type="checkbox"/>	Stock/Farm Animals	<input type="checkbox"/>		

Required PPE– tick all that apply, write additional PPE required:

The yellow highlighted PPE are known required PPE at the time of compiling this document. This **does not negate** the need to assess for the appropriate required PPE measures at *each* sample location per visit.

SAMPLING GLOVES	EAR PROTECTION	HARD HAT	SAFETY GLASSES / GOGGLES	WORK BOOTS/ WADERS	PROTECTIVE GLOVES	PERSONAL FLOATION DEVICE (PFD)
						
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
HI VIZ	SAFETY HARNESS	SUN SAFETY	MEANS OF COMMUNICATION			
						
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

Known Hazard	Significant		Can it be Eliminated		Can it be Minimised		Method of control
	Yes	No	Yes	No	Yes	No	
							ENTER KNOWN HAZARDS AND CONTROLS HERE THESE SHOULD BE 'KNOWN' ISSUES WITH THE RUN/SITES WITH APPROPRIATE METHODS STATED
Trip Hazards	✓			✓	✓		Prior to sampling staff must check area is clear of any items that pose a risk. If there is any these should only be moved if safe to do so. Sampling only to commence if the sampler is satisfied that any slip, trip or fall hazards are isolated.
Slippery Surfaces	✓			✓	✓		Lagoon edges can be slippery at any time. Sampling from the lagoon edge must always be done from stable level ground using a sample pole. Vehicles must be driven a sensible distance from any pond edges. [HMP18]
Drowning	✓			✓		✓	Sampling of the lagoon must always be done from either; stable level ground using a sample pole, a safe wadable location or via kayak. PFD's must be worn by staff according to HMP. [HMP18 & HMP27]
Traffic Vehicle movements	✓			✓		✓	Sample site is within an operating recreational area with commercial and public vehicles liable to be present at any time. Staff to obey on site signage and instruction. HRC Vehicle to be parked in a safe and appropriate location. [HMP 16] [HMP 20]
General Waste		✓		✓	✓		General waste can be stored on and around the lagoon and associated facilities depending on operating activity. Sample staff have no need to interact with any waste. All waste created by HRC staff to be taken with them.
UV Radiation	✓			✓	✓		Horizons provide sunscreen and hats.
Manual Handling	✓			✓	✓		There should be no need for sample staff to move any equipment etc. in order to carry out sampling activities. Sampling activities require the collection of a sample of treated effluent. Staff must wear sampling gloves, eye protection and have access to anti-bacterial hand-gel to sample. Hepatitis B vaccinations are offered by HRC. [HMP 30] [HMP 35]
Electrical – low /high voltage	✓			✓	✓		Sampling activity does not require any interaction with live circuitry or equipment. Staff should check sample area is clear of any hazards (i.e. loose cables, live equipment etc.) before sampling. If

Known Hazard	Significant		Can it be Eliminated		Can it be Minimised		Method of control
	Yes	No	Yes	No	Yes	No	
							access/safety is considered compromised sampling is aborted. [HMP 23]
Weather Extremes	✓			✓	✓		During the duration of a sampling run varying types and degrees of weather may be experienced. All sampling staff are to have access within their HRC vehicle of additional and appropriate clothing.
Temperature Extremes - Hypothermia: following emersion	✓			✓		✓	Staff must have access to suitable PPE and spare clothing within their vehicle. [HMP18]
Falling objects	✓			✓	✓		Proximity to Walkbridge with the risk of objects being dropped/thrown from above. Exercise caution especially when in the water immediately around the Walkbridge
							ENSURE SOME BLANK SPACES FOR ADDITIONAL HAZARDS IDENTIFIED IN THE FIELD

Site Information

Hilltop Site Name	Easting/Longitude		Northing/Latitude	Comments
<i>Hokowhitu Lagoon at Walkbridge</i>	NZMG:	2733351	6089937	Sampled at edge with pole
	NZTM:	1823331	5528213	
	WGS84:	-40.366762	175.630328	

[Contact details can be found here.](#)




