

## 2. Democracy

### 2.1 Minutes of the Ordinary Meeting 16 April 2020

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<b>Date of meeting</b>	28 May 2020
<b>Agenda item number</b>	2.1
<b>Author/s</b>	Jo Clark – Council Secretary

#### Purpose

For the Council to receive and confirm the minutes of the Ordinary Meeting of Council held on 16 April 2020.

#### Recommendations

**THAT the minutes from the Ordinary meeting of the Chatham Islands Council held on 16 April 2020 be a true and accurate record.**

## **CHATHAM ISLANDS COUNCIL**

**Minutes of the Ordinary Meeting of the Chatham Islands Council,  
held in the Council Chambers, Tuku Road, Waitangi,  
on Thursday, 16 April 2020, commencing at 1.30pm via teleconference**

- Present:** Her Worship the Mayor, M Croon  
Deputy Mayor, G Horler  
Councillors', RS Joyce, K L Day, J Seymour, O Nilsson, G  
Hoare, C Gregory-Hunt and A Seymour
- Management & Officers:** Chief Executive, Mr Owen Pickles  
Operations Manager, Ms Cindy Butt  
Council Secretary, Ms Jo Clark
- In Attendance:** ECan Biosecurity Officer, Ms Kerri Moir  
Mr Bill Lind (Fulton Hogan)

*Due to the Covid-19 Level 4 alert, the meeting was held via teleconference. Present in Chambers were Deputy Mayor Greg Horler, Chief Executive Owen Pickles, Operations Manager Cindy Butt and Council Secretary Jo Clark.*

### **2. DEMOCRACY**

#### **2.1 Minutes from Ordinary Meeting 27 February 2020**

**RESOLVED:**

**THAT the Minutes of the Ordinary meeting of the Chatham Islands Council, held on Thursday 27 February 2020 be adopted as a true and correct record with amendments noted.**

**A SEYMOUR / KL DAY / CARRIED**

### **4. WORKS & SERVICES**

#### **4.1 Fulton Hogan Road Maintenance Contract Monthly Report February & March 2020**

Mr Bill Lind advised work was quiet with a man on call for emergencies. Maintenance metaling was ahead of schedule and hoping once out of lockdown to complete the reseal and rehab programme.

He advised the shipping company were charging the full rate to send empty containers back to the mainland.

Cr Jason Seymour acknowledged the new realignment at Pages Corner. Mr Lind informed Council that road markings and signs were still to be completed.

**RESOLVED:**

**THAT the reports be received.**

**RS JOYCE / J SEYMOUR / CARRIED**

4.2 Fulton Hogan Road Water & Wastewater Contract Monthly Report February & March 2020

Mr Bill Lind noted the 'boil water notice' was still in place for Kaingaroa with the last test expected back within the next week.

**RESOLVED:**

**THAT the reports be received.**

**KL DAY / G HORLER / CARRIED**

4.3 Stantec Monthly Engineers Report February & March 2020

**RESOLVED:**

**THAT the reports be received.**

**O NILSSON / G HOARE / CARRIED**

**5. COMMUNITY SERVICES**

5.1 Proposed Civic / Museum Complex

Her Worship acknowledged the work of Jackie Gurden and noted the application had been sent.

**RESOLVED:**

**THAT the information be received.**

**RS JOYCE / O NILSSON / CARRIED**

5.2 Chatham Islands Housing Partnership Trust

***Cr Keri Day declared her interest as a Director of CIHPT.***

The Chatham Islands Housing Partnership Trust had engaged Baseline Group to progress the proposed subdivision for a housing development at its Sandstone property.

The question had been raised about the future ownership and management of the water supply proposed for the development?

If Council was to take over the water supply on the Sandstone subdivision it would then become responsible for water quality and all future maintenance of the scheme. The costs associated with these activities would then be recovered through a water rate, meter charge or a bit of both.

After consulting with the portfolio group, Baseline Group was advised that the water supply would become a council asset subject to it meeting appropriate standards to the satisfaction of the Council Engineer.

**RESOLVED:**

**THAT the Council will take over the proposed water supply at the Sandstone subdivision subject to it meeting standards to the satisfaction of the Council's engineer.**

**J SEYMOUR / G HORLER / CARRIED**

## **6. REGULATORY**

### **6.1 Activity Report from Environment Canterbury**

Cr Keri Day had queried via email whether Precision Helicopters had been paid for all the spraying they had completed. At the meeting Ms Kerri Moir advised there were still a few outstanding accounts.

Ms Moir reported they had been carrying out border security. She had been continuing to keep up bait stations.

The quarterly water samples had been completed and the wasp incursion had been controlled. The nest would be dug out and frozen to kill any larvae.

#### **RESOLVED:**

**THAT Chatham Islands Council:**

- 1. Receives the report;**
- 2. Receives the planning programme update.**

**O NILSSON / C GREGORY-HUNT / CARRIED**

### **6.2 Subdivision Consent Application – Preece Family Farm**

An application for subdivision consent had been received from the Preece Family Farm to subdivide Lot 1 DP 60160 (WN30A/355 and Part Te Awapatiki 1A1B Block (WN55C/179) into two residential allotments, one allotment to protect an urupa and one balance lot.

A report on the application had been prepared by Paul Whyte (BECA Ltd) and included in the agenda.

#### **RESOLVED:**

**(i) THAT pursuant to Section 95A-G the application does not require public notification or limited notification.**

**(ii) THAT pursuant to Sections 104 and 104B of the Act Council grants consent to:**

**Subdivide Lot 1 DP 60160 and Part Te Awapatiki 1A1B Block into four fee simple allotments in accordance with the plan submitted with the application subject to the following conditions:**

- 1. Pursuant to 221 of the Resource Management Act 1991 a consent notice shall be imposed on the record of title for Lot 1 advising as follows;**

***At the time of subdivision, vehicle access is provided via a farm crossing. Prior to habitation of a dwelling on Lot 1 the crossing shall be upgraded in accordance with Council standards, and the right of way shall be formed in accordance with Council standards. All cut to fill shall be undertaken in accordance with NZS 4431:1989.***

- 2. Pursuant to 221 of the Resource Management Act 1991 a consent notice shall be imposed on the record of title for Lot 3 advising as follows;**



*This site contains an Urupa therefore no habitable buildings may be constructed on Lot 3.*

3. Pursuant to 221 of the Resource Management Act 1991 a consent notice shall be imposed on the record of title for Lot 3 advising as follows;

*All future development on Lot 1 must be consistent with the report 'T4205.00/20/01 405 Waitangi Wharf Owenga Road, Owenga – Geotechnical Assessment Report for John & Bridget Preece: (WSG Opus) including the location of the building platform or alternative solutions are provided by a suitably qualified geotechnical engineer which are subject to approval of the Council.*

4. All easements shown on the subdivision plan shall be granted and reserved.

A Seymour / C Gregory-Hunt / CARRIED

## 8. GOVERNMENT

### 8.1 LGNZ Rural Provincial Sector Meeting 5 & 6 March 2020

A report from the Chief Executive on attendance at the LGNZ Rural Provincial Sector Meeting held 5 & 6 March 2020 had been distributed previously, and included in the agenda.

**RESOLVED:**

**THAT** the report be received.

KL DAY / O NILSSON / CARRIED

## MEETING CLOSURE

After consideration of the In-camera Agenda, and there being no further business, the meeting was declared closed at 1.47pm.

**CONFIRMED THIS 28TH DAY OF MAY 2020**

**MAYOR**

## 3. Finance

### 3.1 Council Dues Report to 30 April 2020

<b>Date of meeting</b>	28 May 2020
<b>Agenda item number</b>	3.1
<b>Author/s</b>	Colette Peni

#### Purpose

Report to Chatham Islands Council on current Council Dues as at 30 April 2020

#### Recommendations

THAT the Chatham Islands Council receives the report.

#### Key points

- Chatham Island Shipping – Outstanding Manifests – Feb, Mar 2020 (they have paid the Dues), Apr 2020 – manifest not received yet
- Air Chathams – Outstanding Manifest – Mar & Apr 2020

#### Background

Carrier	Amount Owing	Month/s invoices Outstanding	Details
Air Chathams	\$5,869.38	Feb 2020	Also owing Mar & Apr 2020 which have not been invoiced yet
Chatham Islands Shipping	\$8,220.12	Nil	Colette Peni to discuss with Owen Pickles – prior year transaction, also owe Apr 2020 which has not been invoiced

## 3. Finance

### 3.2 Crown Funding Support

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Date of meeting	28 May 2020
Agenda item number	3.2
Author/s	Owen Pickles, Chief Executive

#### Purpose

Report to Chatham Islands Council on the increase of Crown funding.

#### Recommendations

**THAT the report be received.**

#### Background

The Government Budget was released on 14 May 2020.

For the Chatham Islands there were two appropriations:

1. The core funding being \$3.206m
2. Additional funding to bring the total support to –  
2020/21 \$3.776m  
2021/22 \$4.355m  
2022/23 \$4.393m

While not at the levels recommended by McGredy Winder, it does provide some relief going forward.

We are still waiting on a letter of confirmation from Minister of Local Government Hon Nanaia Mahuta, which may include conditions.

## 3. Finance

### 3.3 Financial Report to 30 April 2020

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<b>Date of meeting</b>	28 May 2020
<b>Agenda item number</b>	3.3
<b>Author/s</b>	Tanya Clifford, Corporate Reporting Accountant, Environment Canterbury

#### **Purpose**

To present to Council the financial report to 30 April 2020.

#### **Recommendations**

**THAT the Financial Report to 30 April 2020 be received.**



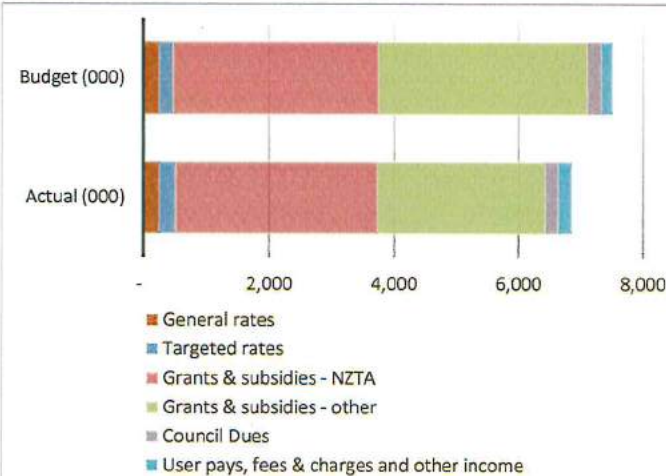
## Graphical Financial Information

as at 30 April 2020



chatham islands council

### Revenue

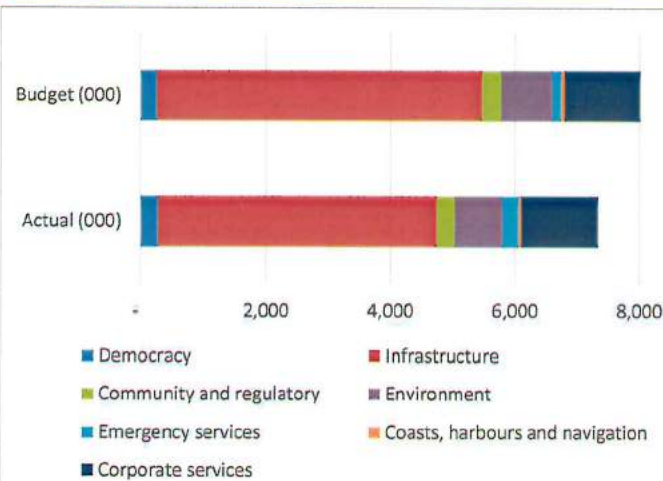


No significant items of concern related to revenue items. However, it is worth noting:

\* NZTA subsidy is driven by actual expenditure of roading works. The NZTA grant includes Capital and operating expenditure.

\* the budget recognised a grant for the sludge lagoon project; which hasn't been drawn down pending project scope review.

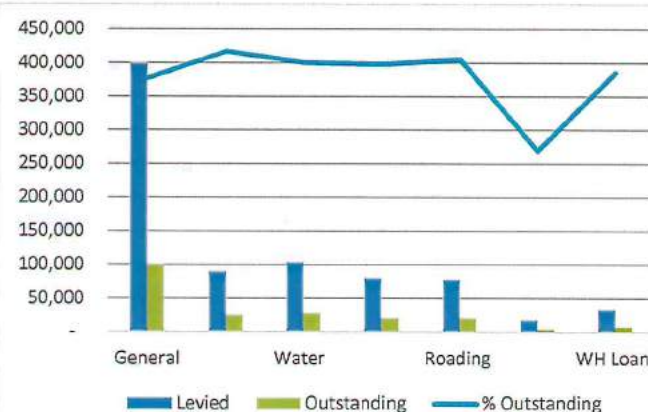
### Operating & Capital Expenditure



No significant items of variance related to expenditure. There are some differences within classifications and minor cut-off adjustments, refer to the full financial report for further information.

Key capital projects have not fully progressed for the year (pending funding availability) or have been delayed. The sludge lagoon project has been deferred pending rescope and housing works have also been delayed.

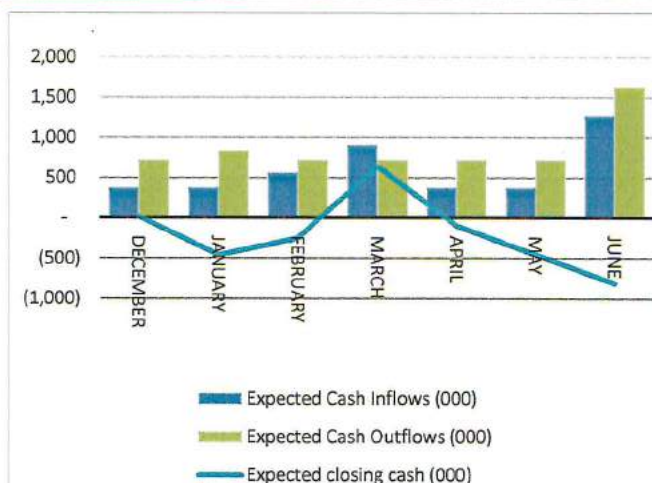
### Revenue rates collectability



Note: the first two instalments have been levied, with the final instalment to be levied 1 May 2020 (payment due 15 June 2020). The percentage outstanding figure includes balances not collectable, if an adjustment was made to exclude the payment, the outstanding percentage would be approximately 14%.

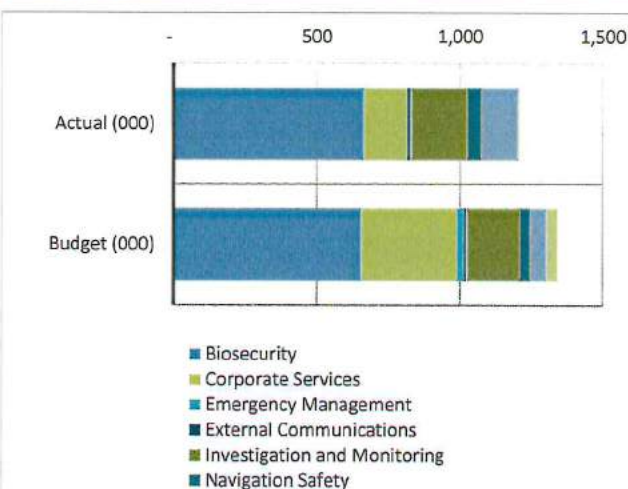
A massive focus has been dedicated in period to collecting rate arrears (balances outstanding prior to 1 July 2019), with this balance moving from \$120k to \$45k. It is worth acknowledging the extra work of Klicky and Cindy to reduce this balance.

## Cashflow Forecast



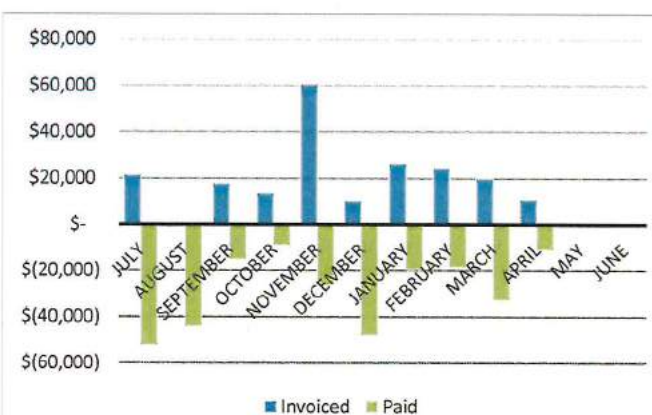
At the end of June 2020, Council's expected cash balance is an overdraft of \$808k (excluding earmarked funds). Council's current operating account is -\$63k, with an overdraft facility of up to \$500k. The cash position will become less favourable over the course of the year, primarily driven by the NZTA funding shortfall.

## ECan Operational Expenditure



Actual reflects year to date spend, compared with the budgeted total annual contract value. Large amount of biosecurity work completed in period with Precision helicopters engaged (\$150k contract) to complete gorse control initiatives on the island. In addition, unbudgeted expenditure associated with updating the Pest Management Plant has been required, which has been incurred to meet legislative requirements. ECan continues to operate within the overall budgetary constraints of the contract.

## Revenue Council dues collectability



Note: The current outstanding Council Dues balance for March is \$13k. Current trends are reflective of steady repayments being made. However, amounts have historically not always repaid within a month of invoicing. Delays in collecting Council Dues, increases the risk of funds not being collected.



## Statement of Comprehensive Revenue and Expense

	Actual (000) \$000	Budget (000) \$000	Variance	Note Ref
<b>Revenue</b>				
General rates	254	254	-	1
Targeted rates	256	218	39	1
Grants & subsidies - NZTA	3,224	3,279	(55)	2
Grants & subsidies - other	2,692	3,353	(661)	2
Council Dues	206	221	(15)	3
User pays, fees & charges and other income	228	183	46	4
<b>Total revenue</b>	<b>6,861</b>	<b>7,508</b>	<b>(647)</b>	
<b>Expenditure</b>				
Democracy	284	265	19	6
Roading	1,232	1,273	(42)	5
Solid waste	499	228	270	5
Water	176	251	(75)	5
Stormwater	11	8	2	5
Wastewater	104	140	(36)	5
Community and regulatory	285	302	(17)	6
Environment	766	812	(46)	6
Emergency services	271	157	114	7
Coasts, harbours and navigation	38	44	(6)	
Corporate services	1,232	1,226	6	
Depreciation	734	1,728	(994)	8
<b>Total expenditure by activity</b>	<b>5,630</b>	<b>6,434</b>	<b>(804)</b>	
<b>Total surplus/(loss)</b>	<b>1,231</b>	<b>1,073</b>	<b>158</b>	

### Variance explanations:

- 1 Rates are invoiced based on the Council approved rates strike. Note the budgeted targeted rates amount exclude collection of prior period outstanding balances and penalty payments. Actual figures also recognise repayment of warm home loans, which will be off-set against the loan at year-end.
- 2 NZTA subsidy is based on actual expenditure. DIA grant has been fully received and apportioned across the year. The budget also recognises a grant for the sludge lagoon project (approximately \$340k), which has not been drawn down.
- 3 Council dues are a Council tax on island imports/exports. There is a notable relationship between works on-island and the income received from Dues. Transactions with on-island shipping/freight companies are current.
- 4 No significant differences.
- 5 No significant areas of variance noted. Solid waste programme is new, with costs difficult to estimate.
- 6 No notable areas of variance.
- 7 Increased emergency services expenditure in period related to supporting the community during the Covid-19 pandemic.
- 8 Depreciation run to December 2019, variation due to difference in depreciation estimates.

