

Version No:

6

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23/10/2020

Portfolio:

Discrete Water Quality

Horizons Regional Council

Section No:

Appendix No:

Page:

0 of 30



Hydrology Operations Manual

Contact Recreation Guide Run 4



Site Names and Coordinates

	Site Name	Northing (NZTM)	Easting (NZTM)
1	Kahuterawa at Reserve	5516967	1821411
2	Tokomaru at Horseshoe Bend	5514742	1814153
3	Mangaore at d/s Mangahao Power Station	5505544	1807425
4	Ohau at Gladstone	5495954	1797417
5	Ohau at Kimberly Reserve	5495568	1794660
6	Ohau at Kirkcaldies	5495073	1792673
7	Ohau at SH1	5495357	1789422
8	Waikawa at Waikawa Campsite	5489729	1789797
9	Waikawa Estuary	5493698	1781558
10	Tasman Sea at Waikawa Beach	5493626	1781022
11	Hokio Estuary at Muaupoko St Bridge	5503971	1784748
12	Tasman Sea at Hokio Beach	5504045	1784492
13	Wairarawa Stream at Waitarere Beach	5509152	1785906
14	Tasman Sea at Waitarere	5509350	1785908

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 checked="" type="checkbox"/>
Oxygen deficiency/excess	<input type="checkbox"/>	Working near cranes and crane runways	<input type="checkbox"/>	Remote area	<input checked="" 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 checked="" 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 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 checked="" type="checkbox"/>	Stock/Farm Animals	<input type="checkbox"/>		

Required PPE & Safety Equipment– 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 FLOATATION DEVICE (PFD)
						
<input 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 BLOCK & HAND SANITISER	VHF RADIO	THROW BAG	PERSONAL LOCATOR BEACON	
						
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Known Hazard	Significant		Can it be Eliminated		Can it be Isolated		Method of control
	Yes	No	Yes	No	Yes	No	
Drowning	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Staff should use a sample pole if access into the river/stream is unsafe. PFD's must be worn by staff. Always carry a personal locator beacon. It is always preferable to have someone else with you at all times when working around water [HMP 18]
UV Radiation	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Horizons provide sunscreen and hats. Staff are encouraged to make use of these. [HMP 17]
Difficult Entry/Exit	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Entry and exit into waterways poses many risks and should be treated with caution. Sampling must be done from stable level ground. Staff should use a sample pole if access into the river/stream is unsafe. PFD's must be worn by staff and staff must be trained for working around water. [HMP18]
Electrical-Low/High Voltage	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Many of the rural sampling sites require traversing across farm paddocks equipped with electric fences that contain stock. If unknown, treat every farm fence as electric and avoid direct contact. Contact the landowner for advice on whether or not the fence is live and discuss alternative routes or options for avoiding the fence if possible.
Potential for Difficult Rescue	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Sampling must always be done from stable level ground. Staff should use a sample pole if access into the river/stream is unsafe. PFD's must be worn by staff and staff must be trained for working around water. Vehicles must be driven a sensible distance from any river or pond edges. Always carry a throw bag when working around water and have a personal locator beacon on hand. It is always preferable to have someone else with you at all times when working around water [HMP18]
Trip Hazards	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Prior to sampling, staff must check area is clear of items that pose a risk. Trip Hazards 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	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Sampling must be done from stable level. Vehicles must be driven a sensible distance from any river or pond edges. [HMP 18]. Staff driving four wheel drive vehicles must have adequate training [HMP 9]
Traffic Vehicle Movements							The designated driver of a vehicle is responsible for ensuring the safety and operational requirements and recommendations are met. All staff working within the road reserve must wear high visibility clothing to AS/NZS

Known Hazard	Significant		Can it be Eliminated		Can it be Isolated		Method of control
	Yes	No	Yes	No	Yes	No	
							1906.4:2010. This clothing must be fluorescent red orange in colour unless the individual is the site STMS then the garment must be fluorescent lime yellow. [HMP 9] [HMP 16] [HMP 20].
Stock/Farm Animals	☒			☒	☒		Although generally docile, farm animals can still be hazardous. The risk should be isolated by finding alternative access routes to the sample location or contacting the owner for assistance. [HMP26]
Communications-Means of							Cell phone coverage is not available at all sites. Staff must be capable of communicating via VHF radio in an equipped vehicle. [HMP 24]
Remote Area	☒			☒		☒	Most council vehicles are fitted with the E-Road vehicle locator system. Many vehicles are also fitted with a radio operating on the Horizons digital radio network providing communication and tracking coverages across a majority of the region. [HMP 24]
Temperature/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 to additional and appropriate clothing. Staff must have access to suitable PPE and spare clothing within their vehicle. [HMP 18]
Reduced Visibility	☒			☒		☒	If you find you are driving in limited visibility slow your driving speed and turn your fog lights on and watch out for vehicles that aren't using their lights. When working in limited visibility if you cease to be able to make out your surrounding environment stop work immediately. If working at night it is advisable to traverse the property in daylight first to map out an action plan outlining walking tracks, vehicle tracks, fence lines, stock positions, ponds, waterways, houses, and sheds as well as other significant items of interest. [HMP12]

EQUIPMENT REQUIRED

Sample Bottles	1 L Bottle	500 ml Bottle	100 ml bottle	50 ml tube	Red-top bacto bottle
Contact Recreation	1				x16 (two for temperature reference)  
Hilltop Sampler Numbers	<ul style="list-style-type: none"> • 14 sample numbers 				
Meters/Equipment	<ul style="list-style-type: none"> • Chilly Bin, Slicker pads • Camera • GPS • Field Sampling Sheets • Bottle ID stickers • Vivid and pens • Thermometer • Waikawa Campsite key 				

METHOD

- For all sites take one sample in a red lid sterile bacto bottle:
 - At the site dip the entire bottle below the surface of the water and open it under water without disturbing the surface. This is to avoid collection of surface bacteria in the sample.
 - Tip out excess water to create a small gap of air at the top of the bottle.
 - Wipe the bottle off with a towel, attach the Hilltop generated sample label and place this in the chilly bin.
 - Fill in field notes.

- At lake sites there's an additional one litre bottle, adopt the same approach using the large one litre bottles. Label the bottle with the name of lake, the date, time and temperature.