Equipment Required

Sample Bottles	<ol style="list-style-type: none"> ONE (1) ELS sample bottle sets - refer to http://tgm.horizons.govt.nz/Hydrology/SOPs/cd_om_15.4_Appendix_4_ELS%20Bottle%20Guide.xlsx ONE (1) additional 1 litre bottle to be collected (and decanted when back at office) for NIWA and Cawthron:
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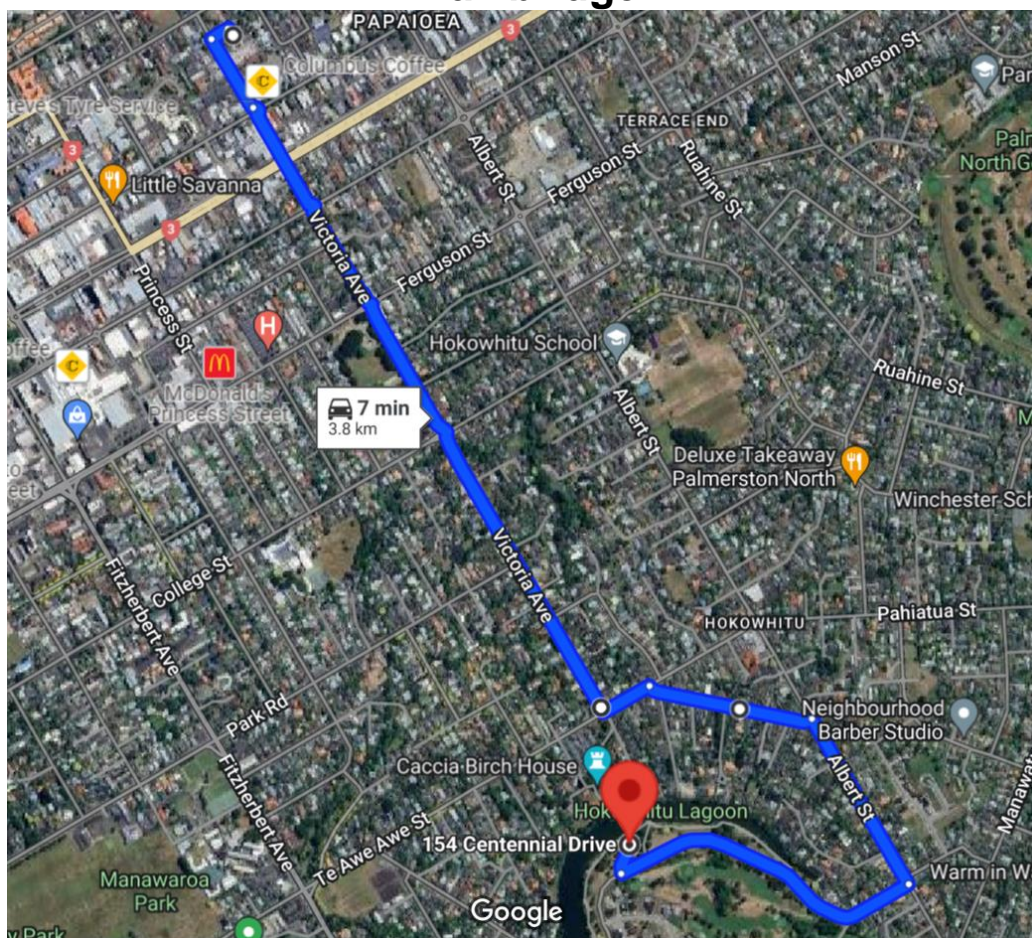
Sample numbers	SAMPLER SAMPLE ID: ONE (1) CADDIS ID: TWO (2)
Equipment	<ul style="list-style-type: none"> • Handheld multi-parameter instrument (calibrated) – including iPad/screen • Secchi disc, viewer, tape measure • Clarity Tube • Sampling pole • Chilly bins and ice-packs • Disinfectant equipment for sampling equipment • Field sampling books • Sampling ID labels (created using Hilltop Sampler & CADDIS) • Appropriate PPE

Subsampling Instructions

Once back in the office the third 1 litre sample bottle is subsampled into:

	<p>One preserved black plastic bottle is sent to NIWA on the day of sampling for phytoplankton cell counts and biovolume.</p> <p>CADDIS ID 20XXPHYXXX</p>
	<p>One unpreserved black plastic bottle is sent to NIWA on the day of sampling for phytoplankton cell counts and biovolume.</p> <p>CADDIS ID 20XXPHYXXX</p>
	<p>½ fill a glass bottle from the bulk sample and store in freezer on its side. Science will send this to Cawthron when we have at least ten samples for cyanotoxin.</p> <p>CADDIS ID 20XXWQUXXXX</p>