Capital expenditure summary	Actual \$000	Budget \$000	Variance	Note Refere
<b>Sources of capital funding</b>				
Subsidies and grants for capital expenditure	2,133	2,836	(703)	<b>a</b>
Increase / (decrease) in debt	-	115	(115)	<b>b</b>
<b>Total sources of capital funding</b>	<b>2,133</b>	<b>2,951</b>	<b>(818)</b>	
<b>Application of capital funding</b>				
Roading works	2,424	2,550	(126)	<b>a</b>
Housing	-	167	(167)	<b>b</b>
Waste, including sludge lagoon project	3	592	(588)	<b>c</b>
Corporate, including new office fit-out	8	-	8	
Water service connections*	-	2,558	(2,558)	
Emergency management*	3	208	(206)	
Critical wastewater capital replacement*	-	56	(56)	
Critical water capital replacement*	-	40	(40)	
<b>Total application of capital funding</b>	<b>2,438</b>	<b>6,171</b>	<b>(96)</b>	
<b>Movement in reserves</b>	<b>(305)</b>	<b>(3,221)</b>	<b>(721)</b>	

\* Desired projects in the 2019/20 budget, removed due to lack of funding support

**Variance explanations:**

- a** The grant figure primarily relates to the NZTA budget, which is reflective of 88% of actual costs incurred. Actual expenditure behind expected budgeted levels, with work being deferred due to material availability.
- b** Housing project expected to be progressed in year, funded by debt.
- c** Sludge lagoon project delayed, pending scope and cost review.

*Note, budget figures are allocated on an equal monthly apportionment*



## **4. Works & Services**

### **4.1 Fulton Hogan Road Maintenance Report April 2020**

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<b>Date of meeting</b>	28 May 2020
<b>Agenda item number</b>	4.1
<b>Author/s</b>	Bill Lind – Fulton Hogan Contract Manager

#### **Purpose**

To inform and update the Council on the Chatham Islands Road Maintenance programme.

Attached is the April 2020 monthly report from Fulton Hogan that will be presented by Bill Lind (Fulton Hogan Contract Manager).

#### **Recommendation**

**THAT the report be received.**



CHATHAM ISLANDS ROAD  
MAINTENANCE CONTRACT  
MONTHLY REPORT  
April 2020

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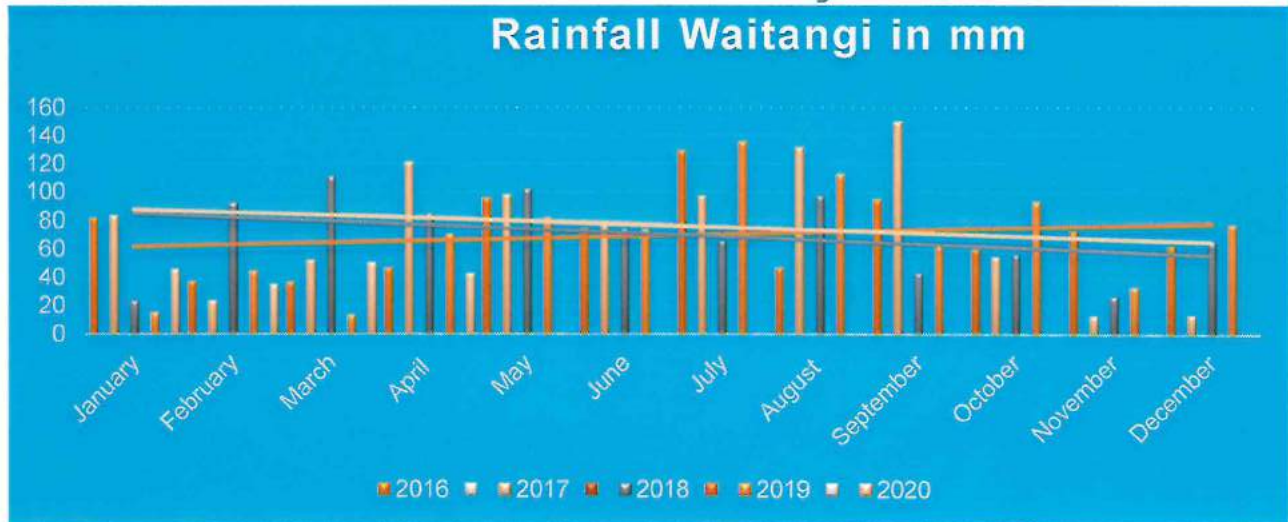
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## Work Summary

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### Outline of work carried out during month



42.5mm of rain recorded for April in the Waitangi yard.

### Routine Maintenance and Operations

Routine grading was done where required along with a minimal amount of maintenance metaling done late March that appears in April claim. Mowing done late in the month after relaxation to level 3 lockdown.

### Pavement Renewals

Still have Te Awainanga bridge approaches to complete when restrictions are lifted.

### Sealed Road Resurfacing

Still around 16t of bitumen to spray when restrictions are lifted.

### Drainage Renewals

None this month.

### Bridge and Structure Renewals

None this month.

### Traffic Services

Some sign damage during the month with repairs to happen in May.

### Minor Improvements

None this month.

### Vegetation Control

Mowing done late in the month when level four was lifted.

### Dayworks



Debris removed from the road at the wharf on two occasions.

### Programmed Work for following month

After lock-down we hope to complete the re-seal program. Back into drainage. Test hole for Whangamoe Bridge replacement.

## Schedule of Work by Road Name

### 1. Maintenance Grading

- Carried out as required during the month on the following roads:

Road ID	Disp	Road ID	Start RP	End RP	Quantity M
NORTH ROAD	3213	21	4589	23000	18411
WHAREKAURI ROAD	3214	121	0	4500	4500
AIR BASE ROAD	3215	71	0	4560	4560
PORT HUTT ROAD	3216	51	0	15500	15500
RAPANUI ROAD	3218	81	0	2858	2858
NORTH ROAD	3217	21	4589	12505	7916
TUKU ROAD	3210	111	459	11000	10541
WAITANGI WHARF - OWENGA ROAD	3211	11	4400	20000	15600
				TOTAL	79.8km

### - 2 Unsealed Maintenance Metaling

- Carried out on the following roads using AP32 metal:

Road ID	Disp	Road ID	Start RP	End RP	Quantity	
NORTH ROAD	3208	21	14205	21000	88	
TE MATARAE ROAD	3209	133	0	2000	16	
		Totals		This Month	104	m3
				Revised Target	26500	m3
				Contract TD	26864	m3

### Next Month's Target

Currently 364m3 ahead of schedule. Patch metaling will continue where required.

## Crash Damage Report Summary

### Crash Damage Report

Date	Event	Action	Repaired Y/N
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25/6/18	Not accident as such but vandalism of new seal on Waitangi Wharf Owenga Road by 2 Quad bikes overnight.	Police investigation	Lucky to get away with little damage.
18/10/18	Vehicle rolled North Rd beyond Wharekauri Rd	Police attended. No report as yet	No damage to CIC asset
27/10/18	Vehicle left road and rolled down bank. Port Hutt Rd RP 4780 Approx.	No report	No damage to CIC asset
11/1/19	Vehicle hit rear of grader working on Airbase Road	Awaiting police report	No injuries, damage to car only, no damage to grader.
24/8/19	Vehicle smashed through handrail and landed in Te Awainanga River	Awaiting police report	No serious injuries. Vehicle written of, major damage to LH bridge rail
12/11/19	Vehicle went through LH handrail and into river at Maipito Road	Awaiting police report	No serious injuries. Vehicle written of, major damage to LH bridge rail
19/11/19	Vehicle malfunctioned and broke through RH handrail and down onto beach below	Awaiting police report	Again no serious injuries. Vehicle written of, major damage to RH bridge rail and footpath rail

### Network Inspections

Month	Inspection Type	Faults Identified	Inspected By
March 2019	Daytime	Port Hutt and Waitangi West, all good. Some minor metaling has been carried out. Wild cattle are destroying EMPs	Bill Lind
April 2019	Night time	North Road and Owenga Road. Signs still dirty in places, need constant cleaning. Newly rehabbed and water-tabled areas travel well.	Bill Lind
May 2019	Daytime	Te Matarae Road all good with drainage work done. Some worsening digouts on North Rd to be done. Airbase Rd all good but EMP's required through new section.	Bill Lind
June 2019	Night time	Tuku Road signs all good but a lot of EMP's damaged by stock. Kaingaroa Road all good, signs seem to stay cleaner out this way.	Bill Lind
July 2019	Roadroid	All major roads done. No major problems. Some potholeing on WWO Road, some digouts still to do on North Road.	
August 2019	Six Monthly	WWO Rd, Tuku Rd, North Rd, Port Hutt Rd and Airbase Rd. Focus on signs.	Tomby
Sept 2019	Daytime	Port Hutt, Waitangi West & Tuku Roads no stand out issues.	Bill Lind
October 2019	Roadroid and nighttime	All major roads done, most in excellent condition with new drainage work very effective. New signs and EMP cleaning very effective on night inspection of major roads.	
November	Night Time	Tuku Road looking ok some dirty signs programmed for	Bill Lind



2019		cleaning. Waitangi Wharf Owenga Road, newly watertabled area all good with new EMP's very effective.	
December 2019	Daytime	Most roads in excellent condition but things are starting to dry out and the corrugations beginning to appear.	Bill Lind
January 2020	Daytime Roadroid	Conditions drying out and roads corrugating. Verge mowing looking good on most roads.	Bill Lind
February 2020	Daytime	Ramm validation inspections on all roads. Awaiting report.	Bill Lind
March 2020	Night	Most areas looking good. Some EMPs missing North Road and Waitangi Wharf Owenga Road	Bill Lind
April 2020	Daytime	Tuku Rd to the end, some scouring. North Rd full length, good condition with very few soft areas.	Bill Lind

## Monthly Safety Report and Statistics

Nothing to report.

### 1. Safety Engagements

Date	Near Miss	Incident	Lost Time Injury	Plant Damage	Depot/Worksite Inspections
6/3/19	N	N	N	N	Culvert replacement Maipito Road. Minor traffic disruptions, residents notified.
24/4/19	N	N	N	N	Grading Tuku Road. No problems identified.
23/5/19	N	N	N	N	Audit again on Airbase Road. All compliant.
30/6/19	Y	Y	N	Y	Wheel came loose on ute Port Hutt Road.
12/7/19	Y	Y	N	N	Grading North Road with 2 graders. No problems identified.
9/8/19	Y	Y	N	N	Safety inspection during clean-up of site at Waikato Culvert. No issues arising.
26/9/19	Y	Y	N	N	Audit of WWO Rd Water-tabling. No issues
23/10/19	Y	Y	N	N	Inspection and discussion at Hawaiki Bridge site. Only issue raised was the extreme noise as vehicles passed over bridge while we are working underneath.
18/11/19	N	N	N	N	Nairn River bridge repairs Working on scaffold. All erected by certified operator.
11/12/19	N	N	N	N	Trenching on Tuku Road for new motel units. No issues with a nice tidy job completed in short time with little traffic disruption.
24/1/20	N	N	N	N	Installing 450mm culvert North Rd. Good traffic management. No safety issues.
20/2/20	N	N	N	N	Sealing WWO Rd No issues and traffic behaving well to direction.
3/3/2020	N	N	N	N	Bridge repairs at Te Awainanga. No issues job completed.
30/4/20	N	N	N	N	Clearing debris Wharf Rd No issues, social distance adhered to.

## Metal Stockpiles

Month Ending 30/4/20							
<i>Site</i>	<i>AP30 Schist</i>	<i>AP65</i>	<i>AP30 Basalt</i>	<i>AP100 Schist</i>	<i>AP20</i>	<i>G3 Chip</i>	<i>G5 Chip</i>
Waitaha Schist	0	0	0	8,244	0		
Waitaha Basalt	0	532	1,607	0	804		
Paritu	6,425	0	0	4,743	0		
Stoney Crossing	0	1,552	7,087	0	3,887	685	961
Yard	0	0	0	0	0		
Ohinemama	0	0	0	0	0		
Muirsons Schist	1,276	0	0	1,365	0		
	0	0	0	0	0		
	0	0	0	0	0		
	0	0	0	0	0		
	7,701	2,084	8,694	14,352	4,691	685	961



## CIC Owned Materials

### Signs

Stocktake of Chatham Islands Council Materials					
Item Description	Unit	Purchased	Used Apr 2020	End Measure	Comments
<b>Signs</b>					
CS85 North Rd	ea.			1	
CS85 Port Hutt Rd	ea.			1	
RG1	ea.			1	
RG2	ea.			1	
RG6	ea.			0	
RM6 White	ea.			12	
RM6 Yellow	ea.			22	
RM7	ea.			16	
P66X242	ea.			7	
PW11	ea.			1	
PW11.1L	ea.			1	
PW11.1R	ea.			1	
PW12L	ea.			1	900
PW12R	ea.			1	
PW24	ea.			2	
PW25 65KM	ea.			1	
PW28	ea.			1	
PW34.1	ea.			1	900 Y
PW34.2	ea.			2	
PW37	ea.			1	900
PW49 FIRE ENGINE	ea.			2	
PWSX1	ea.			2	
RH-4	ea.			2	
PW54	ea.			2	

#### Marker pegs

EMP	ea.			221	
CULVERT MARKERS	ea.			63	
WHITE RAPID MARKERS	ea.			12	

#### Misc. Items

ACROW PROPS	ea.			6	
ROAD COUNTER	ea.			1	
ROUGHOMETER	ea.			1	

## Culvert Pipes

### ALUFLOW

Item Description	Unit	Used Apr 20	Purchased	End Measure
450	m			6
600	m			6
750	m			6

### CivilBOSS

225	m			33
300	m			54
450	m			54
630	m			30
800	m			30
1000	m			12

### Builders Mix

CEMENT	T			0
GEOGRID	rolls			19
BIDIM CLOTH	rolls			4

## Environmental Compliance & Feedback

### Environmental Compliance

Date	Site Inspected	Compliant Y/N	Abatement Order Issued	Corrective Action Required	Completed By
6/3/19	Clear slip material Wharf road	Y	N	Y	Bill Lind
29/3/19	Waikato Bridge replacement site	Y	N	N	ECAN
17/4/19	Airbase Road strengthening	Y	N	N	Bill Lind
23/5/19	Waikato Culvert site	Y	N	N	Michael Chadderton
28/6/19	Tuku Road Repair digout	Y	N	N	Bill Lind
12/7/19	Waitangi West Road	Y	N	N	Bill Lind
24/9/19	WWO Road water-tabling	Y	N	N	Bill Lind
23/10/19	Hawaiki Bridge	Y	N	N	Bill Lind
18/11/19	Nairn Bridge	Y	N	N	Bill Lind
11/12/19	Tuku Road trenching	Y	N	N	Bill Lind
24/1/20	North Road culvert install	Y	N	N	Michael Fulton
13/2/20	Sealed road overlay North road	Y	N	N	Bill Lind
2/3/20	Bridge repairs Te Awainanga	Y	N	N	Bill Lind
30/4/20	Clear slip material Wharf Road	Y	N	N	Bill Lind

### Stakeholder Complaints Register

Month	Council/ Public Complaint	Complaint	Repair Undertaken	Response Time
9/7/18	Public	Tuku Road Scour	Metalled and minor water table built	1 day
12/9/18	Public	Potholes North Road	Filled some potholes and dispatched grader same day	4hrs
27/9/18	Public	New water-tabling too deep	Passed to Stantec	1hr
10/10/18	Public	Gorse needs sprayed Te Mataarae Rd	Sprayed 25/10/18	10days
2/12/18	Public	Potholes North Road	Potholed	1 day
21/1/19	Public	Potholes/corrugations and dust on North Road	Replied to complaint. Grader already on road by the time complaint received	1 hr
28/2/19	Public	Gates on Te Mataarae Road hard to open	Staff sent to repair gates	1hr



Month	Council/ Public Complaint	Complaint	Repair Undertaken	Response Time
14/3/18	Public	Holes in North Road	Holes repaired	1day
28/5/19	Public	Diesel spill on Wharf Road	Signs erected and grit spread.	2hrs
25/6/19	Public	Potholes Port Hutt road	Potholes done (before complaint received)	0
17/10/19	Public	Wrong Rapid # installed	Numbers changed	2hrs
24/1/20	Public	Corrugations North Road	Graded	Part done before complaint recieved
18/3/20	Public	Potholes Te Matarae Road	Graded	Graded the following day
14/4/20	Public	Tuku Road in bad condition	Road inspected and no real issues that need addressed.	1day

## Public Relations & Community Involvement

Sponsored Festival fundraising.

## Innovation

Water table Material used for land contouring on farmland.

## Summary of Monthly Progress Claim by Work Category

	Apr-20	Separable Portion One - Roading			
Item	Work Category	Value for Month	Value YTD	Annual Budget	% of Annual Budget
1	P&G Other	\$81,413.23	\$957,220.22	\$805,782.09	118.79%
2	Routine Maintenance and Ops	\$57,734.33	\$613,219.18	\$1,273,716.65	48.14%
3	Pavement Renewals	\$0.00	\$484,876.18	\$389,340.50	124.54%
4	Sealed Road Resurfacing	\$0.00	\$555,483.16	\$108,129.00	513.72%
5	Drainage Renewals	\$0.00	\$117,441.22	\$119,480.00	98.29%
6	Bridge Renewals	\$0.00	\$282,359.64	\$60,000.00	470.60%
7	Traffic Services	\$481.84	\$27,885.75	\$13,485.75	206.78%
8	Minor Improvements	\$0.00	\$0.00	\$130,000.00	0.00%
9	Vegetation Control	\$5,408.41	\$54,084.10	\$19,968.75	270.84%
11	Dayworks	\$3,390.34	\$240,619.11	\$242,871.00	99.07%



	Total	\$148,428.15	\$3,333,188.56	\$3,162,773.74	105.39%
--	-------	--------------	----------------	----------------	---------

### 1. Miscellaneous

### 2. Traffic Counting

Extra counts completed. Started on 2020 programme.

### 3. Pitt Island

No progress

### 4. Wind Damage

Nil.

## Photos



WWO Rd



Te Awainanga



WWO Road



WVO Road



Tiki Tiki Sight Rail











## Appendix A: Minutes

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<p>Contract Chatham Islands Council 15/01 Road Operation and Maintenance Contract</p>
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## **4. Works & Services**

### **4.2 Fulton Hogan Water and Wastewater Operation Contract Report April 2020**

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<b>Date of meeting</b>	28 May 2020
<b>Agenda item number</b>	4.2
<b>Author/s</b>	Bill Lind – Fulton Hogan Contracts Manager

#### **Purpose**

To inform and update the Council on the Chatham Islands Water and Wastewater Operation programme.