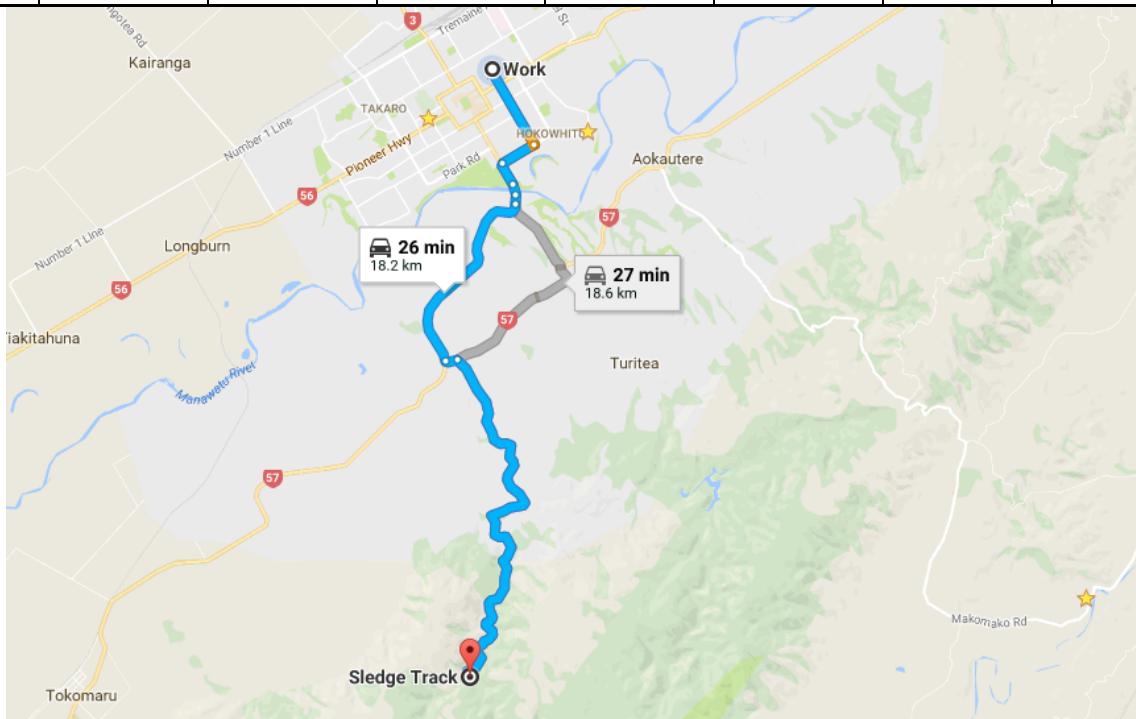
Kahuterawa at End Kahuterawa Road (30 min from office)

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	Potential for difficult rescue	Remote Area	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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE	



- From the Horizons building – turn left down Victoria Ave, turn right onto Park Road and left at the lights onto Fitzherbert Ave.
- Cross Fitzherbert Bridge and continue up past Massey University on Tennent Drive, stay on this road for around 4.5km then turn left onto State Highway 57.
- Continue for 250m then turn right onto Kahuterawa Road. Continue 6.2km up this road to the reserve at the end of the road. You will pass one reserve on the right before you get there, continue past this.
- Keep left and park near the toilets.
- Follow the foot path to the Sledge track (not over the bike track), this will take you about 10 minutes along the bushwalk. You will see a swimming hole sign. Walk down here to sample. You may require a sampling pole if the river is up.



Tokomaru at Horseshoe Bend (30 minutes from previous site)

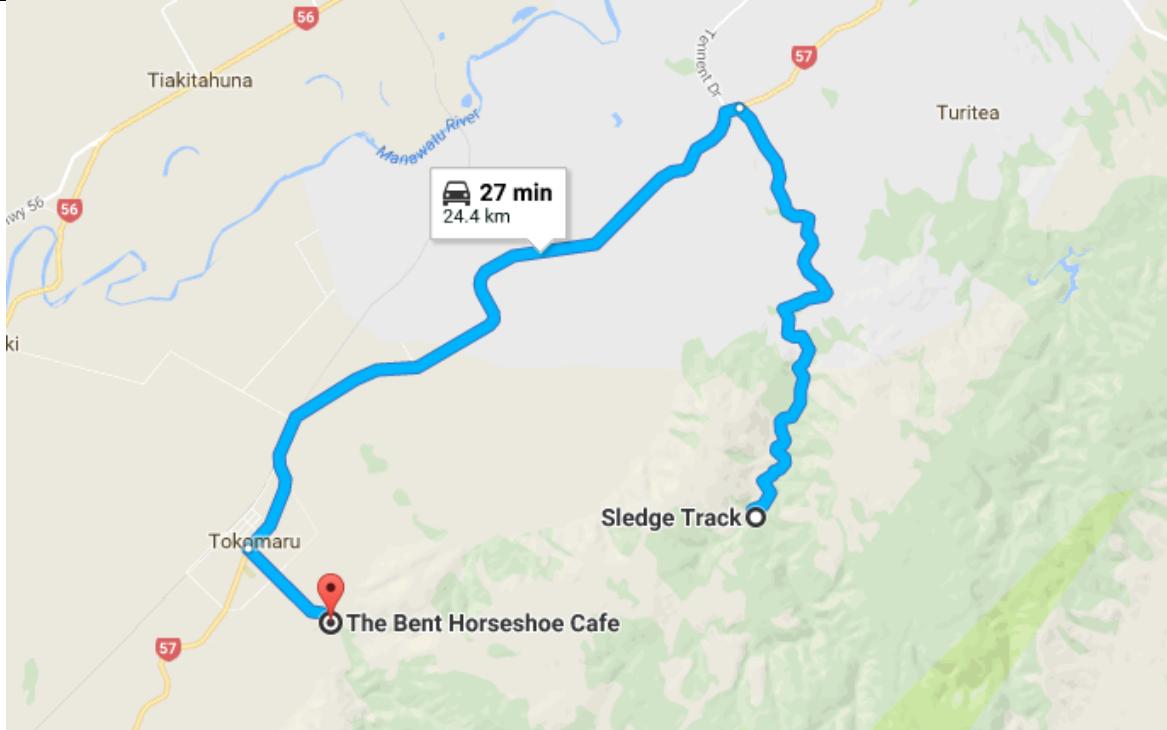
This site requires a cliff hazard photo. Refer to photos on other side for reference

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

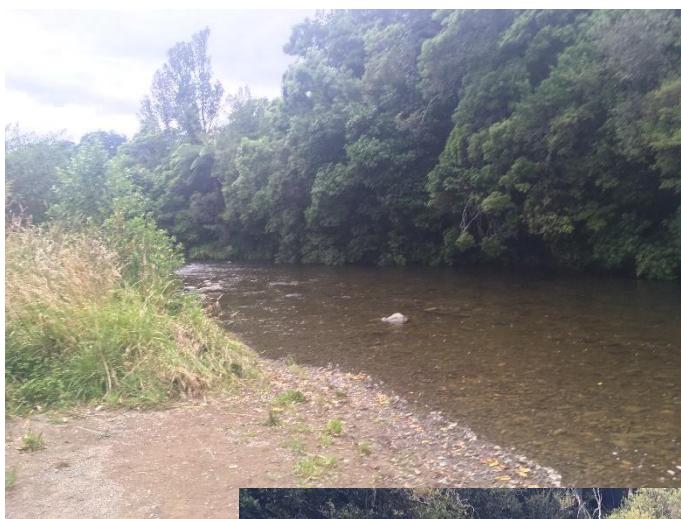
Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Remote Area	Traffic / Vehicle Movements
Weather/Temperature Extremes			

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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE



- Return back the way you came along Kahuterawa Rd and turn left on SH57
- Turn left on SH57 (signs for Levin) and continue South until you reach Tokomaru.
- Turn left onto Tokomaru East Road just after the school in Tokomaru.
- Turn right at the end of the road down to the reserve
- Park close to the gate (if closed) and continue walking down the driveway- if the gate is open drive down towards the reserve. There is a picnic table to the left before a path to the river. Follow this path and sample at the river when you get to the clearing.