SITE LOCATION MAP – Hokowhitu Lagoon at the Walkbridge



POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day):

Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Traffic / Vehicle Movements	Weather/Temperature Extremes	

REQUIRED PPE (in accordance with above hazards – this does not negate undertaking a hazard review prior to sampling on the day and/or using additional PPE if deemed necessary):

WORK BOOTS / WADERS	PFD	SUN PROTECTION	PERSONAL LOCATOR BEACON	HI-VIS	COMMS	SAMPLE POLE	SAMPLING GLOVES/SANITISER
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DIRECTIONS:

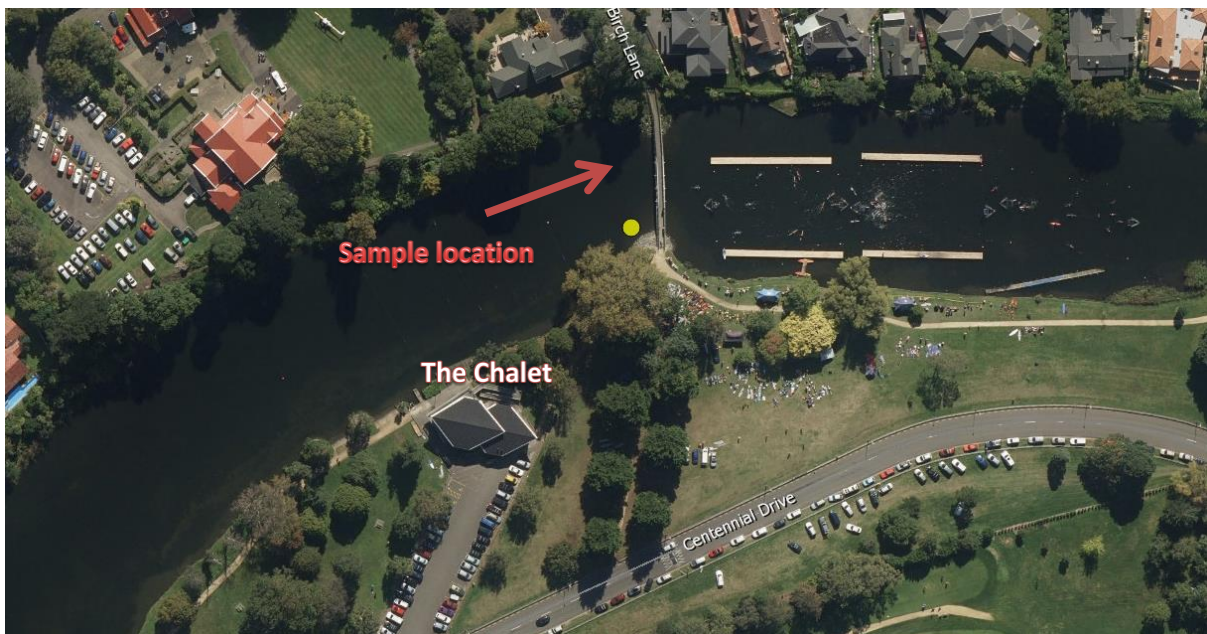
- From Regional House turn left and drive to the end of Victoria Avenue. Turn left onto Te Awe Awe Street, then right down Ihaka Street. Take a right onto Albert, then right onto Centennial Drive. The Chalet carpark is 850m down the road on your right. Park in the carpark.
- Follow the footpath to the right alongside the lagoon.
- The sample site is underneath the walk bridge across the lagoon.
- Be careful, the stones can be slippery, but it is shallow enough to walk out safely.

ACCESS:

- Sample using pole from shore from a sensible location or wade out unto the lagoon. Be mindful of members of the public.

SAMPLE PROCEDURE:

- Deploy Aquatroll from the shore – allow plenty of time to let disturbed sediment plume stabilise
- Sample from shore using a pole or wade into the lagoon. If you waded into the lagoon stand as the sample point and wait for the sediment to stabilise as to not negatively impact sample.

DETAIL MAP:**SAMPLE SITE:**