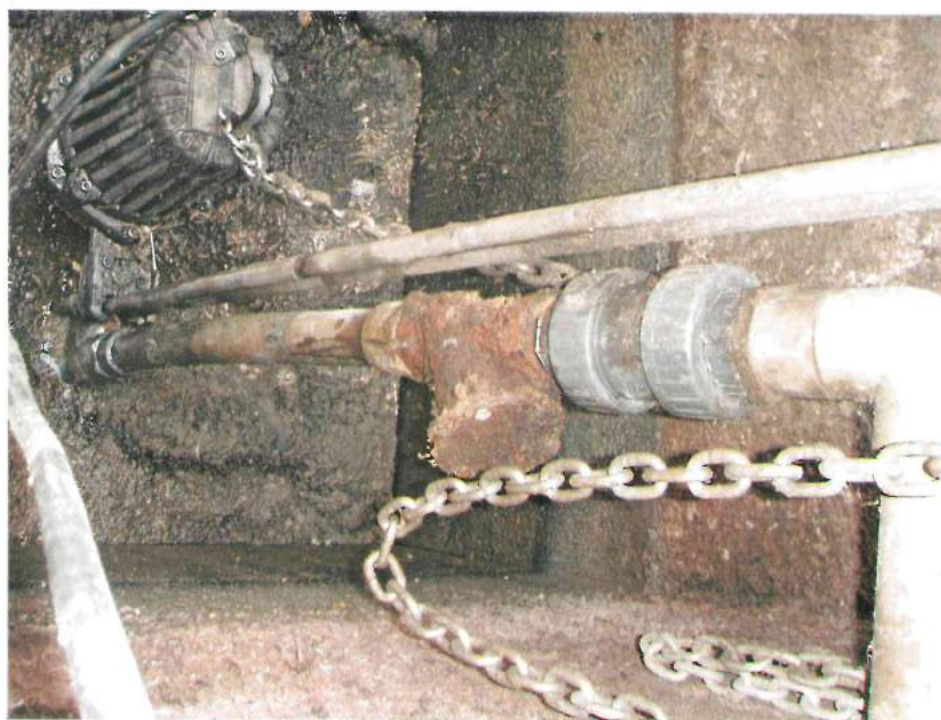
Attached is the April 2020 report from Fulton Hogan that will be presented by Bill Lind (Fulton Hogan Contract Manager).

#### **Recommendations**

**THAT the report be received.**



chatham islands council



WATER AND  
WASTEWATER  
OPERATION CONTRACT  
MONTHLY REPORT  
April 2020



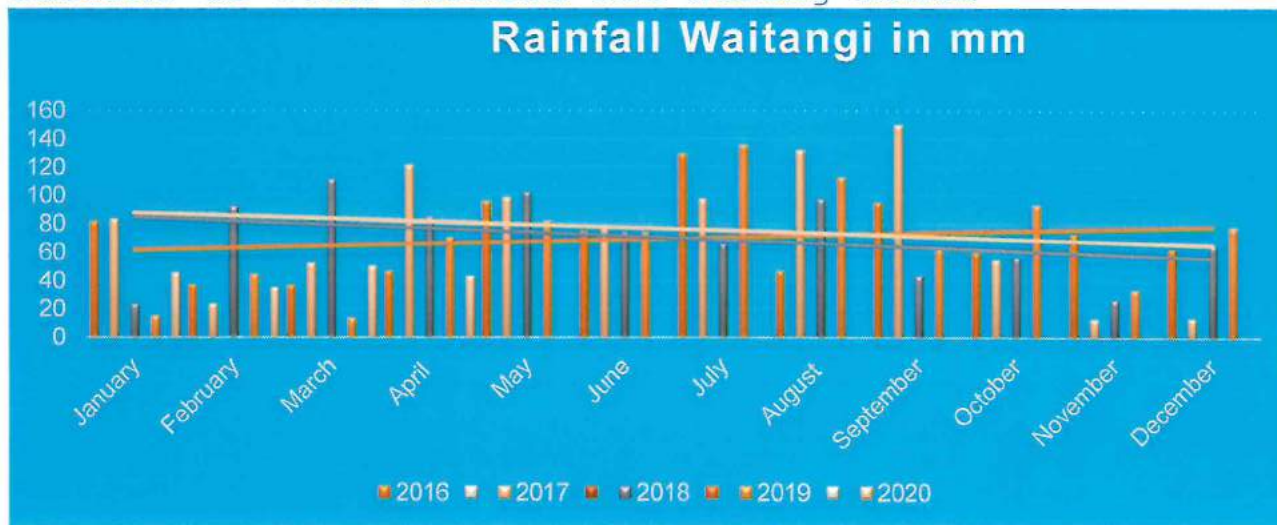
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## Work Summary

### Outline of work carried out during month



42.5mm rainfall recorded for April in the Waitangi yard.

### Water Supply Operation & Maintenance

Kaiangaroa still under a boil water notice. There have been issues around flights and lab testing availability, but now we are in level 3 we are hoping to resolve the issue first week of May. We have repaired a leak on Tuku Road. There have a couple of issues at Tiki Tiki with a minor leak at the bore, (repaired) a failed pressure gauge, (replaced) and a problem with one of the delivery pumps. New pump due to arrive first week of May.

### Water Treatment

Boil water notice to remain in place at Kaingaroa for the meantime. FAC's are being monitored and recorded daily in Waitangi as an extra level of security for this supply during lock down.

### Wastewater Treatment Plant at Waitangi

A new hour meter has been installed on the irrigation pump. A fault on the control cable between the Pump Station and the WWTP has been located and will be repaired next week. This cable controls the start up of the screen.

### Dayworks - Water

Extra FAC sampling. Water leak repair Tuku Road. New pressure gauge Tiki Tiki. Leak at borehead.

### Dayworks - Wastewater



New pump for main Pump station. Cable fault Pump Station to WWTP.  
New hour meter irrigation pump.

## Water and Wastewater Reticulation Network

Water leak repair that required a shutdown of the Waitangi scheme. All went well and the shutdown was only for around 90mins. Leak was the result of a faulty bronze casting of a Talbot on the 100mm main near the Council Office.

## Water and Wastewater Treatment Plant: Monitoring

Plant monitoring all going well.

## Summary of Monthly Progress Claim by Work Category

Apr-20		Separable Portion Two - Water and Wastewater			
Item	Work Category	Value for Month	Value YTD	Annual Budget	% of Annual Budget
13	Preliminary and General	\$2,178.47	\$43,834.78	\$49,614.04	90.21%
14	Water Supply Ops and Maint	\$922.32	\$10,093.99	\$20,067.84	50.30%
15	Water Treatment	\$2,947.89	\$42,540.96	\$39,801.86	106.88%
16	WWTP Waitangi	\$691.74	\$27,666.21	\$35,580.63	77.76%
17	Dayworks - Water	\$2,844.60	\$21,155.29	\$9,519.14	222.24%
18	Dayworks - Wastewater	\$10,006.79	\$25,218.16	\$7,090.55	355.66%
19	Water and Wastewater Reticulation	\$0.00	\$0.00	\$461.16	0.00%
20	Treatment Plant Monitoring	\$1,188.52	\$7,130.92	\$14,262.24	50.00%
	Total	\$20,780.33	\$182,394.39	\$176,397.46	103.92%

## Programmed Work for Following Month

Pump replacement at Tiki Tiki and main sewer pump station. Repair cable fault Hospital road.

## Schedule of Work



## Water Meter Report

See appendix

## Irrigation Dosing

Monitoring the performance of the field.

## Quality Assurance

No issues

## Site Safety Report

Date	Near Miss	Incident	Lost Time Injury	Plant Damage	Depot/Worksite Inspections
24/6/19	N	N	N	N	Site check at Kaingaroa WTP. No issues
3/7/19	N	N	N	N	Plant check and condition assessment @ WWTP. No problems.
29/8/19	N	N	N	N	Kaingaroa WTP and intake, no issues apparent.
19/9/19	N	N	N	N	Site visit TikiTiki. No problems identified.
22/10/19	N	N	N	N	Kaingaroa plant and intake condition assessment. No issues.
19/11/19	N	N	N	N	Filtec at Tiki Tiki Plant. All good
19/2/20	N	N	N	N	Steve Riley at WWTP no safety issues
20/3/20	N	N	N	N	Check and remove faulty pump @ main PS
29/4/20	N	N	N	N	Repaired water

leak Tuku Rd. No  
issues

### Environmental Non Compliance

One positive E-coli result detected at Kaingaroa. Boil water notice in force. Should be able to remove notice early May.

## Monthly Stocktake of Supplies

### General Supplies Stockpile - Month Ending Apr 20

	Stock Purchased	Stock End of Previous Month	Stock Used	Stock Remaining End of Month
Salt	60 bags	40 bags	30	70
Chlorine	40L	50 L	20	70

---

## PHOTOS

---



Corroded check valve at main pump station





Faulty pump in wet well

## **4. Works & Services**

### **4.3 Te One Pedestrian Crossing Improvement**

---

<b>Date of meeting</b>	28 May 2020
<b>Agenda item number</b>	4.3
<b>Author/s</b>	S Bosher, Stantec

#### **Purpose**

For Council to make a decision on options for the Te One Pedestrian Crossing.

#### **Recommendations**

**THAT Council supports Stantec's recommendation of Option 2**

#### **Background**

See report attached.

# Te One Pedestrian Crossing Improvement

*This report has been prepared for the benefit of Chatham Islands Council. No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person.*

Rev. No.	Date	Description	Prepared By	Checked By	Reviewed By	Approved By
0	20/05/2020	For Discussion	M Hoffmann	S Boshier	N Lister	N. Lister

## 1 Background

Safety concerns with the lack of a pedestrian crossing outside Te One school have been raised by the community. This is mainly to do with the combination of children crossing this very wide portion of North Road, from Te One School to the angled parking opposite, and the anecdotal lack of compliance with the posted speed limit through this section of Te One. The current posted speed limit on North Road is 60 km/h, reducing to 40 km/h approximately 400m north and 250m south of Te One School during the school start and end period, 8:25 – 9:00 AM and 2:25 – 3:15 PM respectively, on school days.

Stantec has investigated some potential pedestrian crossing improvements for the Te One School area, to compliment the footpath that has been constructed, and have developed three general options with associated variations attached to this memo.

## 2 Proposed Location

Stantec carried out a site visit during their September 2019 trip to assess the best location for the pedestrian crossing. In identifying the proposed location pedestrian desire lines, sight visibility, property accessway locations, existing carparks, and the ability to provide street lighting, were considered.

The proposed crossing location is at the Northern end of the school / Southern end of the angle parking outside the Church as shown in Figure 2-1 and Figure 2-2. An alternative location is slightly further South, on the southern side of the school and opposite private accessway, however this location is more difficult to provide street lighting at and decreases the available visibility to the south.

All three options at the proposed and alternative crossing location, require the removal of up to three of the existing car parking spaces.



Figure 2-1: Proposed Crossing Location – School Side





Figure 2-2: Proposed Crossing Location – Church Side

## 3 Proposed Treatments

Three options were developed and are briefly outlined, including any possible variations to each option. All options include new raised kerb buildouts and additional / modified signage and road markings to improve the safety of pedestrians. It must be noted that all existing drainage paths will be maintained.

### 3.1 Option 1 – Pedestrian Buildout Islands

Pedestrian buildout islands would be installed to reduce the distance required to cross the road and increase the inter-visibility between both pedestrians and motorists. This is achieved by promoting pedestrians out from behind any parked vehicles as per Figure 3-1.

An added benefit is the buildouts create a narrow point in the road, which would act to increase the side friction felt by drivers, resulting in a potential reduction in vehicle speeds.

This option creates an informal pedestrian crossing point, where the pedestrian does not have the right of way and drivers do not have to stop for pedestrians.

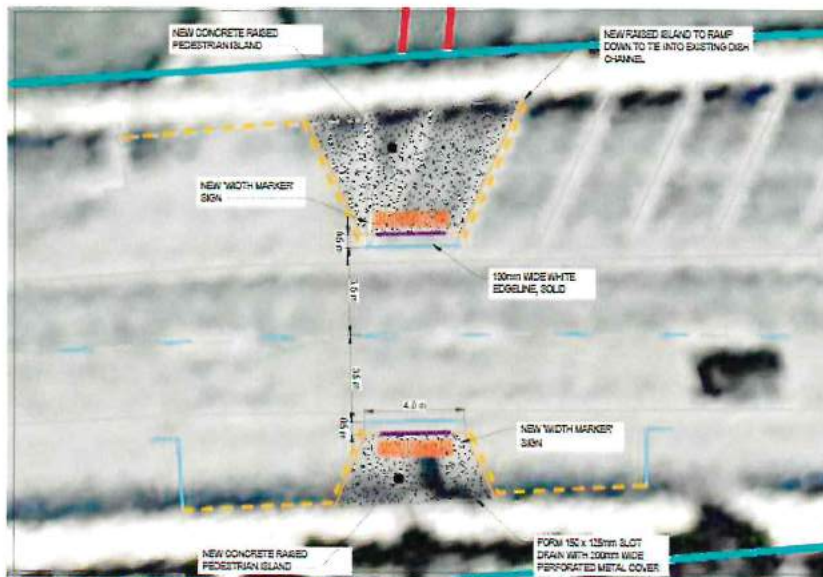


Figure 3-1: Pedestrian Buildout Island

#### 3.1.1 Variation

A possible variation would be the inclusion of a raised platform to upgrade the crossing to a "courtesy crossing". While pedestrians still do not have right of way, the change in road height across the platform increases the visibility of the crossing point and would result in a permanent reduction in speed through this section.

However, courtesy crossings are typically not well understood by drivers and pedestrians alike, with confusion over who has the right of way and the normal nuisance issues associated with speed bumps, noise of vehicles braking, followed by suspension compression / extension, and accelerating vehicles, are present. This can be problematic for nearby residents, as the effect of the noise continues well outside of school hours. However, traffic volumes on North Road are not high and traffic between dusk and dawn would be lower still.

## 3.2 Option 2 – Kea Crossing

A Kea Crossing is an intermediate option where a School Patrol is operated at an informal pedestrian crossing or courtesy crossing. The formal controls (school patrol “STOP” signs) require motorists to stop for pedestrians and are only in operation during the times when the School Patrol is active (typically at school drop-off and pick-up times). At all other times it operates as a normal informal crossing point or courtesy crossing.

Kea crossings are generally safer than an equivalent “zebra” crossing at a low to very low pedestrian demand location, due to the active controls in place during the periods of high demand.

This option would involve installing the same kerb buildouts as per Option 1 with the additional signage and marking package required to enable a formal School Patrol to operate, as shown in Figure 3-2.

A Kea Crossing requires the buy in and co-operation of the school, with the need for the crossing point to be actively operated by a supervising adult and two senior school age children.

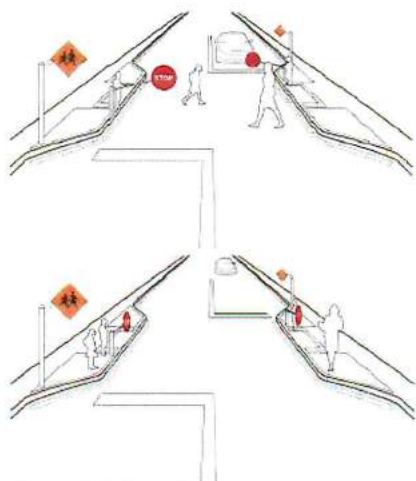
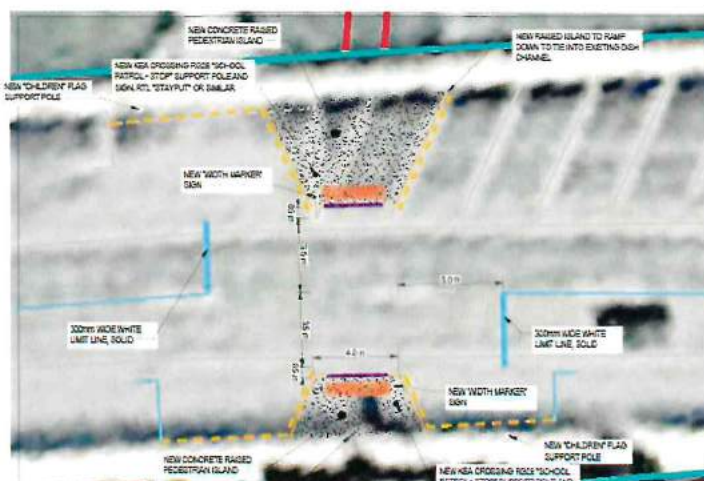


Figure 3-2: Kea Crossing



### 3.2.1 Variation

As per Option 1 a raised platform could also be added, to change the informal crossing point to a courtesy crossing outside active School Patrol hours, however this has the same caveat about the combination of raised platforms and informal crossing points.



### 3.3 Option 3 –Zebra Crossing

This option would involve installing similar kerb buildouts as per Option 1, plus the additional signage, markings and street lighting, to upgrade the crossing to a formal zebra crossing (some of which is displayed in Figure 3-3). With a zebra crossing the formal controls that require motorists to stop for pedestrians are always active during day and night. Therefore, to ensure visibility of pedestrians, the pedestrian crossing must be well lit during the hours of darkness. This would require the installation of two new street lights at this location.

Zebra crossings in locations such as this, with a normally low to very low pedestrian demand, can create a safety issue. Motorists who regularly drive through these crossings can become complacent and assume pedestrians will not be present. The safety issue arises when a pedestrian expects they can safely step out onto such a pedestrian crossing, and a motorist due to familiarity assumes no one will be using the crossing.

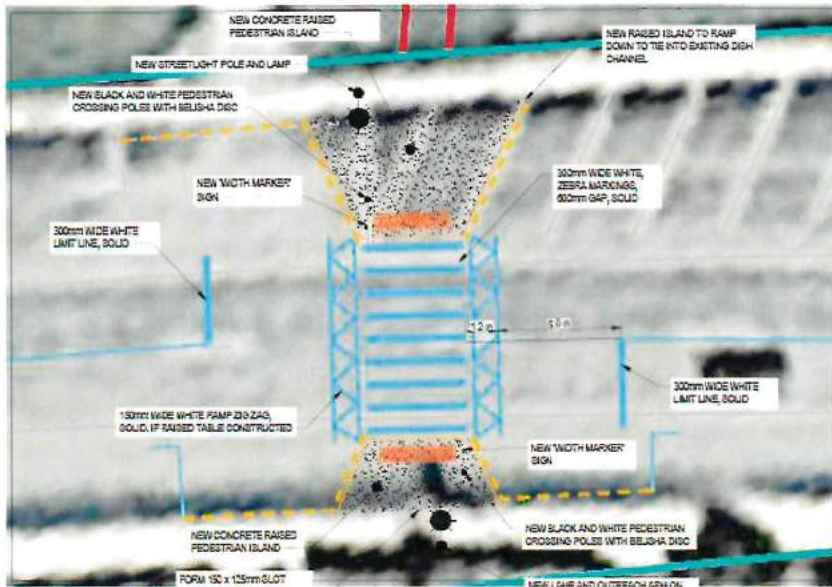


Figure 3-3: Zebra Crossing

#### 3.3.1 Variations

A variation of this option would also include a raised platform of the zebra crossing, to highlight the different purpose / pedestrian priority of this section of road and to make the zebra markings more readily visible. A raised platform in this situation does not have the same issues as a courtesy crossing, due to the right of way being clearly defined by the pedestrian zebra crossing.

A School Patrol can also be run on a pedestrian crossing, with the addition of the necessary school patrol signage set. For this to be an option buy-in from the school will be required to operate the school patrol.