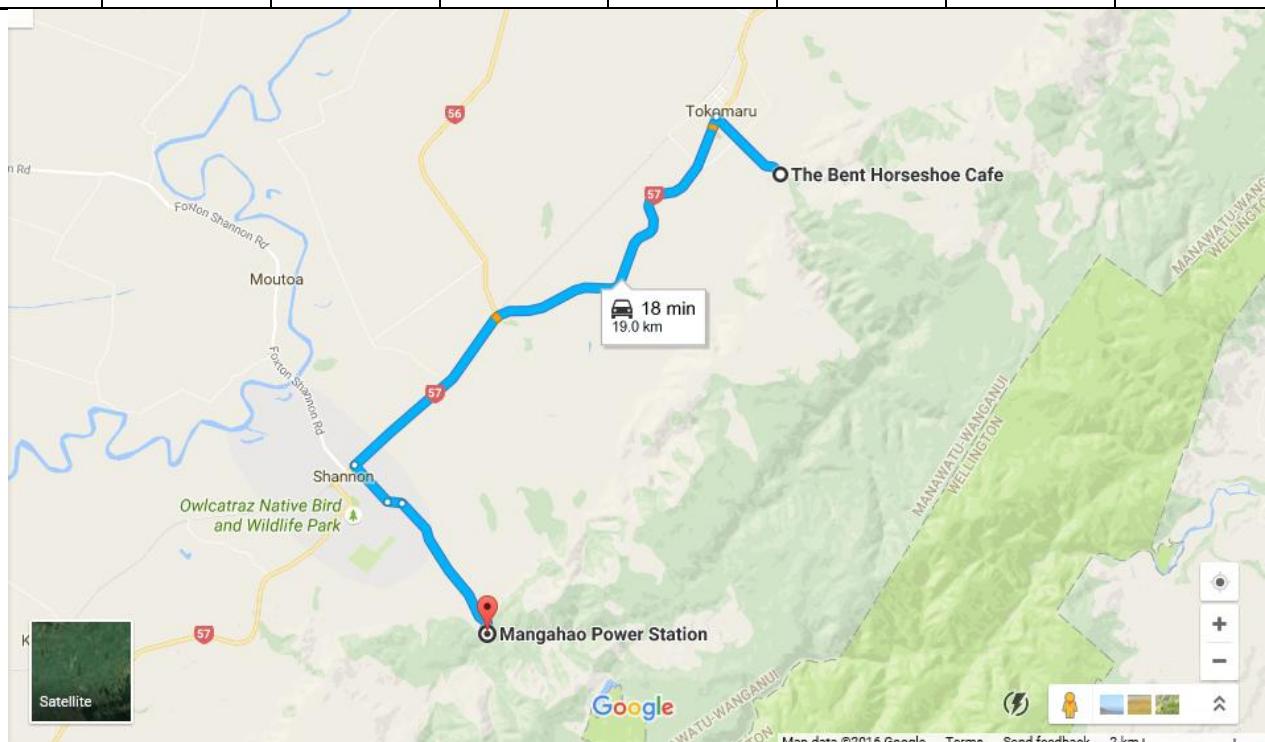
Mangaore at d/s Mangahao Power station (20min from previous site)

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	Potential for difficult rescue	Remote Area	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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE



- Head back to Tokomaru and turn left onto State Highway 57 & drive into Shannon.
- Just as you enter Shannon turn left onto Stafford Street (sign for Mangahao International White Water Centre sign) and drive 1.1km
- At the end of the road turn left onto East Road for 300m and continue onto Mangahao road for about 3.6km
- In the 60kmph zone, just before the one way bridge, there is a parking area to pull over to the left and a wooden sign for the Mangahao Reserve and White Water Park. Stop here.
- Walk down the gravel path to the water and sample here. Use a sampling pole. Be careful, this water is usually moving quickly. It is not used as a swimming site.



Ōhau at Gladstone (25min from previous site)

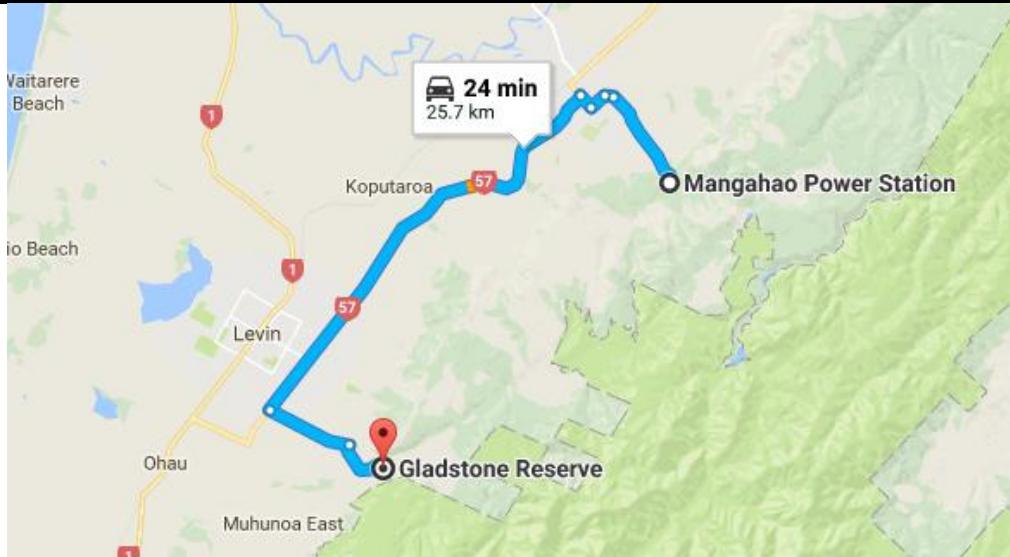
This site requires a cliff hazard photo. Refer to photos on other side for reference

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	Potential for difficult rescue	Remote Area	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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE



- Head back into Shannon following the way you came in and turn left on to State Highway 57
- Continue on SH 57 for roughly 14km until Tararua Road (brown sign for Makahika Outdoor Centre)
- Turn left and follow this road till the end (3 km) and turn right onto Gladstone Road.
- Follow Gladstone Road for 2.5 km. You will drive past some large water storage tanks on the right and then the road veers around to the left. Follow this around and take the next driveway you see on the right. This will lead down into Gladstone Reserve.
- Drive down into the reserve taking the straight/right hand track. On your right as you go in you will be able to see the river. Park in the parking area.



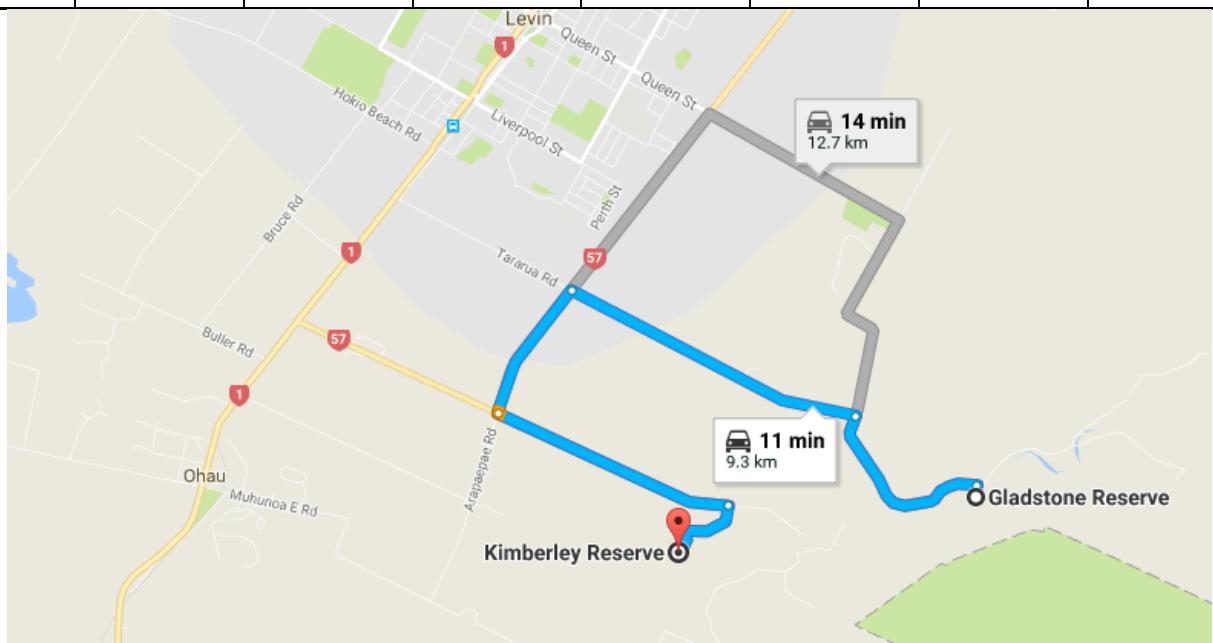
Ōhau at Kimberly Reserve (10min from previous site)