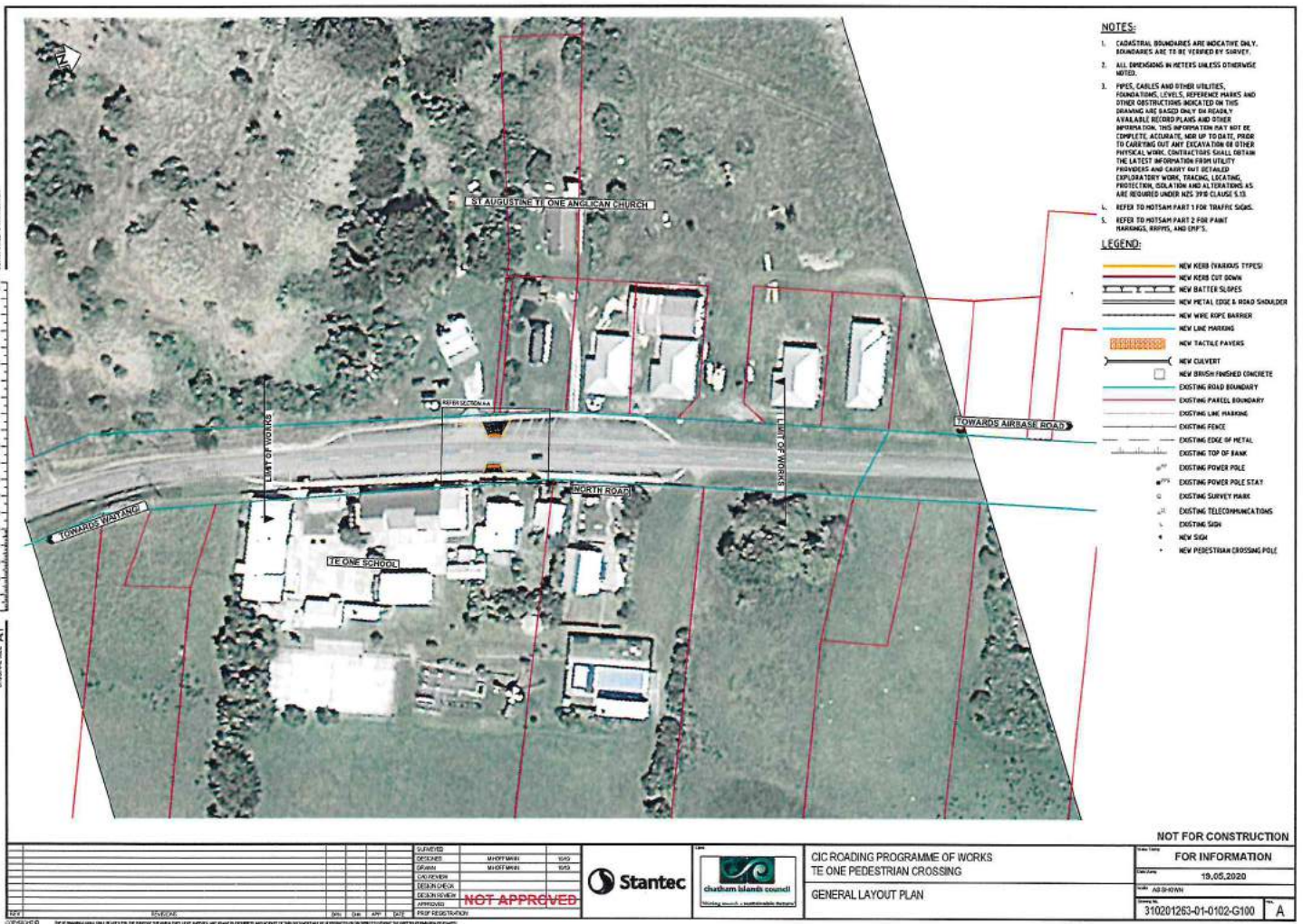
## 4 Recommendation

Option 2 – Kea Crossing without the raised platform is our preferred solution, so long as there is buy-in from the school and school community to operate the required school patrol. If there is no desire from the school to run a school patrol then Option 1 is the next recommendation.

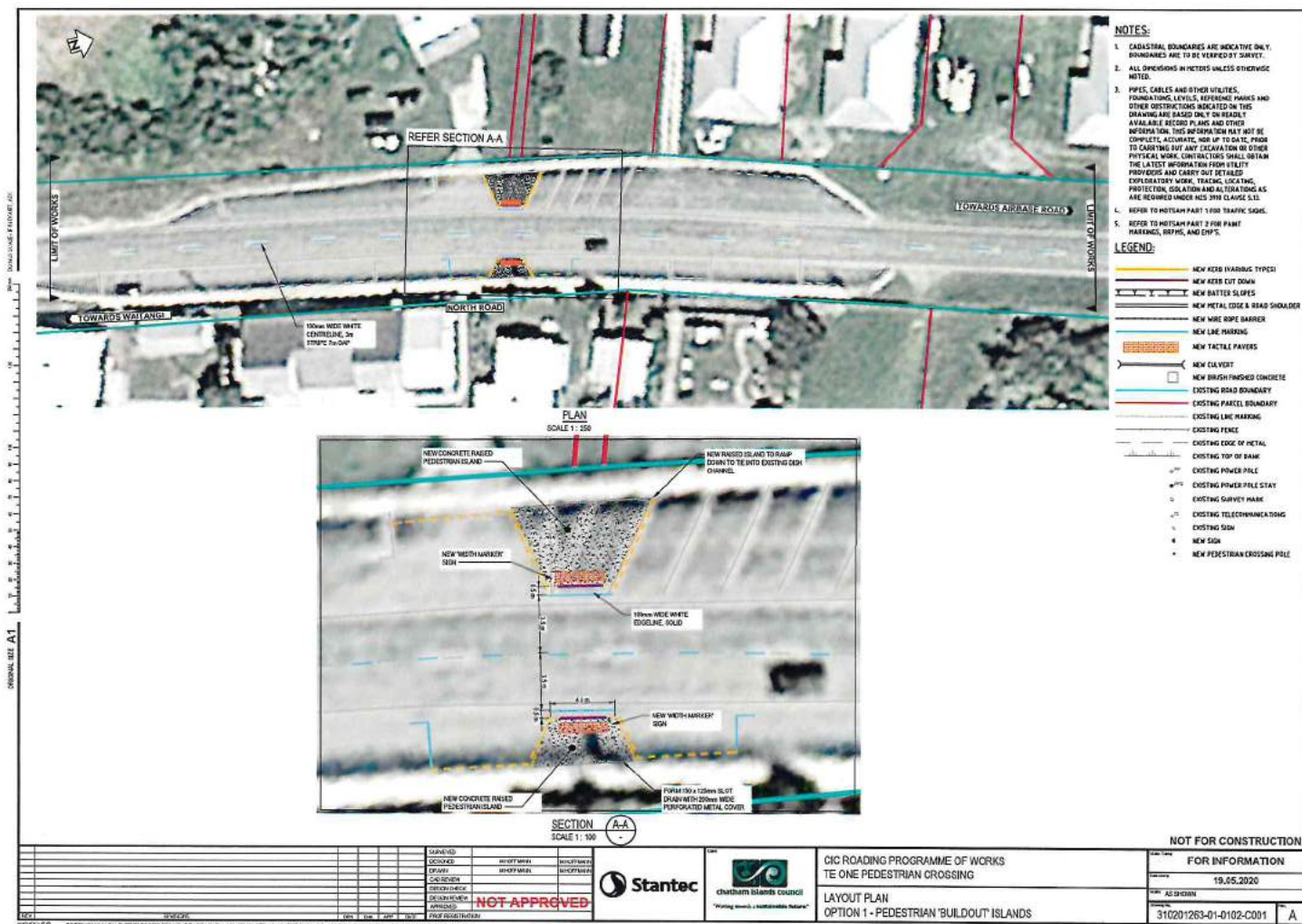
Note due to the similarities between the options, utilising the same buildout islands, the construction of any of the options will not prevent the upgrade or modification of the crossing point later on. Due to this, it is recommended consideration is given to including a buried power duct in the road, to allow the future extension of street lighting.

Stantec recommends that we proceed to detailed design of Option 2, with the view to permanently construct the kerb buildouts, signage and markings in the next construction season. Consultation with Te One School can also begin around the implementation of a School Patrol.

## Appendix A – Scheme Drawings

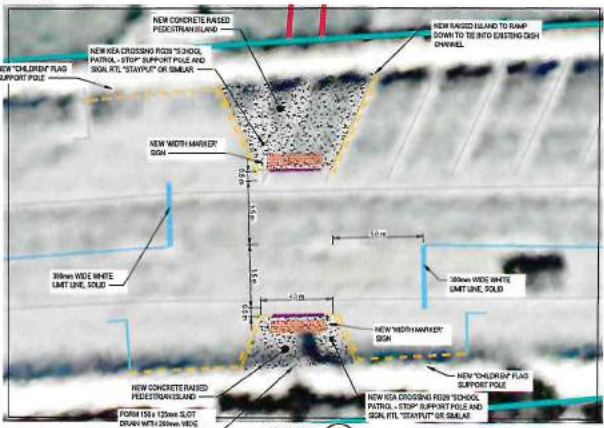
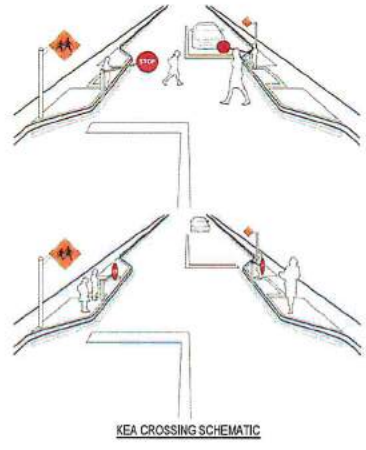








PLAN  
SCALE 1: 250



- NOTES:**
1. CADASTRAL BOUNDARIES ARE INDICATIVE ONLY. BOUNDARIES ARE TO BE VERIFIED BY SURVEY.
  2. ALL DIMENSIONS IN METERS UNLESS OTHERWISE NOTED.
  3. PIPES, CABLES AND OTHER UTILITIES, FOUNDATIONS, LEVELS, NOTED MARKS AND OTHER OBSTRUCTIONS INDICATED ON THIS DRAWING ARE BASED ONLY ON RECENTLY AVAILABLE RECORD PLANS AND OTHER INFORMATION. THIS INFORMATION MAY NOT BE COMPLETELY ACCURATE, AND UP TO DATE, PRIOR TO CARRYING OUT ANY EXCAVATION OR OTHER PHYSICAL WORK, CONTRACTORS SHALL OBTAIN THE LATEST INFORMATION FROM UTILITY PROVIDERS AND CARRY OUT DETAILED EXPLORATORY WORK, TRACING, LOCATING, PROTECTING, ISOLATING AND ALTERNATING AS ARE REQUIRED UNDER RULE 370 CLAUSE 5.5.
  4. REFER TO NOTES PART 1 FOR TRAFFIC SIGNS.
  5. REFER TO NOTES PART 2 FOR PAINT MARKINGS, SIGNS, AND (TP'S).
- LEGEND:**
- NEW KERB (VARIOUS TYPES)
  - NEW KERB CUT DOWN
  - NEW BATTER SLOPES
  - NEW METAL EDGE & ROAD SHOULDER
  - NEW VARIOUS TYPE BARRIER
  - NEW LINE MARKING
  - NEW TACTILE PAVEMENT
  - NEW CULVERT
  - NEW BRUSH-FINISHED CONCRETE
  - EXISTING ROAD BOUNDARY
  - EXISTING PARCEL BOUNDARY
  - EXISTING LINE MARKING
  - EXISTING FENCE
  - EXISTING EDGE OF PAVEMENT
  - EXISTING TOP OF BANK
  - EXISTING POWER POLE STAY
  - EXISTING SURVEY MARK
  - EXISTING TELECOMMUNICATIONS
  - EXISTING SIGN
  - NEW SIGN
  - NEW PEDESTRIAN CROSSING POLE

NO.	DESCRIPTION	DATE	BY	CHECKED BY	APPROVED BY
1	DESIGN	19/05/2020	AS SHOWN		
2	REVISION				
3	REVISION				
4	REVISION				
5	REVISION				
6	REVISION				
7	REVISION				
8	REVISION				
9	REVISION				
10	REVISION				

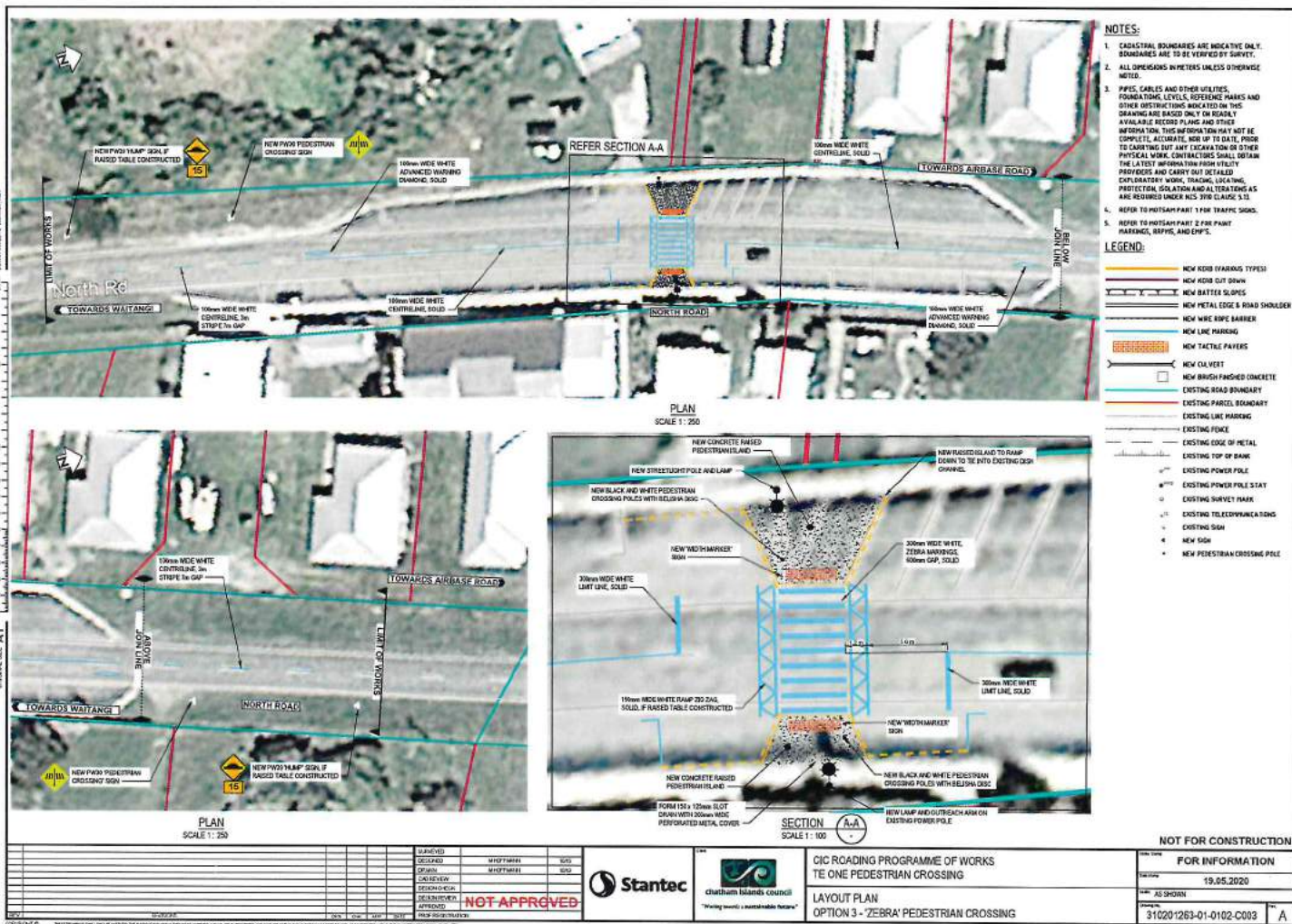
SURVEYED	DESIGNED	DRAWN	CHECKED	APPROVED
19/05/2020	19/05/2020	19/05/2020	19/05/2020	19/05/2020
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CIC ROADING PROGRAMME OF WORKS  
TE ONE PEDESTRIAN CROSSING  
LAYOUT PLAN  
OPTION 2 - KEA CROSSING

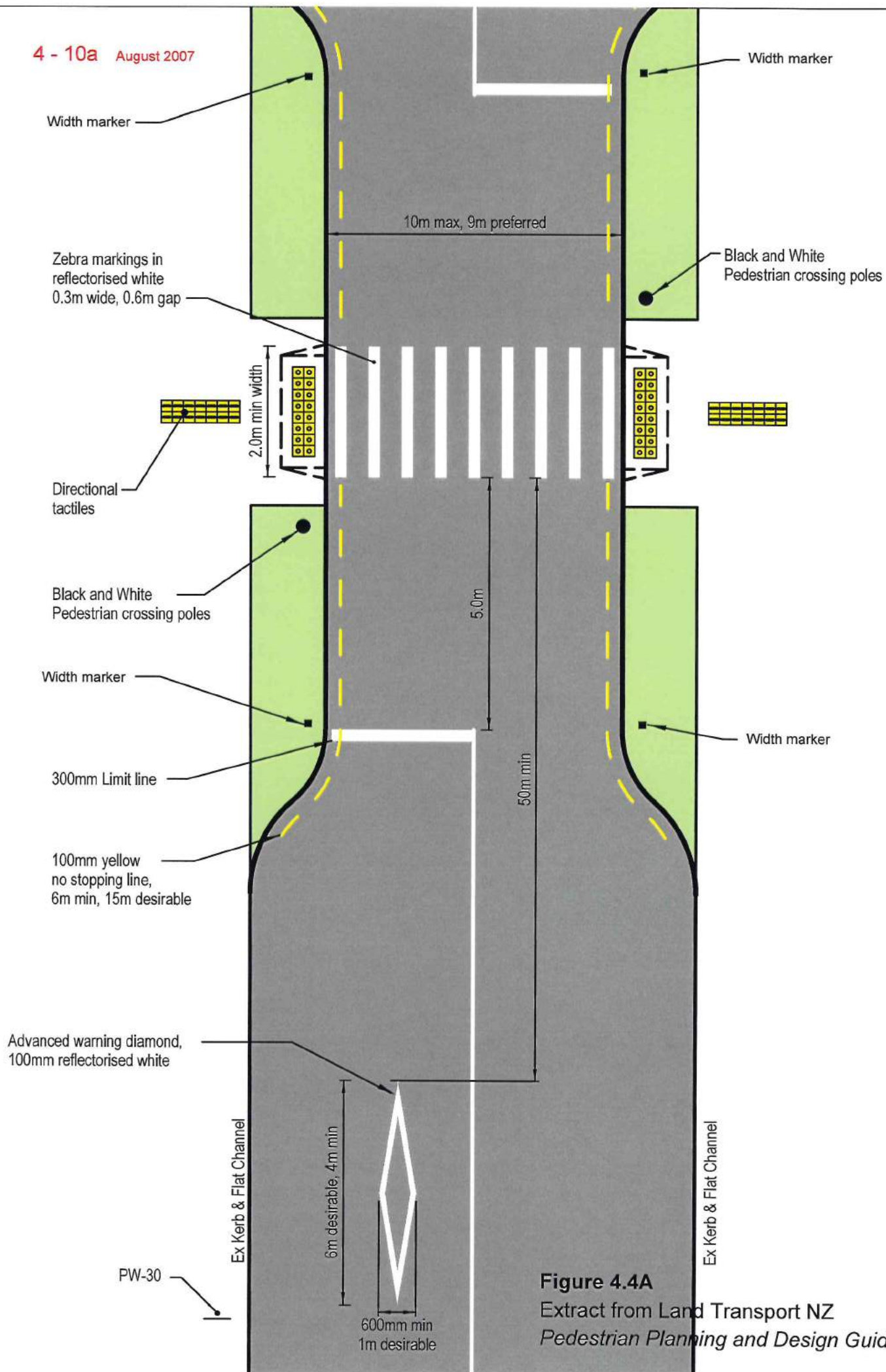
NOT FOR CONSTRUCTION	
FOR INFORMATION	
DATE	19.05.2020
BY	AS SHOWN
PROJECT NO.	310201263-01-0102-C002
SCALE	A







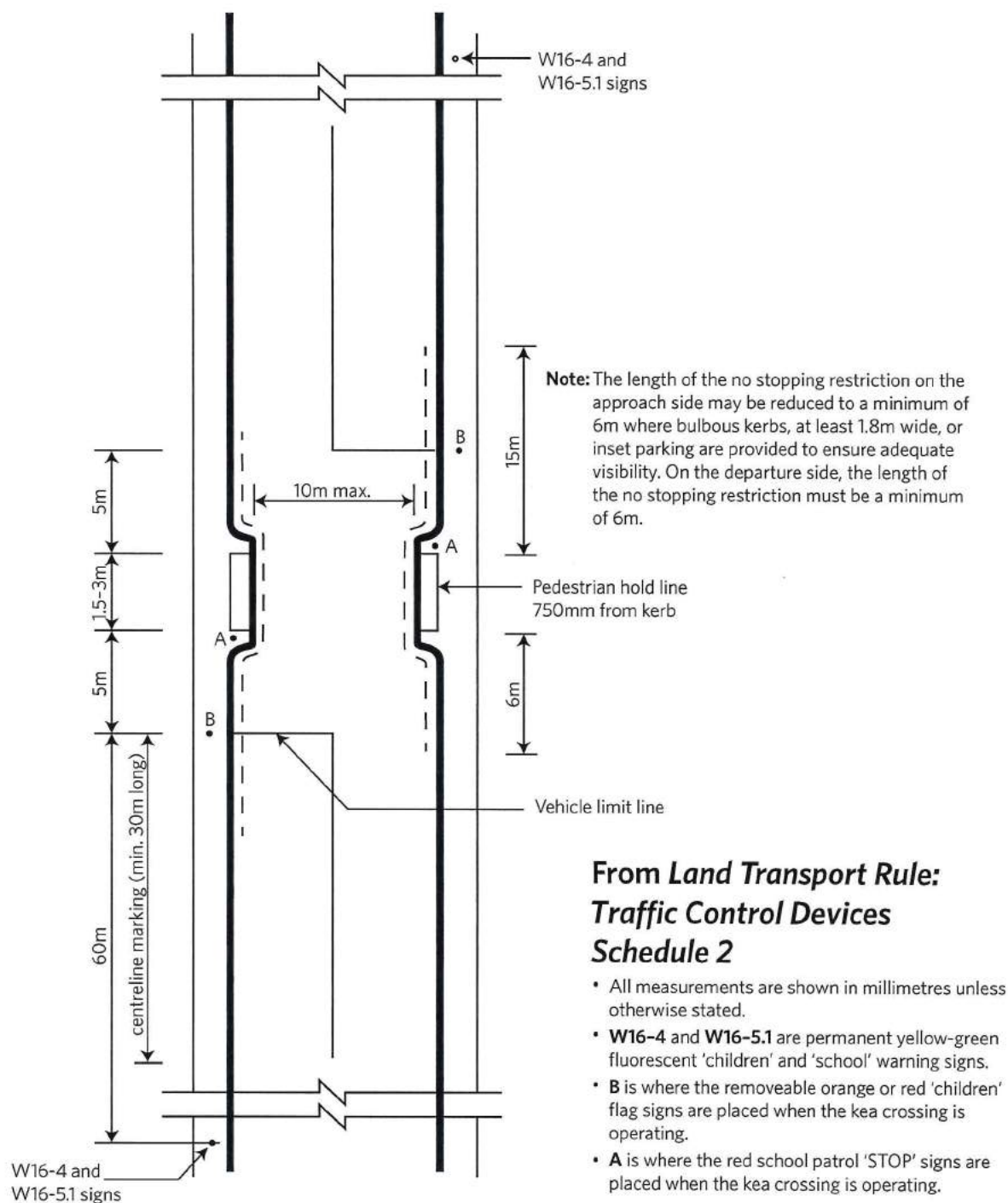
## Appendix B – Typical Layout Drawings



**Figure 4.4A**  
Extract from Land Transport NZ  
*Pedestrian Planning and Design Guide*

## 8.2 KEA CROSSING SPECIFICATIONS

This diagram is also available online at [education.nzta.govt.nz](http://education.nzta.govt.nz).





## Appendix C – School Patrol Supplier Brochure



## Stayput School Patrol System

(For School Patrol Crossings & Kea Crossings)

RTL's Stayput School Patrol System is the new go-to system for School Patrol Crossings & Kea Crossings. Our Stayput School Patrol System completely eliminates all the hassles associated with managing patrols by improving the whole process - from start to finish.

Install a new Stayput School Patrol System or easily retrofit an existing RTL School Patrol System to save time, money and provide a safer environment for the staff, parents and children.

\* **Improve Safety**

\* **Save Time - Eliminate the Hassle**

\* **Fully approved by NZTA**



### Features & Benefits



RTL's Stayput School Patrol System is the only system where the equipment does not need to be carried out each day to be set up for daily patrols. It simply stays out and is securely locked away into the top cover. All you need to carry out to each patrol is the key to unlock it!

- Provides a safer environment for school patrol teams
- Our Stayput stays put - at the crossing ready to go!
- NZTA-approved for Pedestrian School Crossings & Kea Crossings
- Re-enforces education & safety in schools
- Customize the top cover with the school logo or mantra
- Install a full new system or easily retrofit your existing set up\*

**For more information, please give us a call and talk to one of our team**

\*Retrofit Option only applies to existing School Patrol set ups that were originally manufactured by RTL.



## Product Information

### Why use the Stayput System?

By installing the Stayput School Patrol System, Schools can:

- Substantially reduce the down time either side of the actual patrol times - no more transporting equipment to and from the crossing, allowing more time in the classroom.
- Reduce the amount of valuable funding spent on repairing damaged school patrol equipment.
- Further improve safety, community spirit and ownership by customising the top cover with a school logo or mantra and adding a safety message "LOOK both ways and LISTEN before you cross the road".



### Stayput School Patrol System - Approved for use at Kea Crossings

In 2019, one of the major changes to the updated TCD Manual was in Section 8.4(8), approving the use of our Stayput School Patrol at Kea Crossings. When used at a Kea Crossing, the Stayput System is installed onto standard 76mm White Poles and the School Patrol Arms are white only (without the black vinyl).



### How does a Stayput School Patrol System work?

The RG28 School Patrol sign is stored in the top cover and is secured with the padlock through the middle bracket.

To deploy, the supervisor simply unlocks the padlock, lowers the RG28 into place and secures it into place with the padlock through the bottom bracket.

After the patrol is finished just lift the RG28 School Patrol sign back up and lock it into the top cover.

Stored



Deployed



(please turn over)



## **4. Works & Services**

### **4.4 Monitoring of Dust Concentrations from Chathams Unsealed Roads and Assessment of Silica Content**

---

<b>Date of meeting</b>	28 May 2020
<b>Agenda item number</b>	4.4
<b>Author/s</b>	Paul Heveldt, Ph D, Stantec

#### **Purpose**

Report to Council on the monitoring of dust concentrations from unsealed roads on the Chatham Islands and the assessment of Silica content, and consideration of the recommendations within the report.

#### **Recommendations**

**THAT Council receives the report.**

#### **Background**

See report attached.

14 May 2020

Chatham Islands Council  
PO Box 24  
WAITANGI, CHATHAM ISLANDS 8942

**Attention:** Owen Pickles, Chief Executive Officer

Dear Owen

### **Monitoring of Dust Concentrations from Chathams Unsealed Roads and Assessment of Silica Content**

An issue recently elevated to Council's attentions was residents' concerns about inhalation of dust arising from the (generally) unsealed roads on the Island, which are surfaced with local crushed rock that mainly consists of schists (some road sections are also surfaced with basalt-based materials). Schist rocks are characterised by having a significant silicate content and typically contain quartz veins. In turn, quartz is known to often contain a proportion of free silica. The concern raised was these unsealed road surface materials might break down over time, and with the regular passage of vehicles, produce dusts containing free silica.

The inhalation of silica particles of a small enough size to enter the inner parts of the lungs has been associated with diseases associated with decreased lung function and, if exposures are very high and occur over prolonged periods of years, irreversible changes can take place that reduce life expectancy and in extreme cases, may lead to the onset of the lung disease silicosis. Silicosis is typically associated with a lifetime of work as a hard rock miner or stone mason but it does illustrate the possible outcome at the extreme limits of excessive exposure.

Stantec was therefore requested by Council to assess the reality and extent of this risk and to specifically answer the question of whether or not free silica in particles of respirable size (i.e. breathable dust) and/or at concentrations that cause concern may be being released from the unsealed roads on the Chathams.

The Christchurch-based company K2 Environmental was sub-contracted by Stantec to provide and set up the specialised monitoring equipment required at two representative locations to:

- Sample the air adjacent to Island roads to determine the respirable fraction of emitted dust, and
- Determine the percentage of free silica (if any) in the respirable dust.

The sampling equipment was established on the two sites approximately 100m offset from North Road. One site was adjacent to a schist-based unsealed surface and the other to a basalt-based surface. The process was to trap all of the emitted dust reaching the sampling equipment and to determine the proportion of particles of respirable size within each sample. Subsequent analysis of the trapped dust was carried out back at K2 Environmental's laboratory in Christchurch to determine the percentage of free silica within the trapped dust.

#### *Summary of results obtained*

The following summarises the results obtained by K2 Environmental. The full report has also been provided to Council.

Monitoring was undertaken to determine how much of the dust was respirable and how much of that respirable fraction was free silica. The results for the two sites (schist-surface road and basalt-surface road respectively) were:

	Schist-Based Surface	Basalt-Based Surface
Average respirable dust concentration	47	45
NZ Guideline level for respirable dust	300	
Average free silica content of respirable dust	3.1	3.1
Adapted NZ Guideline level for free silica (10% of the NZ Workplace Exposure Standard)	5	

Note: Units of measurement are micrograms/cubic metre of air, where a microgram is one millionth of a gram

It is important to note the monitoring work by K2 Environmental has some limitations; thus, the monitoring work took place over a limited period of seven days at two specific sites. These were selected based on one being a schist-based surface and the other a basalt-based surface. Also, the actual monitoring sites were set back from the road to the extent that was considered representative of the frontage of nominal residences. There was thus an element of artificiality about the monitoring regime although, given the time and physical constraints involved, this was inevitable.

The conclusion reached by K2 Environmental as expressed in the Executive Summary of their report was that:

The measured concentrations of respirable dust at each monitoring site "are not expected to cause health effects associated with silica dust exposure". Stantec endorses this conclusion.

#### Conclusions

Stantec's further assessment of the K2 Environmental monitoring results is that:

- There are relatively significant levels of dust particulates of respirable size being emitted from unsealed road surfaces on the Chathams. These levels are however not such as to exceed health-based guidelines, being around 15% of the guideline concentration.
- There appears from this monitoring to be no significant difference between the concentrations of respirable dust arising from schist-based road surfaces as compared to basalt-based surfaces.
- The average free silica concentrations in the samples of respirable dust are comfortably below the established health-based guideline level.

Notwithstanding these findings, the levels of emitted dust from unsealed road surfaces do cause nuisance to residents depending on climatic conditions of wind strength and direction and extent of rainfall. The number of vehicle movements is also clearly relevant to the extent of dust emissions.

It is recommended the hierarchy of controls could follow the below options, which are ranked in order of most practical / least cost to least practical / most cost:

- Establish shelter belts of trees or other roadside plantings near residential properties to provide turbulence in air flows to disperse and dilute evolved dust
- Lower speed limits over unsealed roads adjacent to residences
- If and when conditions are extreme with respect to dust emissions, initiate a programme of water sprinkler application to those stretches of unsealed roads immediately adjacent to residences
- Have a committed programme to seal roads adjacent to residential properties

Yours sincerely



Paul Heveldt, Ph D  
National Environmental Science Specialist  
**Stantec New Zealand**



# K2

## Environmental Ltd

*Specialists in Air Quality Measurement*

# Environmental Crystalline Silica Assessment



## Stantec New Zealand *Chatham Islands*

U0564 • 15 April 2020 • Issue 1



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outside the scope  
of the laboratory's  
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**Job Number:** U0564  
**Site Work Personnel:** Mike Creed (BSc)  
**Site Work Date(s):** 23<sup>rd</sup> -29<sup>th</sup> January 2020  
**Report Submitted:** 15 April 2020  
**Address:** North Road, Chatham Islands  
**Prepared for Company:** Stantec New Zealand  
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Written by:	Reviewed by:	Key Technical Person:
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Issue	Date	Description of Changes	Written by	Reviewed by	Approved by
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## 1 EXECUTIVE SUMMARY

Measured particulate concentrations are not expected to cause health effects associated with silica dust exposure

### 1.1 Results Summary

Area	Parameter	Summary
North Site (Schist)	Respirable Particulate	Reference level was not exceeded
	Crystalline Silica	Reference level was not exceeded
South Site (Basalt)	Respirable Particulate	Reference level was not exceeded
	Crystalline Silica	Reference level was not exceeded

### 1.2 Monitoring Information

In January 2020, ambient air sampling was conducted at two sites on North Road, Chatham Islands, on behalf of Stantec New Zealand, located at 6 Hazeldean Road, Christchurch 8024.

Monitoring was performed following residents' concerns about the inhalation of particulate arising from the unsealed roads, surfaced with local crushed rock consisting of schists and basalt

### 1.3 Recommendations

Based on the findings of this assessment, the following recommendations have been made:

Hierarchy	Possible Actions
<b>Eliminate</b>	Where feasible, seal roads adjacent to residential properties
<b>Substitute</b>	<ul style="list-style-type: none"> <li>• Increase use of materials with lower crystalline silica content on the surface of roads</li> <li>• Alternatively, increase use of materials likely to generate lower dust levels</li> </ul>
<b>Isolate</b>	Investigate establishing shelter belts, fences or roadside plantings near residential properties to reduce particulate moving into neighbouring properties
<b>Engineering Controls</b>	<ul style="list-style-type: none"> <li>• Consider wetting materials as needed in dry conditions</li> <li>• Where reasonably practicable, keep materials damp or wet when contractors are working on roads</li> </ul>
<b>Administration Controls</b>	<ul style="list-style-type: none"> <li>• Lower speed limits outside of houses or through built up areas</li> <li>• Avoid carrying out road maintenance in windy or dusty conditions</li> <li>• Identify other possible sources of crystalline silica, (e.g. sand) and manage appropriately</li> </ul>
<b>Personal Protective Equipment</b>	<ul style="list-style-type: none"> <li>• In dry conditions, contractors working on roads are advised to wear Respiratory Protective Equipment (RPE)</li> <li>• A minimum of a half face respirator with P2/P3 particulate filters is recommended</li> <li>• Respirators should be fit tested and wearers clean-shaven. K2 provides fit testing services</li> </ul>

By managing the hazard now, this reduces the risk of exceeding the guidance levels due to variations in activity, seasonal or weather variations.



## **2 INTRODUCTION**

### **2.1 Purpose of Sampling**

Monitoring was carried out to assess if respirable crystalline silica concentrations pose health risks to the public and adjacent residents.

### **2.2 Site Overview**

The following is a brief overview of the site. Further details can be found in section 6.2 on page 18.

- Stantec New Zealand are a multinational consultancy business, specialising in civil construction
- Their Christchurch office is based in Addington
- They provide consulting services to the Chatham Islands Council for roading and engineering
- The major concern is crystalline silica in respirable dust on unsealed roads
- Residents living near unsealed, public roads have expressed concern about road dust coming off these roads
- Roads are used by both private and commercial vehicles

### **2.3 Monitoring Program**

- K2 Environmental Ltd performed monitoring on the 23<sup>rd</sup> January 2020, then returned to Christchurch
- Monitoring was performed from 24<sup>th</sup> to 29<sup>th</sup> January by Fulton Hogan staff on the Chatham Islands
- Site work was conducted at two sites along North Road
- The following monitoring was carried out:
  - Static monitors for measuring respirable particulate and respirable crystalline silica were used at two sites over seven days
  - Sites were selected by the client based on their adjacent road materials

## 2.4 Disclaimer

Sampling was performed for a limited period and the results only present a snapshot of the conditions at the time of sampling

- Results are commonly variable even if work is regular and consistent
- Variation in results arises from variation in; work activities, seasons, work behaviours, control methods and environmental conditions
- Due to this variation, results measured on a single day may not reflect results on other days
- Even samples from multiple days may not reflect the true variation in results that may occur over the long term
- While a high result may indicate there is a hazard that needs to be managed, a low result or a non-detect does not necessarily mean a complete absence of a hazard

## 2.5 Employer Requirements

### 2.5.1 *Health and Safety at Work Act 2015*

#### **Part 2 Health and safety duties, Subpart 1—Key principles relating to duties, Management of risks**

- (1) A duty imposed on a person by or under this Act requires the person*
  - (a) to eliminate risks to health and safety, so far as is reasonably practicable*
  - (b) if it is not reasonably practicable to eliminate risks to health and safety, to minimise those risks so far as is reasonably practicable*
- (2) A person must comply with subsection (1) to the extent to which the person has, or would reasonably be expected to have, the ability to influence and control the matter to which the risks relate*

### 2.5.2 *Distribution of results and confidentiality*

According to part 3 of the General Risk and Workplace Management Regulations 2016<sup>1</sup>

A record of exposure monitoring results must be made available to any person at the workplace/residential area who may be, or may have been, exposed to the health hazard

### 2.5.3 *What this means for contractors*

- Where hazards exist contractors must manage the hazard to eliminate or minimise to as low as reasonably practicable
- Exposure standards are a limit not a target
  - The target is as low as reasonably practicable
  - If results are under a limit but can be lowered further, this should be carried out

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<sup>1</sup> <http://www.legislation.govt.nz/regulation/public/2016/0013/latest/DLM6727337.html>

### 3 METHODOLOGY

#### 3.1 Assessment criteria

The New Zealand national environmental standards for ambient air quality were set in 2004 for only five contaminants, including particulate matter as PM10

- A blanket monitoring of PM10 is carried out by regional councils
- However, this is not enough when a more specific contaminant such as crystalline silica dust is suspected to be present locally
- Crystalline silica (silicon oxides) is common in a variety of different natural minerals such as schist, gneiss, sand and clay

Crystalline silica is currently in the focus of epidemiologic research as a growing body of evidence demonstrates irreversible damage to lungs resulting in incurable fatal condition when silica dust is inhaled.