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	Potential for difficult rescue	Remote Area	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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE



- Head back to SH57, by taking Gladstone Road and turning left back onto Tararua Road
- Turn left onto SH57 and take the next left on to Kimberly Rd (this is at the awkward cross intersection)
- Follow Kimberly Rd until you see a yellow road sign post on your left for Kimberly Reserve.
- Turn right and follow the road to the campground and river.
- Drive all the way round to the end of the road and park at the gravel cul-de-sac where there is a small sign for a dog exercise area. Park here and walk through the opening in the trees to the river. When looking at the map on the next page, the sampling site will be downstream to the left of the marked spot, at the end of the road.



Ōhau at Kirkcaldies (10min from previous site)

AKA Ōhau at Muhunoa East Road

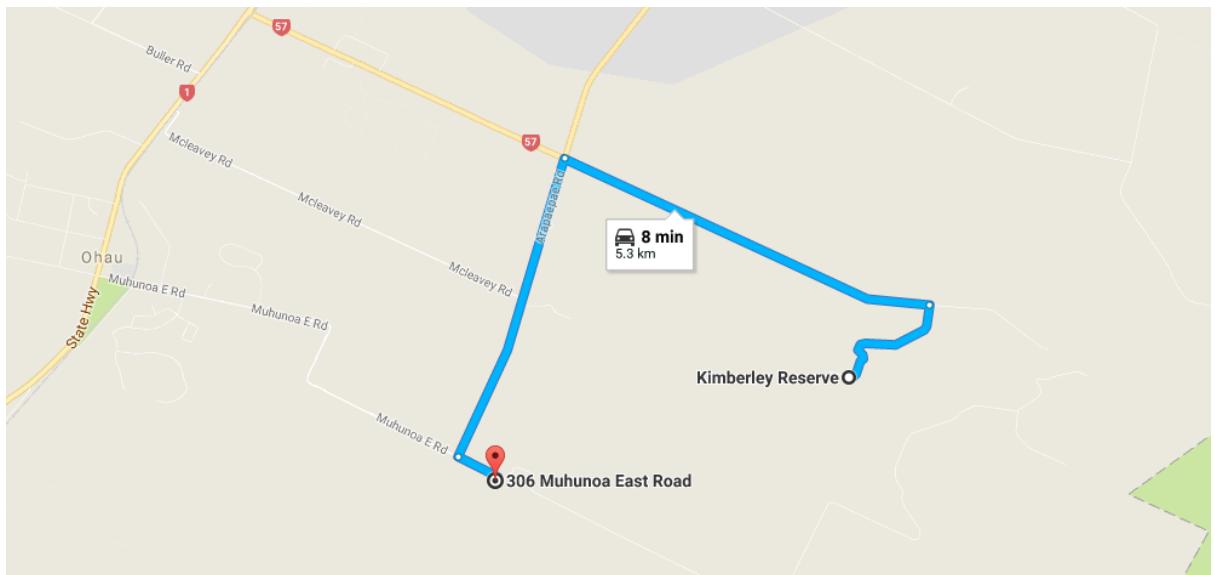
This site requires a cliff hazard photo. Refer to photos on other side for reference

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

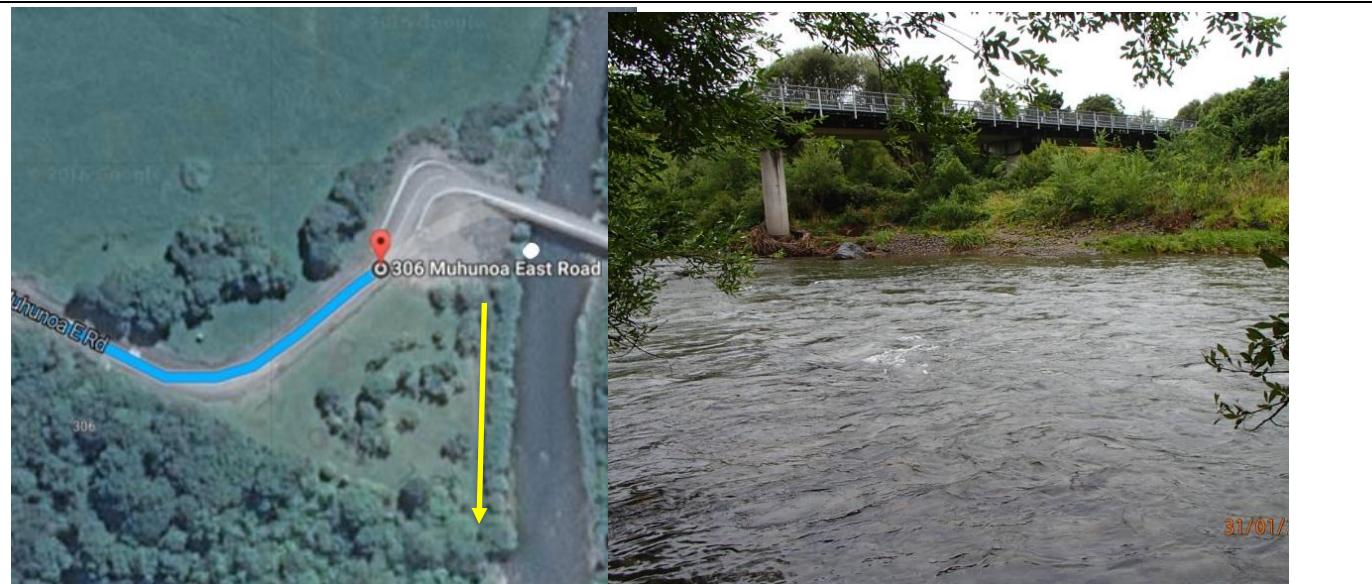
Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Remote Area	Traffic / Vehicle Movements
Weather/Temperature Extremes			

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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE	



- Head back to SH 57 via Kimberley road and at the junction with SH57 take a left onto Arapaepae Rd
- Continue on Arapaepae road to the end and then turn left onto Muhunoa E Road.
- Just before the bridge that goes over the Ohau River, turn into the gravel parking area on the right.
- Walk down the riverside along the grass path on the right side of the carpark and follow the track to the river (not over the rocks near the bridge, take your sample pole if the river is high)



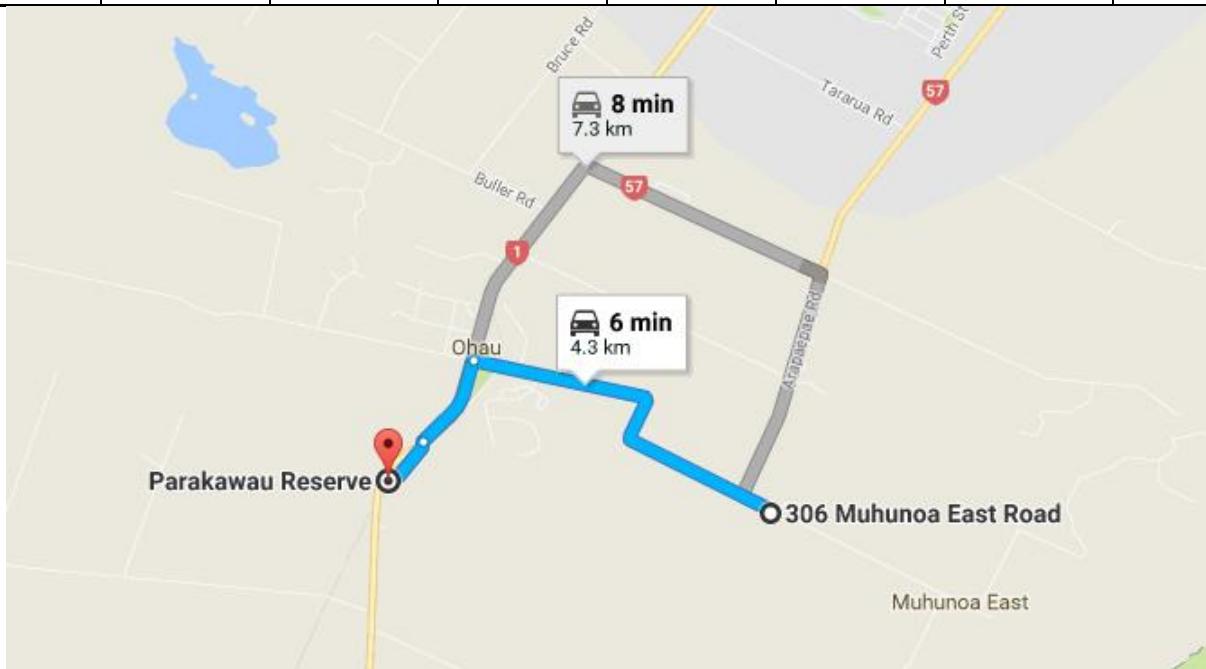
Ōhau at SH1 (10min from previous site)

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

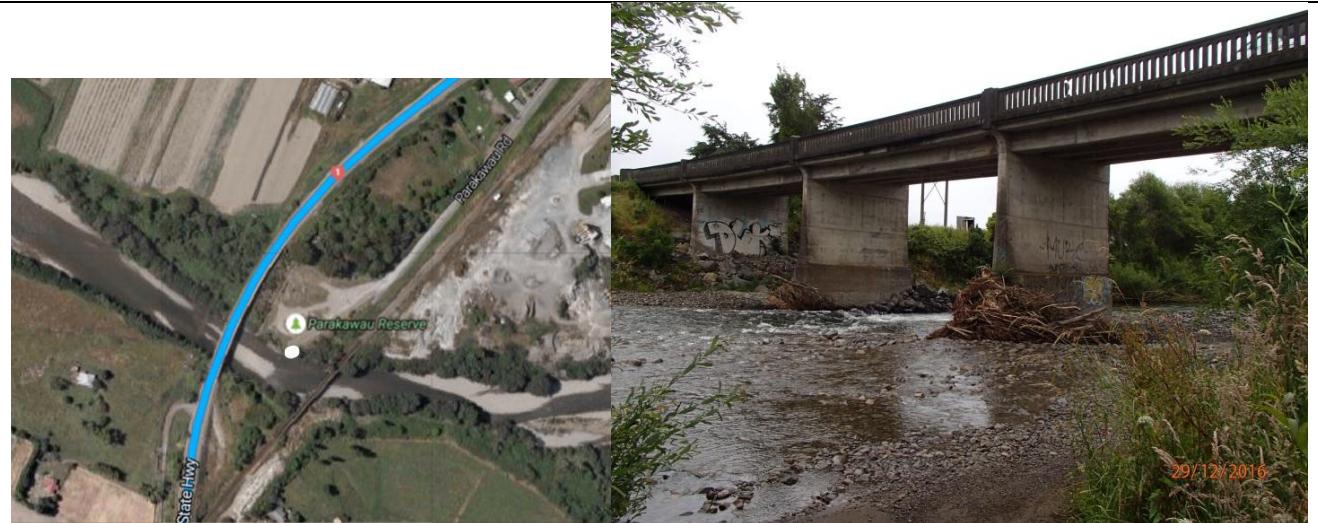
Drowning	UV Radiation	Slippery surfaces	Trip hazards
Difficult entry/exit	Potential for difficult rescue	Remote Area	Traffic / Vehicle Movements
Weather/Temperature Extremes			

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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE	



- Head back along Muhunoa East Road all the way past the school to the junction with SH1 in Ohau.
- Turn left onto SH1 heading South.
- Turn left into Parakawau Road – not long after entering the 100km zone.
- Drive along Parakawau Road to the very end where there will be a gravel carpark. This is Parakawau Reserve.
- Walk down the river and sample between the road bridge and railway bridge.



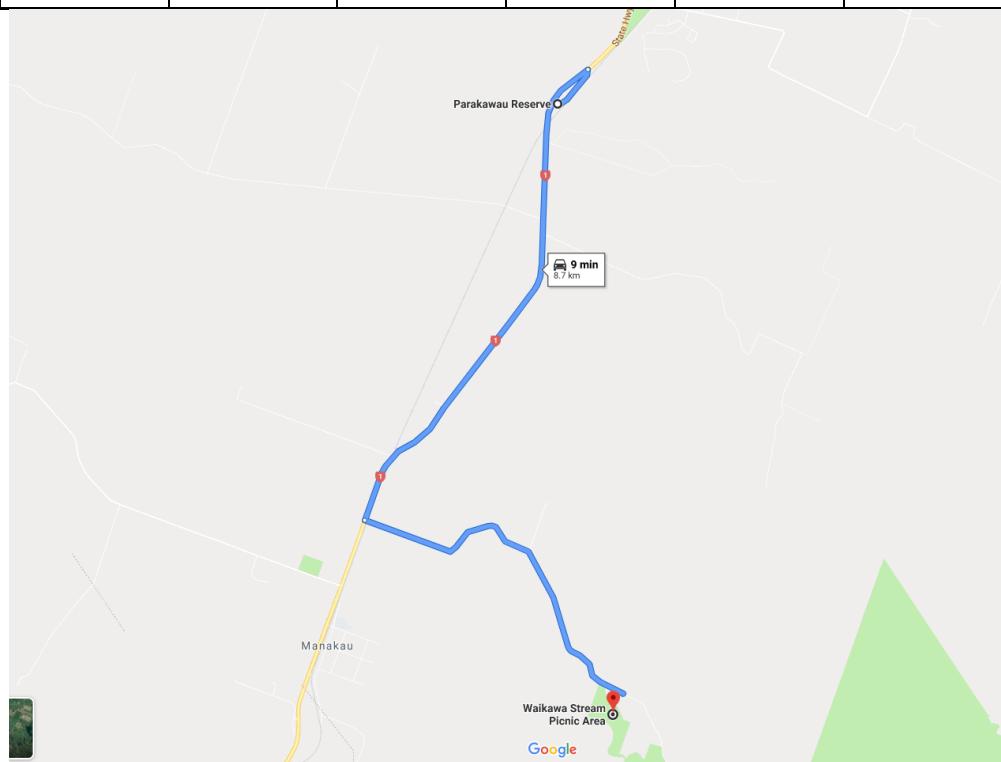
Waikawa at Waikawa Campsite (10min from previous site)