- Being majorly an occupational hazard, an ambient silica standard has not been established in New Zealand
- The NZS 4303:1990 standard states:
  - *"For contaminants where standards or guidelines have not been established, it has been customary to assume as a first guide that a concentration of 1/10 TVL<sup>2</sup> would not produce complaints in a non-industrial population in residential, office, school or other similar environments"*
  - A 10% of the New Zealand exposure standard is 5 µg/m<sup>3</sup>
  - This is consistent with the cREL<sup>3</sup> of 3 µg/m<sup>3</sup> set by California Office of Environmental Health Hazard Assessment (OEHHA), one of the most advanced environmental agencies
- The limit for the OEHHA is an annual average, whereas the 10 % of the exposure standard should be considered a shorter-term limit. It is expected that results over a short term will be greater than results over a long term
- Crystalline silica is often reported along with respirable dust concentration

#### 3.2 Static Monitoring Description

- It is not always feasible to measure people's exposure with personal sampling devices
- Instead, static monitors placed in close proximity to the dust source were used
- Please note, these do NOT represent the exposure that a person would receive

---

<sup>2</sup> TVL – Threshold Limit Value. The New Zealand's most comprehensive list of TVL is Workplace Exposure Standards and Biological Exposure Indices

<sup>3</sup> cREL (Chronic Reference Exposure Level) - concentrations or dose at or below which adverse health effects are not likely to occur



### 3.3 Respirable Particulate

Respirable particulate consists of particles that can penetrate and deposit in the lower bronchioles and alveolar region of the lungs. Respirable particulates have an average size of 4 microns

Standards for respirable particulate are used predominantly for workplaces. The monitoring performed is not a workplace. Standards that can provide guide on the significance of the measured respirable dust are below.

Environmental Standard – Ambient Air		Concentration
PM10 (24 hour mean)	World Health Organization Guidelines (2005)	50 µg/m <sup>3</sup>
	NZ Ministry for the Environment National Environmental Standard for Ambient Air	50 µg/m <sup>3</sup>
PM10	NZ Ministry guideline for nuisance effects	150 µg/m <sup>3</sup>
Respirable crystalline silica	Californian EPA <sup>4</sup>	3 µg/m <sup>3</sup>
	10 % of the New Zealand workplace exposure standard	5 µg/m <sup>3</sup>
Office Air Quality		
PM10 (24 hour mean)	ASHRAE Standard 62 - 2007	Not exceeding 50 µg/m <sup>3</sup>
	US Green building Council	50 µg/m <sup>3</sup>
	Green building Council- Health care - 2009	20 µg/m <sup>3</sup>
	Sustainable coastlines	30 µg/m <sup>3</sup>
Respirable Dust	10 % of the workplace exposure standard	300 µg/m <sup>3</sup>

### 3.4 Location of Samplers

Monitors were placed at two sites along North Road selected by the client, based on adjacent road materials

- Road material at the north site was comprised of schist
- Road material at the south site was comprised of basalt

### 3.5 Respirable Crystalline Silica

- Only respirable fraction of dust is responsible for adverse silica health effects
- Crystalline silica was analysed from the respirable particulate filters

<sup>4</sup> cREL (Chronic Reference Exposure Level) - concentrations or dose at or below which adverse health effects are not likely to occur. California Office of Environmental Health Hazard Assessment (OEHHA)

## 4 MEASUREMENT RESULTS

### 4.1 Respirable Particulate Results

Table 1 North Site Respirable Particulate Results







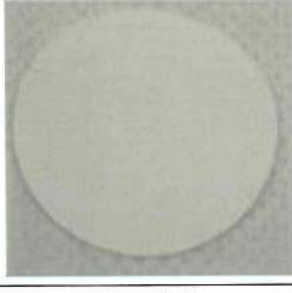


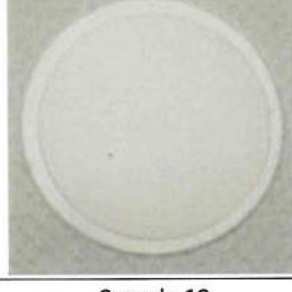
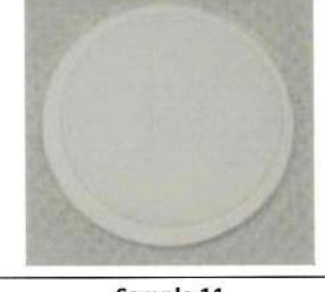

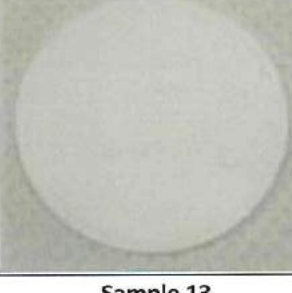

Sample Number	Wind Direction	Sample Date and Time		Concentration ( $\mu\text{g}/\text{m}^3$ )
		Start	Finish	
1	W	23/1/20 08:20	23/1/20 17:19	62
2	NW	23/1/20 17:24	24/1/20 09:10	76
3	W	24/1/20 09:14	24/1/20 16:58	57
4	W	24/1/20 17:02	25/1/20 07:25	39
5	SW	25/1/20 07:29	25/1/20 16:49	<43
6	SW	25/1/20 16:50	26/1/20 07:56	<43
7	W	26/1/20 07:58	26/1/20 16:07	<26
8	W	26/1/20 16:08	27/1/20 08:07	<49
9	N	27/1/20 08:10	27/1/20 16:38	<25
10	NW	27/1/20 16:40	28/1/20 08:00	<48
11	NW	28/1/20 08:02	28/1/20 16:31	<26
12	NW	28/1/20 16:33	29/1/20 08:18	<48
13	NW	29/1/20 08:20	29/1/20 16:26	<25
14	NW	29/1/20 16:27	30/1/20 08:36	<83

Table 2 South Site Respirable Particulate Results


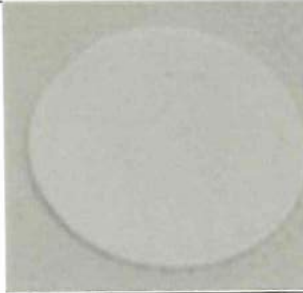




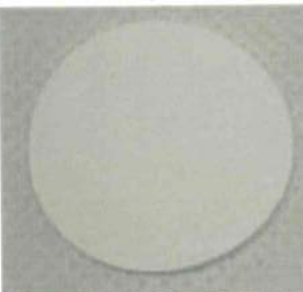
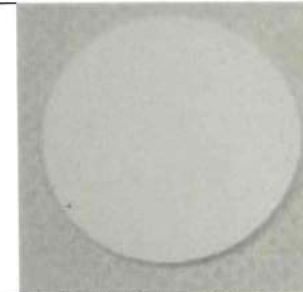

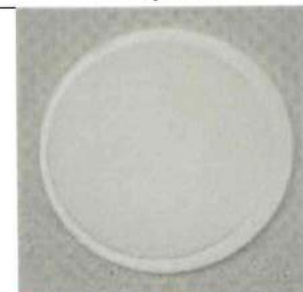


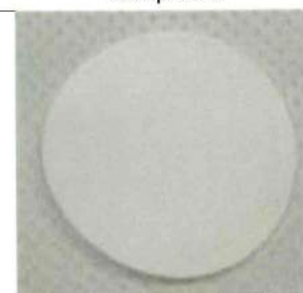
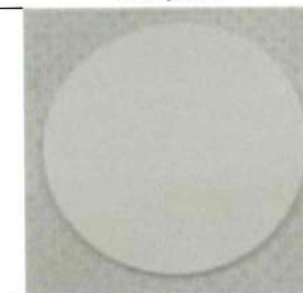
Sample Number	Wind Direction	Sample Date and Time		Concentration ( $\mu\text{g}/\text{m}^3$ )
		Start	Finish	
15	W	23/1/20 08:49	23/1/20 17:06	94
16	NW	23/1/20 17:10	24/1/20 08:58	30
17	W	24/1/20 09:00	24/1/20 16:43	<51
18	W	24/1/20 16:46	25/1/20 07:35	<26
19	SW	25/1/20 07:38	25/1/20 16:40	<44
20	SW	25/1/20 16:43	26/1/20 07:45	<27
21	W	26/1/20 07:49	26/1/20 15:57	<49
22	W	26/1/20 16:08	27/1/20 08:00	<26
23	N	27/1/20 08:02	27/1/20 16:30	76
24	NW	27/1/20 16:32	28/1/20 07:51	<26
25	NW	28/1/20 07:53	28/1/20 16:24	<48
26	NW	28/1/20 16:26	29/1/20 08:08	<25
27	NW	29/1/20 08:10	29/1/20 16:17	<82
28	NW	29/1/20 16:19	30/1/20 08:30	<24



Table 3 North Site Respirable Particulate Filter Photos

		
Sample 1	Sample 2	Sample 3
		
Sample 4	Sample 5	Sample 6
		
Sample 7	Sample 8	Sample 9
		
Sample 10	Sample 11	Sample 12
		
Sample 13	Sample 14	

**Table 4 South Site Respirable Particulate Filter Photos**

		
<b>Sample 15</b>	<b>Sample 16</b>	<b>Sample 17</b>
		
<b>Sample 18</b>	<b>Sample 19</b>	<b>Sample 20</b>
		
<b>Sample 21</b>	<b>Sample 22</b>	<b>Sample 23</b>
		
<b>Sample 24</b>	<b>Sample 25</b>	<b>Sample 26</b>
		
<b>Sample 27</b>	<b>Sample 28</b>	

## 4.2 Crystalline Silica Results

Table 5 North Site Respirable Crystalline Silica Results

Sample Number	Wind Direction	Sample Date and Time		Concentration ( $\mu\text{g}/\text{m}^3$ )
		Start	Finish	
1	W	23/1/20 08:20	23/1/20 17:19	<3.7
2	NW	23/1/20 17:24	24/1/20 09:10	<2.7
3	W	24/1/20 09:14	24/1/20 16:58	<4.3
4	W	24/1/20 17:02	25/1/20 07:25	<2.3
5	SW	25/1/20 07:29	25/1/20 16:49	<3.6
6	SW	25/1/20 16:50	26/1/20 07:56	<2.1
7	W	26/1/20 07:58	26/1/20 16:07	<4.1
8	W	26/1/20 16:08	27/1/20 08:07	<2.1
9	N	27/1/20 08:10	27/1/20 16:38	<4
10	NW	27/1/20 16:40	28/1/20 08:00	<2.2
11	NW	28/1/20 08:02	28/1/20 16:31	<4
12	NW	28/1/20 16:33	29/1/20 08:18	<2.1
13	NW	29/1/20 08:20	29/1/20 16:26	<4.1
14	NW	29/1/20 16:27	30/1/20 08:36	<2



Table 6 South Site Respirable Crystalline Silica Results

Sample Number	Wind Direction	Sample Date and Time		Concentration ( $\mu\text{g}/\text{m}^3$ )
		Start	Finish	
15	W	23/1/20 08:49	23/1/20 17:06	<4
16	NW	23/1/20 17:10	24/1/20 08:58	<2.2
17	W	24/1/20 09:00	24/1/20 16:43	<4.3
18	W	24/1/20 16:46	25/1/20 07:35	<2.2
19	SW	25/1/20 07:38	25/1/20 16:40	<3.7
20	SW	25/1/20 16:43	26/1/20 07:45	<2.2
21	W	26/1/20 07:49	26/1/20 15:57	<4.1
22	W	26/1/20 16:08	27/1/20 08:00	<2.1
23	N	27/1/20 08:02	27/1/20 16:30	<3.9
24	NW	27/1/20 16:32	28/1/20 07:51	3
25	NW	28/1/20 07:53	28/1/20 16:24	<4
26	NW	28/1/20 16:26	29/1/20 08:08	<2.1
27	NW	29/1/20 08:10	29/1/20 16:17	<4.1
28	NW	29/1/20 16:19	30/1/20 08:30	<2

### 4.3 Interpretation of Results

- The monitors used were placed in static locations
  - These do NOT represent the exposure that a person would receive
  - While these results have been compared to a fraction of the exposure limits, the results should be used as an indication of the levels only

#### Results

- Over the 7-day monitoring period there was
  - One respirable crystalline silica result above the detection limit
    - This equalled the OEHHA annual respirable crystalline silica result
  - Seven Respirable particulate above the detection limit
    - A number of the results exceeded guidelines results for offices (this could be applied to homes as well)
  - The results are going to be affected by the local conditions. Wind direction and wind speed have potential to change the effect at the sample site. Low wind speed is expected to report higher results
- The monitoring methods used were workplace assessment tools. There are some limitations with this method
  - Sample duration times resulted in some detection limits that were the RCS detection limits. Ideally longer sample times will give lower detection limits
  - The concentrations are at the limit of the sampling method
  - The measured concentrations suggest they are not expected to affect health but are expected to have a nuisance effect
- Effect of dust and particulate
  - Clean air is considered to be a basic requirement of human health and wellbeing
  - It is usually expected the source of indoor dust comes from within the house. Properties that are exposed to dust from the road can be expected to have dust from the road
  - It is expected dust will be present inside properties near the sampling site
    - It will reduce the general cleanliness of a nearby dwelling (as a guide see dust collected on sampling filters)
    - Airborne dust is highly visible and it is obvious when present
  - While this survey is focused on the human health aspects, it is important to consider other environmental issues related to dust generation, such as:
    - Nuisance effects of dust for example on washing, in water collection systems.
    - Effects on vegetation, including farming crops
    - Neighbourhood amenity qualities and comfort
    - Visibility on roads

*Advised Actions*

- The person in control of an undertaking or business for working on the roads needs to know what the risk to health is from exposure to respirable crystalline silica
  - If contractors working on roads in dry, windy conditions cause more disturbance than usual the potential to be exposed to respirable crystalline silica is high
  - In the first instance it is advised to wear Respiratory Protective Equipment (RPE) as a precaution
  - A minimum of a half face respirator with P2/P3 particulate filters is recommended
  - During these periods, residents should be advised to keep windows and doors closed, until other mitigation controls can be put in place (see section 1.3)
- A full assessment of the risk to health is advised for conditions when the risk is greatest
- Further information is provided by on the Worksafe<sup>5</sup> website

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<sup>5</sup> <https://worksafe.govt.nz/topic-and-industry/dust/silica-dust-in-the-workplace/>



## 5 HEALTH RISKS OF IDENTIFIED CHEMICAL AGENTS

### 5.1 Particulate

#### 5.1.1 Background Information

- Inhalable dust consists of airborne particles of 100 microns or less that can enter the body through the nose and mouth
- Whereas, respirable dust consists of particles of around 4 microns in diameter that reach the smallest vessels in the lungs

#### 5.1.2 Short Term Health Effects

Short-term effects of elevated dust levels include headaches, eye and nose irritation, sore throat, aggravated asthma, fatigue and nausea.

#### 5.1.3 Long Term Health Effects

- Long-term effects are much more serious. Some effects include cancer, irreversible scarring of the lungs and chronic obstructive pulmonary disease (COPD)
- COPD occurs after long term exposure to substances that irritate and damage the lungs, making it very difficult to breathe

#### 5.1.4 Health Risk Management

- Efficient extraction systems whilst working around processes that produce airborne substances is advised
- The need for adequate PPE, such as half face P2 respirator is advised to lower exposure
- The World Health Organisation has a guideline value of  $25\mu\text{g}/\text{m}^3$  for  $\text{PM}_{2.5}$  for a 24-hour period
  - $\text{PM}_{2.5}$  is defined as particles less than 2.5 microns in diameter
  - This comprises a proportion of total respirable dust

## **5.2 Respirable Crystalline Silica**

### **5.2.1 Short Term Health Effects**

The short-term health effects of RCS are similar to that of respirable particulate

- Irritated respiratory system
- Cause serious breathing-related problems
- Aggravation of existing respiratory problems
- Trigger allergic reactions and asthma attacks in vulnerable groups

### **5.2.2 Long Term Health Effects**

- Silicosis-chronic, acute or accelerated
- Tuberculosis
- Lung cancer
- Chronic Obstructive Pulmonary Disease (COPD)
- Kidney disease

### **5.2.3 Health Risk Management**

- Use water and wet working methods to keep RCS out of the air
- Clean equipment and work areas with water or vacuum with a high-efficiency particulate air filter (HEPA); do not sweep or use compressed air
- Local Exhaust Ventilation (LEV) to extract dust close to the source
- Limit the time of exposure to workers in dusty areas
- Remove footwear before entering the office

## 6 INFORMATION

### 6.1 Methodology

- A summary of the methods used can be found in APPENDIX C
- Interpretations and opinions expressed in this report are outside of the scope of accreditation
- The raw data from all monitoring can be provided upon request

#### 6.1.1 *Sample Analysis*

- The analysis for respirable particulate was carried out at the K2 Environmental Laboratory
- The analysis for crystalline silica was subcontracted to an accredited laboratory

#### 6.1.2 *Accredited Methods*

K2 Environmental Ltd. is accredited for the Respirable Particulate method (AS 2985:2009) used in this report.

#### 6.1.3 *Non-Accredited Methods*

K2 Environmental Ltd. is not accredited for the Respirable Crystalline Silica method used in this report.

Full calibration certificates are available upon request



## **6.2 Site Notes**

### **6.2.1 Overview**

- Stantec New Zealand are an infrastructure consultancy company based in Addington, Christchurch; they are a branch of the multinational Stantec Company
- K2 Environmental was contracted to assess respirable dust levels and crystalline silica content of unsealed roads on the Chatham Islands
- A small percentage of roads on the island (less than 10%) are sealed due to cost
- The remaining roads are surfaced with materials such as schist and basalt
- Residents have expressed concern over dust exposure
- Roading contractors may also be exposed to respirable particulate and crystalline silica

### **6.2.2 Schist**

- For cost and supply purposes, schist is used on the majority of roads in Chatham Islands
- Being exposed aggregate, dust is released during wind or when driven upon at speed
- This has been mitigated by using basalt outside residential properties
- There is an 80km/h open road speed limit on the island, while it is lower in built up areas
- Results suggest wetting of schist roads has less dust suppression effect than on basalt roads

### **6.2.3 Basalt**

- Basalt is used in areas adjacent to houses or buildings as its crystalline silica content is lower
- Results suggest its dust is also more suppressed by wetting than schist
- Residents may still be exposed to high respirable dust levels in dry conditions
- Stantec staff reported that basalt stones and pebbles can be more easily thrown from the road by vehicles than schist, resulting in higher required maintenance
- Conditions on the island were relatively dry while K2 staff were on the island; this is reflected in high respirable dust levels in the early stages of monitoring at both sites
- Rain in the later stages of testing (28-29<sup>th</sup> January), however preceded overall lower respirable dust levels at the site where basalt was the adjacent road material

### 6.3 Site Photos



Picture 1 North Sampling Site, Schist



Picture 2 South Sampling Site, Basalt



Picture 3 Fulton Hogan Crushing Plant



Picture 4 Schist Roding, Port Hutt Road

#### 6.4 Site Map



Figure 1 Site Map



## **APPENDIX A    BACKGROUND INFORMATION**

## A.1. Particulate

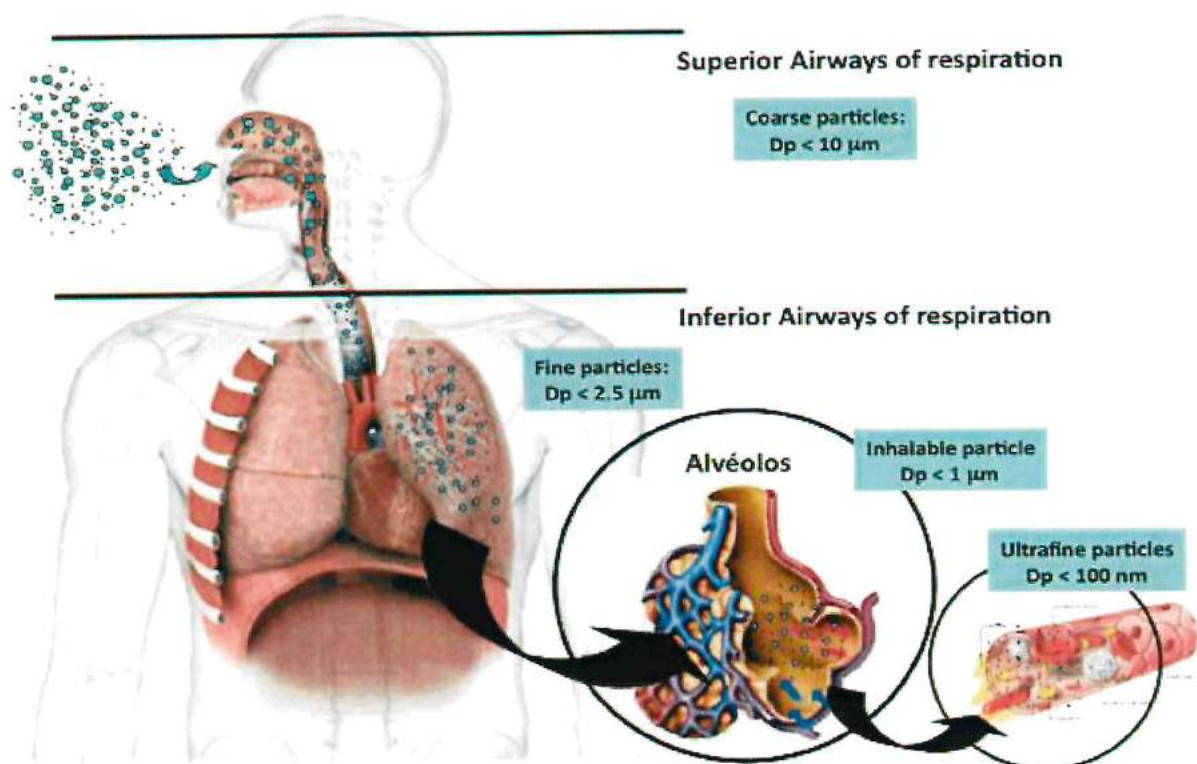
Environmental Standard – Ambient Air		Concentration
PM <sub>10</sub> (24 hour mean)	World Health Organization Guidelines (2005)	50 µg/m <sup>3</sup>
	NZ Ministry for the Environment National Environmental Standard for Ambient Air	50 µg/m <sup>3</sup>
<b>Offices</b>		
PM <sub>10</sub> (24 hour mean)	ASHRAE Standard 62 - 2007	Not exceeding 50 µg/m <sup>3</sup>
	US Green building Council	50 µg/m <sup>3</sup>
	Green building Council- Health care - 2009	20 µg/m <sup>3</sup>
	Sustainable coastlines	30 µg/m <sup>3</sup>

## Examples of Typical Particulate

Indoor situation	Measured Particle fraction	Empirical values of typical concentration ranges in Germany (µg/m³)	Concentration depends in particular on
Presence and general activities of persons			
Dwellings	PM <sub>10</sub>	30-80	Number of persons present in the room and respective activity
	PM <sub>2.5</sub>	10-40	
Schools, day nurseries	PM <sub>10</sub>	40-150	
	PM <sub>2.5</sub>	10-40	
Offices	PM <sub>10</sub>	20-60	
	PM <sub>2.5</sub>	10-40	
Specific user activities			
Smoking	PM <sub>10</sub>	50-500	Number/quantity
	PM <sub>2.5</sub>	20-100	
Using a vacuum cleaner	PM <sub>10</sub>	30-150	Degree of pollution, filtration performance
	PM <sub>2.5</sub>	10-40	
Cooking/preparing hot water	PM <sub>10</sub>	40-100	Duration and intensity
Stove/fireplace	PM <sub>10</sub>	40-200	Fireplace/stove construction, heating material, chimney
	PM <sub>2.5</sub>	20-100	

### Dust/Particulate Types

- Inhalable dust consists of airborne particles of average size of 100 microns that can enter the body through the nose and mouth
- Thoracic dust is made up of particles less than 10 microns in diameter that can reach the lungs
- Respirable dust consists of particles of an average size of 4 microns in diameter that reaches the smallest vessels in the lungs





## **A.2. Respirable Crystalline Silica Dust (RCS)**

Silica is a natural substance found in

- asphalt, road dust
- concrete, cement, sand, clay
- bricks, grout, mortar
- fibre cement board
- rocks, coal dust
- stone (including artificial or engineered stone found in composite kitchen benchtops)

### **How is RCS created?**

If a material contains crystalline silica work done on it can create respirable dust. Some examples of work that creates airborne dust are detailed below

- cutting and grinding
- sanding and polishing
- demolition of buildings

Respirable particles have an average size of 10 µm. The human eye can see at best 40µm particles. Respirable particles are invisible to the human eye. It is possible a person is inhaling these particles and does not know it.

### **What is the effect of Inhalation of respirable crystalline silica (RCS)?**

The risk to health is getting silicosis. Silicosis is a progressive and deadly disease that causes Fibrosis of the lungs. RCS is known to cause cancer.

### **Who is at risk?**

Workers in the following industries are expected to be at risk:

- Concrete drilling, cutting, grinding, fettling, mixing (builders, electricians)
- Construction-concrete, stone, bricks, mortar, fibre (handling dry shovelling)
- Sand blasting ,quarrying, mining
- Roothing
- Foundries (that use sand)
- Manufacturing of concrete, bricks and tiles
- kitchen benchtop manufacturing (natural and engineered stone), finishing and fitting

### Health risks

Crystalline silica is an aggressive, lung damaging dust.

- In order for the crystalline dust particles to reach the deepest parts of the lung where they have the most potential to do damage, they must be respirable
- Dust particles with an average diameter of 4µm are considered respirable particles
- The toxic form of this dust is respirable crystalline silica or RCS and
- There are a number of health conditions that are caused by exposure to RCS

### Silicosis

Silicosis is a disabling, irreversible and progressive condition in which healthy lungs becomes replaced with areas of nodular pulmonary fibrosis.

**There is no cure, but this disease is 100% preventable.**

As the disease progresses, symptoms may include:

- Shortness of breath
- Severe cough
- Weakness
- Fever
- Weight loss
- Night sweats
- Chest pains
- Respiratory failure

As the disease progresses over time, these symptoms can become worse. People with Silicosis may also be at risk of more severe mycobacterial or fungal lung infections.

### Chronic silicosis

This is the most common form of silicosis, this usually occurs after 10 to 20 years of moderate to low exposures.

### Acute silicosis

Develops from the inhalation of high concentrations of RCS over a short period (7 months to 5 years). Symptoms of acute silicosis, may develop shortly after exposure to high concentrations of RCS.

### Accelerated silicosis

Results from the inhalation of very high concentrations of silica dust over a period typically in the order of 5 to 10 years. Although accelerated silicosis develops in a pattern similar to that of simple silicosis, the time from initial exposure to the onset of disease is shorter and the progression to complicated silicosis is more rapid.

**Tuberculosis**

Pulmonary tuberculosis (TB), is more likely to occur in people who have been exposed to RCS.

Silica particles, cannot be engulfed by the macrophages. When the macrophages try to engulf the silica particles the macrophages are damaged or killed. These dead cells accumulate and form nodules of fibrous tissue, which gradually enlarge to form fibrotic masses.

Reduced numbers of macrophages reduces the body's capacity for anti-bacterial defence within the lung.

**Lung Cancer**

Exposure to RCS has been shown to increase the rate of lung Cancer. RCS is classified by the International Agency for Research on Cancer (IARC) as a group 1 carcinogen, when inhaled in the form of [quartz](#) or [cristobalite](#) from occupational sources.

**Once silicosis has been diagnosed, the risk of lung cancer increases.**

**COPD**

Chronic obstructive pulmonary disease (COPD) including (bronchitis and emphysema). The most common cause of these diseases is smoking.

These conditions are characterised by widespread destruction of the gas-exchange tissues of the lung, symptoms cause shortness of breath, where exhaling is difficult. These illnesses are commonly confused with asthma.

Exposures to RCS and other environmental pollutions also contributes to the likelihood of getting this disease.

**Pneumonia**

Silicosis also predisposes a person to pneumonia, this is caused by an infection in the lung tissue, often caused by inhalation of foreign particles. The most common causes of Pneumonia are the bacterial species of *Streptococcus* and *Mycoplasma*.

**Other diseases**

Renal disease and immune system diseases have been implicated in exposure to RCS. As have arthritis and heart disease.



## **APPENDIX B   GLOSSARY OF TERMS**

**B.1. Exposure Standard**

An exposure standard represents an airborne concentration of a particular substance in the workers breathing zone, exposure to which, according to current knowledge, should not cause adverse health effects nor cause undue discomfort to nearly all workers.

Compliance with the designated value does not, however, guarantee protection from discomfort or possible ill-health outcomes for all workers. The range of individual susceptibility is wide and it is possible that workers will experience discomfort or develop occupational illness from exposure to substances at levels below the exposure standards.

**B.2. Action Limit**

It is good occupational hygiene practice to reduce the levels of airborne contaminants when the exposure level is greater than 25% of the recommended standard. This minimises the risk of exceeding the guidance level, due to variations in work activities, seasonal and weather activities.

**B.3. Workplace Exposure Standard – Time Weighted Average (WES-TWA)**

The time weighted average exposure standard designed to protect the worker from the effects of long-term exposure.

This is based on an eight-hour working day and a 40 hour working week.

**B.4. Workplace Exposure Standard – Short Term Exposure Limit (WES-STEL)**

This is the maximum concentration to which workers can be exposed for a short period of time (15 minutes). This may only occur up to four times throughout the day with at least one hour between exposures. It is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents.

This is **not** an alternative to WES – TWA; both the short term and long-term average exposures apply.

## **APPENDIX C    SAMPLING METHODS**



### C.1. Respirable Crystalline Silica

The method used to sample airborne dust containing respirable crystalline silica is based on:

- AS 2985 (2009) *Workplace atmospheres – Method for sampling and gravimetric determination of respirable dust.*

***The cyclone is attached to a sampling pump worn by the person being monitored (personal sampling) or placed in a static position with the pump for (area monitoring).***

As defined by- AS 2985 (2004), respirable dust is the proportion of airborne particulate matter which, can penetrate the unciliated air ways of the lung.

Airborne crystalline silica is collected using a size-selective cyclone sampler.

The cyclone with filter cassette is clipped within a worker's breathing zone.

The sampling head is attached to a calibrated personal sample pump with a timer, this is usually clipped to a belt around the waist.

The pump pulls air through the cyclone the larger non-respirable size particles in the airstream are removed via centrifugal motion and fall into the grit pot.

The smaller respirable particles are pulled into the cassette and collect on the pre-weighed filter.

At the end of the test the pump calibration is re-checked, and data recorded. This enables the calculation of the volume of air sampled.

The filter is reweighed for gravimetric determination of the respirable dust.

The filter is then sent to an accredited laboratory to determine silica concentrations.



The following method is used to measure the respirable dust collected for RSC determination: NIOSH 7500 – Silica Crystalline by X-Ray diffraction. Sample is analysed on the filter.

## **APPENDIX D   LAB REPORTS**

## D.1. Report 1



## Certificate of Analysis



## Test Results

Sample Type		Silica			
Sample ID	Filter Number	Sample Details	Pre-Weight (g)	Post-Weight (g)	Particulate Weight (mg)
U0564-1	AC5152	Schist – North 23/01/2020	0.00620	0.00628	0.08
U0564-2	AC5108	Basalt – South 23/01/2020	0.00696	0.00708	0.12
U0564-3	AC5106	Schist – North 23/01/2020	0.00706	0.00720	0.14
U0564-4	AC5113	Basalt – South 23/01/2020	0.00596	0.00603	0.07
U0564-5	AC5100	Basalt – South 24/01/2020	0.00664	0.00665	<0.05
U0564-6	AC5041	Schist – North 24/01/2020	0.00684	0.00691	0.07
U0564-7	AC5109	Basalt – South 24/01/2020	0.00728	0.00729	<0.05
U0564-8	AC5101	Schist – North 24/01/2020	0.00654	0.00663	0.09
U0564-9	AC5104	Basalt – South 25/01/2020	0.00712	0.00708	<0.05
U0564-10	AC5137	Schist – North 25/01/2020	0.00716	0.00712	<0.05
U0564-11	AC5034	Basalt – South 25/01/2020	0.00600	0.00598	<0.05
U0564-12	AC5141	Schist – North 25/01/2020	0.00725	0.00714	<0.05
U0564-13	AC5044	Basalt – South 26/01/2020	0.00640	0.00639	<0.05
U0564-14	AC5040	Schist – North 26/01/2020	0.00647	0.00645	<0.05
U0564-15	AC5136	Basalt – South 26/01/2020	0.00742	0.00743	<0.05
U0564-16	AC5154	Schist – North 26/01/2020	0.00710	0.00716	0.05
U0564-17	AC5103	Basalt – South 27/01/2020	0.00707	0.00717	0.10
U0564-18	AC5105	Schist – North 27/01/2020	0.00705	0.00704	<0.05
U0564-19	AC51553	Basalt – South 27/01/2020	0.00721	0.00719	<0.05
U0564-20	AC5035	Schist – North 27/01/2020	0.00604	0.00606	<0.05
U0564-21	AC4976	Basalt – South 28/01/2020	0.00587	0.00587	<0.05





# Certificate of Analysis



U0564-22	AC5133	Schist – North 28/01/2020	0.00704	0.00696	<0.05
U0564-23	AC4978	Basalt – South 28/01/2020	0.00618	0.00618	<0.05
U0564-24	AC5139	Schist – North 28/01/2020	0.00753	0.00756	<0.05
U0564-25	AC5138	Basalt – South 29/01/2020	0.00723	0.00723	<0.05
U0564-26	AC5140	Schist – North 29/01/2020	0.00743	0.00736	<0.05
U0564-27	AC5110	Basalt – South 29/01/2020	0.00722	0.00721	<0.05
U0564-28	AC5134	Schist – North 29/01/2020	0.00705	0.00708	<0.05
U0564-29	AC5151	Field Blank 1	0.00715	0.00715	<0.05
U0564-30	AC5111	Field Blank 2	0.00715	0.00715	<0.05
Blank	AC5180	Lab Blank 1	0.00659	0.00664	<0.05
Blank	AC5198	Lab Blank 2	0.00679	0.00683	<0.05

## Sampling Details

Client Name	Stantec		
Sample Date	30 January 2020	Analysis Date	10 February 2020
Sampled By	Michael Creed Fulton Hogan Staff	Analysis By	Jenny Thompson
Accreditation Reg Num.	911	Report Version	1
Methods Used	Respirable Dust (AS 2985) sampling.		

*This report must not be altered or reproduced except in full.*

 <b>Analyst</b>	 <b>Key Technical Person</b> Christchurch Office
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## 6. Regulatory

### 6.1 Activity Report from Environment Canterbury

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Date of meeting	28 May 2020
Agenda item number	6.1
Author/s	Environment Canterbury Staff

#### Purpose

To provide an update on the services being performed by Environment Canterbury for the Chatham Islands Council contract.

#### Recommendations

**THAT Chatham Islands Council:**

1. Receives the report.

#### Background

The following reports are for your information only.

## 4. Review of Action List

Chatham Islands Council Steering Group Committee  
May 2020

ACTION PLAN				
Start Date	Task/Request	Action item	Person Responsible	Progress Notes / Status
4/12/2013	Resource Management Plan		Carmel Rowlands	The CIRMD has been sent to the Minister of Conservation for Approval. Approval is still pending, as there are still issues to be resolved with the Minister. Conversation is progressing in this regard.  The pCIRMD has been made partially operative.
15/02/2013	Hazardous waste removal	Look at resources and timeline	Graham Aveyard / Jeska McHugh / Miles McConway	6 May 2020: Rowan Latham supported the completion of the required WMF project reporting so that they could access payment for works completed. This involved a restructure of the Milestones into works completed vs outstanding (noting the project was approx. 18month overdue).  The Project plan was updated to reflect this change, with all remaining works to be signed off in a second Milestone (i.e. rolling the remaining deliverables into a single project completion milestone), no further supervision should have been required. Rowan Latham is no longer working at Environment Canterbury and is not aware of any further work since June 2018. A staff member will be in contact with CIC in near future to see if they require any future support.



## 5. Operational Delivery

### 5.1. Civil Defence Emergency Management

#### Chatham Islands Council Steering Group Report

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<b>Date of meeting</b>	Tuesday, 12 May 2020
<b>Author</b>	James Thompson, Team Leader Regional Emergency Management

#### **Purpose**

1. To provide an update on the services being performed. This paper is informative only no decisions are required.

#### **Update**

No Civil Defence emergency management has been completed with Chatham Islands during this period.

#### **Attachments**

No attachments

## 5.2. Compliance Update

### Chatham Islands Council Steering Group Report

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Date of meeting	12 May 2020
Author	Gillian Jenkins, Zone Delivery Lead

#### Purpose

1. There are no compliance matters for update this month.

#### Recommendations

#### Attachments

Nil

Peer reviewers	Dirk Brand
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### 5.3. Harbourmaster's Office

## Chatham Islands Council Steering Group Report

Date of meeting	Tuesday, 12 May 2020
Author	Guy Harris

### Purpose – Update

1. **Fuel transfer procedure recommendation** (vessels switching over to compliant fuel or using exhaust gas scrubbers).

Situation - currently with Owen for consultation

2. **Advice on closure of Chatham islands to shipping** and creation of Notice to Mariners:

Situation - Currently in place, Notice to Mariners issued.

3. **Declaration of Chatham Island ports and anchorages as Pilotage areas:**

Through the Port and Harbour Safety code we can declare areas as pilotage areas but not operate as one.

Having them identified has several benefits:

- If you should need to use them – say to control an influx of large cruise ships, or other larger vessels – you can do with only permission of the MNZ Director and not have to wait for a change to the rule by parliament
- Covers unforeseen risk
- Covers CIC for future change – future proofing
- It could be hard to put in later – take it whilst its easy
- Apart from going on the list, nothing more will be required until its needed.

Situation - this has been proposed by the Port and Harbour Safety Code and is now with the Ministry for consideration

4. **Port and Harbour Safety Code CIC representative at the panel review for Taraoa** – Jim to go on Chatham Island Council behalf.

Situation – July 7<sup>th</sup> has been proposed (but not confirmed) this will be a remote review due to COVID-19 restrictions.

## 5.4. Water Quality, Ecology & Hydrology

### Chatham Islands Council Steering Group Report

<b>Date of meeting</b>	12 May 2020
<b>Author</b>	Adrian Meredith/Sian Barbour, Surface Water Science

#### Purpose

1. To provide the Chatham Islands Steering Committee with an update on the water quality, ecology and hydrology services provided.

#### Monitoring and reporting update

2. March sampling completed without any issues. Next round of sampling due to be conducted early June however we will have to be fluid with the requirements of Covid-19 alert levels (due to freight, laboratory analysis, sampler availability etc).
3. A draft long-term water quality and hydrology report has been received from the consultant, Pattle Delamore Partners. ECan scientists have provided comments and these will be sent back to the consultant to address.