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	Potential for difficult rescue	Remote Area	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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE	Waikawa Campsite Key



- Return back to SH1 and turn left towards Wellington.
- After roughly 5km turn left onto North Manakau Road over railway tracks. Look out for the Forest Park Tararua sign, a picnic sign in addition to the street sign (if you reach Manakau town, you've gone too far).
- Follow North Manakau Road for 3.5 km (stay on the road around a bend with a turn off). The entrance to the site is easy to see as is sign posted with a DOC camping sign (see pics below). Campsite is closed, Unlock gate and travel down to parking area.
- Drive down the path towards the campsite. Park in the car park or somewhere suitable.
- Cross the bridge on foot and sample on the downstream side of the bridge. There is a path down to the stream on the right from the bridge.



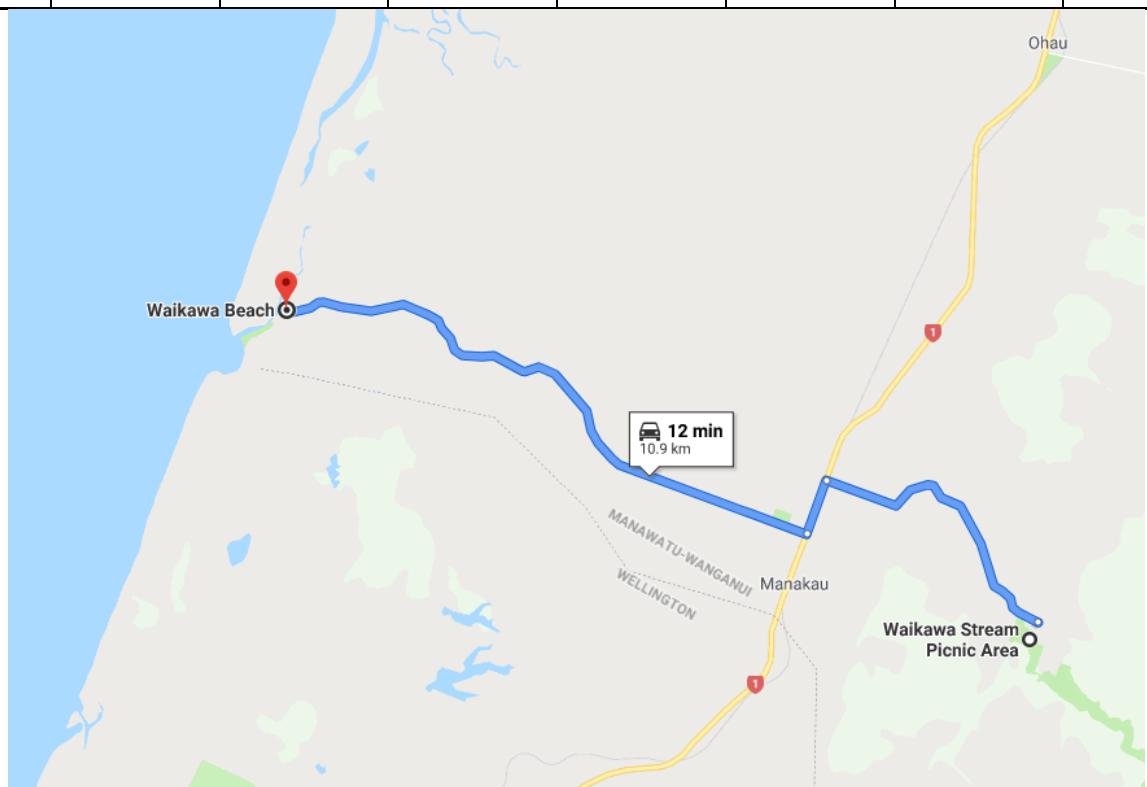
Waikawa Estuary & Tasman Sea at Waikawa Beach (10min from previous site)

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	Potential for difficult rescue	Remote Area	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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE	



- Head back along North Manakau Road towards SH1.
- At SH1, turn left and follow for 600 m.
- Turn right at Waikawa Beach Road (well sign posted). Follow this road to the very end of the street (7 km). Park in the parking area.
- Sample the estuary just downstream of the footbridge that crosses over the estuary.
- To sample the beach, cross the footbridge at the end of Waikawa Beach Road and follow the track towards the coast. The track disappears amongst the dunes. Simply continue towards the coast as best as you can.
- It is approximately a 10 minute walk through the dunes to get to the coast. When you get there sample approximately 200 meters north (right as you're looking out to sea) of the river mouth.



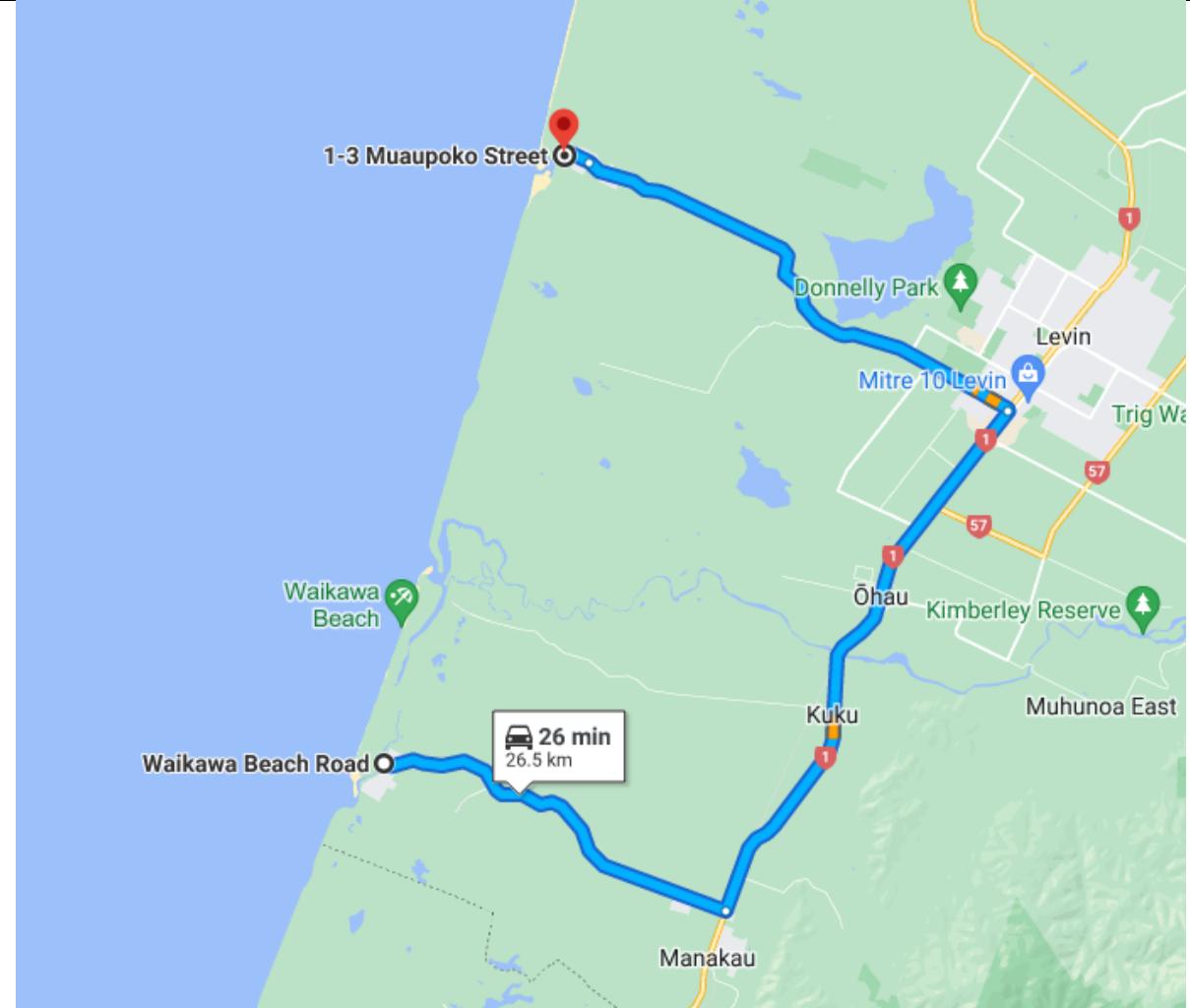
Hokio Estuary at Muaupoko St Bridge & Tasman Sea at Hokio Beach (26 mins from previous site)

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	Potential for difficult rescue	Remote Area	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	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE	



- From Waikawa Beach head back towards the highway (back the way you came) and turn left towards Levin
- Just as you come into Levin turn left onto Hokio Beach Road
- Continue down Hokio Beach Road until the end. At the Hokio Beach township it will change names to Muaupoko Street
- Drive over the bridge and park somewhere next to the stream on the hard sand
- DO NOT go onto the sand beach if you do not have 4WD training
- Sample the stream next to where you have parked
- Alternatively, if you are unable to drive over the bridge onto the sand you can just park up before the bridge and walk
- For the beach site walk through the dunes/stream straight out to the beach and sample about 200m north of the stream entering the sea
- Two samples should be taken here – 1 estuary + 1L bottle and 1 beach sample



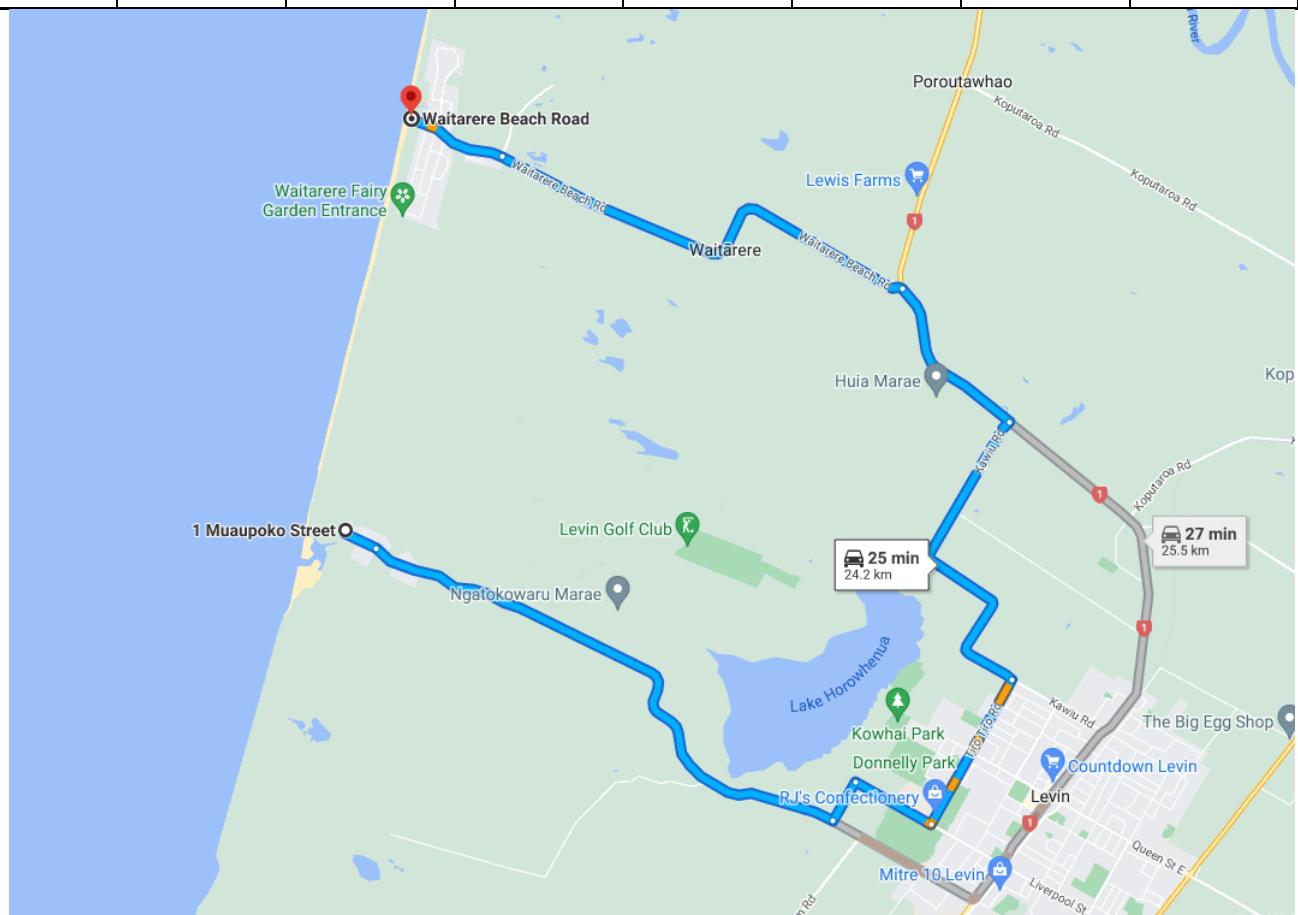
Wairarawa Stream & Waitarere Beach (25 mins from previous site)

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	Potential for difficult rescue	Remote Area	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):

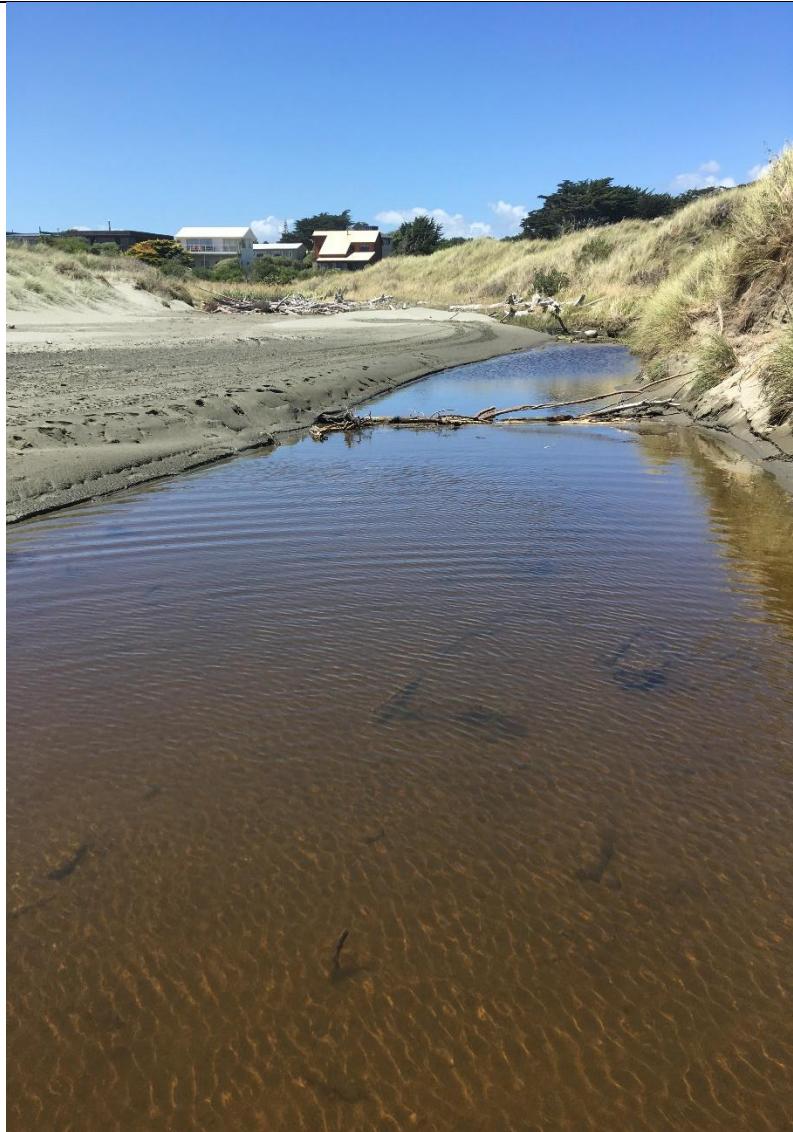
WORK BOOTS / WADERS	PFD	SUNSCREEN & HAND SANITISER	PERSONAL LOCATOR BEACON	HI-VIS	VHF RADIO	SAMPLE POLE



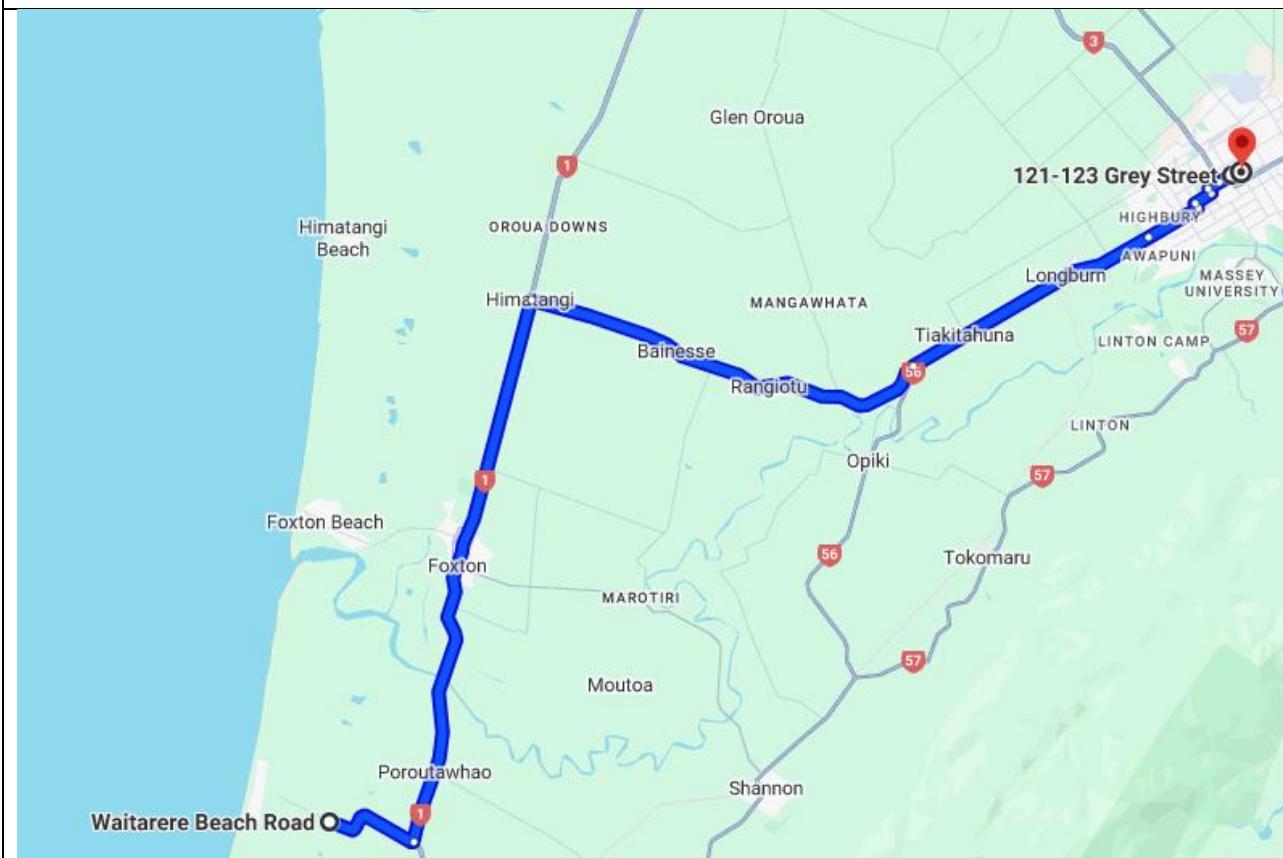
- From Hokio Beach continue back the way you came up Hokio Beach Rd towards Levin
- Just after you come back into Levin, turn left onto Hamaria Rd
- Follow until the end and then turn right onto Mako Mako Rd
- Take the first left down Tiro Tiro Road. Follow Tiro Tiro Rd until the end and then turn left onto Kawiu Rd
- Follow Kawiu Rd until the end and then turn left onto SH1
- Follow SH1 and turn left down Waitarere Beach Rd.
- Follow Waitarere Beach Road to the end (5 mins) and you come to Waitarere Beach. Go straight through the round-a-bout (first exit) and continue on this road until you get to just before the beach

- Park in the parking lot just before the beach on the left.
- Head north up the beach (right as you look to sea) for 100 m and come to Wairarawa Stream. Sample here.
- In summer this can dry up to a trickle. In this case, head upstream to where the stream pools otherwise the water is very warm and hard to sample.
- The beach can be sampled anywhere south of Wairarawa Stream. Directly out from where the road comes onto the beach.
- 2 samples should be taken here – 1 beach + 1 stream





Finishing up (43min back to HRC)



Going to HRC

1. Exit Waitarere Beach via Waitarere Beach Rd and turn left onto SH1.
 2. Follow SH1 through Foxton.
3. After Foxton, travel for 10km and turn right onto Rangiotu Rd (signs for Palmerston North).
4. This road turns into SH56, follow this road straight into Palmerston North as this road changes again to Pioneer Hwy.
5. Follow Pioneer Hwy and turn left onto Lyndhurst St just before New World.
6. At the roundabout, take the third exit onto Cuba St.
7. At the set of lights, turn left then in 400m turn right onto Walding St.
 8. Drive straight through the next two sets of lights.
9. Turn right on to Victoria Avenue then left into HRC.