<b>Peer reviewers</b>	[Names of two peer reviewers who have reviewed this paper]
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## 5.7. Quarterly Report Part B: The Services

### Quarterly Report Part B: THE SERVICES

Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
Resource Management	The high air, water, and land qualities of the Chatham Islands are maintained to protect human health and ecological systems.	Resource management document is current and administered.	Review of CIRMD is completed. All consent applications are processed within RMA timelines. Progress is made on implementing the NPS on freshwater management.	An updated draft resource management document is prepared. Assistance is provided to the CIC to hear submissions and finalise the CIRMD. The consent application process is administered. Assist CIC with Iwi matters in relation to the upcoming review of the RMA. The upcoming review of the RMA will cover historic places, and the new landfill.	The Resource Management Document has been made partially operative pending Ministerial approval of the parts of the document that relate to the Coastal Marine Area
				An implementation Programme for the NPS is developed.	A progressive implementation programme for the NPSFM was adopted in 2015.
			100% compliance	Compliance monitoring is carried out as required.	Monitoring undertaken in early 2019.
Resource Management Investigations and Monitoring	The use of natural and physical resources contributes to the Chatham Islands economy in a sustainable manner. The high intrinsic values of the biodiversity and natural ecosystems of the Chatham Islands are recognised and protected. People may carry out a wide range of activities taking into account natural hazards.	Resource consents and permitted activities are exercised in accordance with their conditions. State of the Environment monitoring is carried out in accordance with CIRMD requirements. Information on natural hazards is available.	Effects of sea level rise on coastal development are assessed Other services completed as requested	Report on mapping of sea level rise	Preliminary investigation commenced.

Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
Investigations & Monitoring	Any changes in the biodiversity and natural ecosystems of the Chatham Islands are recognised and causal mechanisms understood.	Statutory monitoring requirements are met.	SOE long term water quality monitoring programme completed, and reports are published.	<ul style="list-style-type: none"> <li>Long term water quality monitoring programme of lakes, rivers and Te Whanga lagoon</li> <li>Trends reported annually</li> <li>Information available on web site</li> </ul>	Monitoring completed as scheduled. Three field sampling runs completed to date for this financial year, and data compiled in database. State and trend report in progress.
	People of the Chatham Islands have access to a wide range of cultural, commercial and recreational activities.	Microbiological and chlorophyll information is collected for resource management purposes.	Microbiological monitoring and assessments of algal bloom activity at sites in Te Whanga lagoon.	<ul style="list-style-type: none"> <li>Microbiology &amp; Chlorophyll-a monitoring at 3 lagoon sites.</li> <li>Fortnightly monitoring of common recreational sites (locations to be agreed with CIC) during the summer.</li> <li>Results available on web site.</li> </ul>	Monitoring work completed as required.
	Flow regimes in Chatham Island rivers and streams are understood for water allocation purposes and flood warning	Hydrological information is available to all community	River flows are monitored.	<ul style="list-style-type: none"> <li>Monitoring at 4 flow recorder sites, 2 rainfall sites and 2 water level recorders in Te Whanga.</li> <li>Data is collected on levels, flow, salinity, pH, and oxygen.</li> <li>Near real-time water level and flow data (within 1-2 hours) are available on website.</li> </ul>	Sites all working well and data available on CIC website.
	Water quality and/or quantity investigations carried out to understand water resource issues raised by community	Investigations carried out within proposed timeframes and costs		<ul style="list-style-type: none"> <li>Water quality of possible areas for future potable supply (eg: Owenga) is investigated.</li> </ul>	Potable water supply investigations are on-going.
Contaminated Sites / Hazardous Substances and Waste	Exposure to contaminated land and the environmental effects of hazardous substance releases are minimised.	<p>HAIL sites are identified.</p> <p>NES for contaminants in soil to protect human health is implemented.</p> <p>An agrichemical collection is undertaken.</p> <p>Hazardous waste is managed according to national protocols.</p>	Advice is provided on contaminated sites, hazardous substances and waste management.	<ul style="list-style-type: none"> <li>HAIL identification methodology is provided to enable CIC to identify potentially contaminated sites.</li> <li>Assistance in establishing protocols for NES implementation is provided.</li> <li>Provide advice on how to set up an Agrichemical Collection.</li> <li>Advice on establishment of waste management protocols is</li> </ul>	Advice on waste management expected to increase as the landfill project progresses. Support provided on an as required basis.

Activities		Desired Outcomes		KPI	Targets	Service Provided	Status
Emergency Management	CIC is prepared for an emergency and complies with CDEM Act requirements.	Requests for assistance with CDEM planning and preparedness are met.	Provide policy and planning support as required. Provide advice on Resilience Initiatives. CDEM group plan continues in operation and is up to date.	provided. Provide advice on National and Regional CDEM Policies. Support CIC Resilience initiatives as appropriate. <ul style="list-style-type: none"><li>CDEM second generation plans due 2010/11. Risk based foundation to be established for review of 4 R's within the CDEM Group Plan.</li><li>Public Information Manager training session provided, and one workshop exercise is provided.</li></ul>	No activity this period No activity this period No activity in this period		
Navigation Safety	Navigation safety is enhanced.	Requests are met and proactive assistance is provided.	Advice and support is provided re navigation safety.	<ul style="list-style-type: none"><li>Provide advice on professional development for CIC CDEM staff, including a development needs analysis (DNA) of key staff.</li><li>Support CDEM exercises and courses. Focus to be on training for Response Team and EOC staff. Two activities supported on island each year</li><li>Support implementation of national emergency management information system (EMIS)</li></ul> <ul style="list-style-type: none"><li>Support is provided to the CIC Harbourmaster</li><li>Navigation safety risk assessment is carried out, documented and maintained.</li><li>The Navigation Safety Bylaws are reviewed</li></ul>	No activity this period Provide technical support for the planning of the proposed Waitangi Wharf replacement. Ongoing. Investigate provision of AIS monitoring at Chatham Islands. Underway – this is delayed until we restart our AIS projects.		



Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
					<p>Safety Management System and Risk Assessment – will be conducted online, as the July PHSC conference is now going to be online and this is when we would have met up to the Risk assessment and review.</p> <p>ECan's Guy Harris, CIC Harbourmaster Josh Thomas, Deputy Nigel Ryan and CIET Marine Manager Craig Kerwin are currently putting the PHSC Self Assessment via email land phone calls.</p> <p>Now Port and Harbour Safety code compliant, after the successful panel review 9<sup>th</sup> – 14<sup>th</sup> November 2019.</p>
Corporate Services	Services to the community are improved through the provision of timely and accurate information.	Requests are met or referred to appropriate providers.	Annual report is produced and audited with no qualification.	Annual report is produced and audited with no qualification.	The 2018/19 Annual Report was prepared and audited with an unqualified emphasis of matter opinion issued. The emphasis of matter related to audit's concerns over the future viability and enduring negative cash balance of the organisation (also referred to as the going concern assumption).
			Long Term Plan/Annual Plan is produced and audited with no qualification.	Long Term Plan/Annual Plan is produced and audited with no qualification.	The 2020/21 Annual Plan is in development, expected to be adopted in June 2020. Notwithstanding the level of grant uncertainty, public consultation (and therefore audit) is not expected. No significant adjustments expected to be made related to the COVID-19 pandemic. The 2018-28 Long Term Plan was adopted on 28 June 2018, the audit



Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
			Financial reports to Councilors and Department of Internal Affairs completed at least quarterly. Assistance is provided with rates, invoicing, and other technical issues. Advice is provided as required for: HR; Council; Democracy; Legal; Finance; and IT.	Financial reports for internal reporting purposes or reporting to external stakeholders is completed periodically. Requests are met promptly. Training and support is provided for democracy services. Requests are met within 5 working days. Training support and information is provided re democracy services.	opinion issued was unmodified, with an emphasis of matter in relation to reliance on grant funding. Reports to Council and Quarterly financial reports for DIA reporting purposes have been provided at least quarterly. All requests for assistance have been met. No issues arose during the quarter. Legal advice provided as requested. No breaches of legislation noted.
Communications	Council complies with legislative requirements.  Communication services support the dissemination and exchange of information to Council and the community. Council's information is protected, developed and maintained effectively and efficiently.	No breaches of legislation.  Community and Iwi are well informed about Council activities and performance.	Communications services are provided.  Advice is provided concerning effective communication and feedback from the community.	Inserts to the Chatham Islander are produced on environmental, RMA and other Council issues. Web site is kept up to date. Other communications projects (e.g. leaflets, brochures, signs) discussed and undertaken as required.	All activities completed as required.  All activities completed as required.
Surveillance – Chatham Islands	There is no introduction, sale, propagation and distribution of the 140 pests listed as Surveillance – Chatham Islands pests.	Incidence of these 140 pests on the Chatham Islands.	Report on the presence of Surveillance – Chatham Islands annually or as required for specific incidences	Undertake enforcement action to ensure that landowners and occupiers do not introduce, sell, propagate or distribute pests listed as Surveillance – Chatham Islands pests.	No enforcement actions undertaken. All known sites of surveillance pests are inspected at least once annually. Routine surveillance of other high risk sites is on-going.
Surveillance – Chatham Islands	Maintaining an internal border between Chatham Island, Pitt Island and New Zealand.	Number of breaches of the internal border.	<b>Year 1</b> Publish and distribute a scoping report addressing marine biosecurity as part of establishing an internal border.  <b>Years 2-4</b> In partnership with Biosecurity New Zealand implement a marine biosecurity plan as part of establishing an internal border.	Under contract to Environment Canterbury, SPS prepared a Chatham Islands Marine Biosecurity Partnership Action Plan in 2010. Progress on its implementation has been limited. We have trained 5 staff to meet WorkSafe NZ diving requirements with a view to carrying out twice annual underwater	

Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
					<p>surveys of the 4 ports on Chatham Island. The intent is to determine the presence or absence of the 10 "most likely" to arrive marine pests.</p> <p>To date, survey dives have been carried out at Owenga, Kaingaroa Waitangi and Port Hutt.</p> <p>No marine pests were found at Owenga or Kaingaroa but the previous distribution of Undaria at Port Hutt has expanded within the harbour.</p> <p>In September 2017, several vessels associated with the Waitangi Wharf rebuild arrived and were found to carrying at least 4 marine pests that are not known to be present in Chatham's waters. Prompt action by our Biosecurity staff and newly formed dive squad (along with voluntary compliance of the vessel owners) resulted in the risk being minimized if not eradicated.</p> <p>3 of the Chatham's dive squad were involved with a boat hull inspection in Lyttleton in early April. More marine pests were found, and the team continue to gain experience in this field.</p> <p>Five of the invasive marine species identified by MPI are crab species. To date, crab potting surveys have been carried out twice at Waitangi, Port Hutt, Kaingaroa and Owenga ports. No invasive species detected. The last round of dive surveys and crab potting was completed in Dec</p>



Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
Surveillance – Chatham Islands	Preventing the arrival and establishment on the Chatham Islands of the 140 listed Surveillance – Chatham Islands pests.	Incidence of these 140 pests on the Chatham Islands.	Identify, map and maintain a database of high-risk sites for surveillance – Chatham Islands pests. Continue a surveillance programme sampling sites (ha) at high risk from Surveillance – Chatham Islands pests.	Inspect at risk sites for pests listed as Surveillance – Chatham Islands pests	2019. At risk sites inspected at least twice annually by SPS Bio-security staff and resident Biosecurity Officer. Active control on several "low incidence" plant pests has taken place ie: Veldt Grass, Glyseria maxima, Argentinean Ice Plant, Wilding Conifers and Sycamore has been on-going. New sites of Old Man's Beard and Banana Passionfruit have been found and total control is underway, although both new sites have found to be more extensive than originally thought.
Surveillance – Chatham Islands pests	Subject to availability of resources, undertake Biosecurity Act 1993 Section 100 control of Chatham Islands Surveillance pests.	There are no successful incursions.	Report on the number of potential and actual incursion responses of Chatham Islands surveillance pests per annum.	Undertake incursion responses for pests listed as Surveillance – Chatham Islands pests as required.	Black Ants and German Wasps are recent incursions but hopefully the immediate control response has eliminated their establishment.
Surveillance – Pitt Island	Five pests listed as Surveillance – Pitt Island pests are not introduced to Pitt Island	Incidence of these five pests on Pitt Island.	Identify, map and maintain a database of high-risk sites for pests listed as Surveillance – Pitt Island pests. Continue a surveillance programme sampling at risk sites for pests listed as Surveillance – Pitt Island pests.	Inspect at-risk properties for Surveillance – Pitt Island pests. Undertake enforcement action where necessary to ensure that landowners and occupiers carry out control for Surveillance – Pitt Island pests. Search 100% of high-risk sites for pests listed as Surveillance – Pitt Island pests annually	We have increased the number of Rodent Bait stations at possible departure points to Pitt Island. Sheds used by fishermen storing goods bound for Pitt. Rodent activity tends to peak in February/March/ April and then stabilizes. We have now received a trained "Rat dog" that is resident on the Chatham Islands being "handled" by our resident Biosecurity Officer Kerri Moir. This will dramatically improve our detection capability. This was put to the test in May 2019

Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
					when suspected rat faeces were found at Pitt Island School. Kerri and Moki were on the Island with a week of the report. The dog did not indicate for rats. Samples were collected and sent away for DNA analysis. The result has come back negative for rat.
<b>Total Pest Control</b>	The Chatham Islands Pest Management Strategy is reviewed with specific reference to the Total Control suite of pests	The remaining 5 years of the Pest Management Strategy more accurately reflects community expectation and professional opinion	Chathams wide customer survey carried out with specific emphasis on Total Control pests.  Survey results matched with expert opinion.	Formal review of current Pest Management Strategy	A Pest Management Strategy survey was sent out in early 2013. 51 responses were received. A formal review of the current Pest Management Strategy is currently underway.
<b>Total Pest Control</b>	One total control pest animal – feral goats is controlled.	Progress made in eliminating feral goats.	Undertake structured aerial cull of feral goats on properties adjoining the source infestation.	Work alongside landowners to voluntarily eradicate feral goats Undertake enforcement action to ensure that landowners and occupiers carry out control of feral goats.	By late 2014 Environment Canterbury staff had culled 977 goats from the Airport Road area. With the approval of the Landowner, our resident staff member culled 46 in late 2014 which appears to be the last of them. Two fly-overs by helicopter seemed to confirm this. An additional 192 goats were shot from a geographically separate area in 2017. Throughout 2018/19 a further 56 goats have been culled as a result of helicopter and ground shooting. A helicopter survey and shooting programme is currently underway to determine how many goats may be left.
<b>Total Pest Control</b>	Control of all total control plant pests.	The incidence of all total control plant pests.	A report on the effectiveness of pest control operations is prepared.  The incidence of Total Control pest plants is	All known Total Control plant pest sites, both historical and active, are inspected and / or controlled annually.  Summarise and interpret data	Following the completion of the "Total Pest Control" plant database, all 3 species of Broom are deemed to be controlled as is, Gunnera.  Wild Ginger (2 species) is down to one



Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
			consistent with estimates of target densities.	collated from pest control operations.	<p>site. Sycamore control has increased recently.</p> <p>Control in several Cotoneaster sites is on-going.</p> <p>The remaining 2 Total control plants, Montbretia and Buddleia are so widespread that Total Control is not that realistic. This was confirmed in the PMS survey results.</p> <p>Although not on the Total Pest Control list the following plant pests have also been controlled to a level where eradication is achievable.</p> <p>A lone site of South American Ice Plant was controlled in April 2013.</p> <p>The only known site of a water weed (Glyseria maxima) was controlled in 2012 and any re-growth sprayed 2013, 2014, 2015, 2016 and again in late 2019.</p> <p>The only known site of "Veldt Grass" was sprayed in late 2012 and resprayed in October 2014.</p> <p>The control of these low incidence plants was also strongly supported in the responses to the PMS Survey.</p>

Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
Total Pest Control	Control of all pests listed as total control pest plants.	The incidence of all pest plants on Chatham Island or Pitt Island.	Identify, map and maintain a database of the incidence (e.g. of the density and distribution) of total control pests plants on Chatham Island and Pitt Island. Estimate (e.g. identify, map and maintain a database of) the control area over which total control pest plants on Chatham Island and Pitt Island occurs.	Progress towards eradicating total control pest plants is made to reduce their impact on the economy, particularly on land production, and on biodiversity. Inspect at risk properties for total control pests and issuing inspection notices.	A database of all known historical and active "Total Pest Control" plant sites has now been completed. Other low-incidence plant pests are also being recorded
Containment control	Control of pests listed as containment control pest plants.	Incidence of pests listed as containment control.	Undertake enforcement action where necessary on properties identified as non-compliant with Strategy rules.	Work alongside landowners to voluntarily carry out control of Containment pest plants Undertake enforcement action to ensure that landowners and occupiers carry out control of Containment Control pest plants.	No properties noted with pest plants, therefore no enforcement action undertaken to date. Voluntary control has certainly increased, and this was enhanced with a helicopter on the island in February 2013, February 2014, November 2014, October 2015, November 2016, December 2017, December 2018 and a current programme in February 2020. An aerial survey conducted after the helicopter control in March 2013 produced a "Baseline" gorse distribution map, this has been updated after each years programme is completed.
Containment Control	Control of pests listed as containment control.	Incidence of pests listed as containment control.	All at risk sites are inspected every 2 years.  All gorse is eradicated annually from Gorse Management Area 1.  The area of gorse (ha) in Gorse Management Area 2	Inspect and search at risk sites for Containment Control pests and issuing inspection notices.	No properties noted with pest plants, therefore no enforcement action undertaken to date. Voluntary control has certainly increased, and this was enhanced with a helicopter on the island in 2013, 2014, 2015, 2016 and 2017, 2018 and 2020.  An aerial survey conducted after the

Activities	Desired Outcomes	KPI	Targets	Service Provided	Status
			<p>does not increase as from a baseline date of 2001 (this target is subject to the availability of aerial maps of the Chatham Islands).</p> <p>Report that identifies and maps distribution and density of Californian Thistle.</p>		<p>helicopter control in March 2013 produced a "Baseline" gorse distribution map and this is updated after each helicopter visit to the Islands.</p>
Public awareness	Public become vigilant for new pests and do not introduce, sell or propagate pests.	Public awareness.	<p>Articles on pest and biosecurity in the Chatham Islander and Uniquely Chathams news publications.</p> <p>Pamphlets on pests and biosecurity issues are readily available at the airport and other tourist venues</p> <p>90% of landowners understand their obligations under the Strategy.</p>	<p>Regular media coverage of pest and biosecurity issues.</p> <p>Conduct a customer survey to gauge the understanding of landowner Strategy obligations.</p>	<p>Regular articles relating to Chatham Islands Pests are placed in the Chatham Islander Newspaper and the quarterly "Uniquely Chathams" paper and the Chatham Islands Community Focus email newspaper.</p>
Investigations / Research	All pest control activities and advice is current and based on Best Practise	<p>Surveillance – Chatham Islands pests</p> <p>Surveillance – Pitt Island pests.</p> <p>Total Control pests</p> <p>Containment Control pests</p> <p>Undertaking pests and biosecurity investigations and survey programmes.</p>	<p>Number of assessments undertaken.</p>	<p>Assess any research or investigation proposals concerning Surveillance – Chatham Islands pests, total control pests, containment control pest plants such as the introduction of biological control agents where support is sought from the Council on a case-by-case basis.</p>	<p>One of the questions in the PMS survey specifically asked about the possible introduction of Gorse biological agent(s).</p> <p>Several late responses were received which lowered the support of the introduction of bio control agents.</p>

## 5.8. Planning Update

### Chatham Islands Council Steering Group

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<b>Date of meeting</b>	12 May 2020
<b>Activity</b>	Planning Update
<b>Author</b>	Alanna Hollier

#### Update

1. Due to COVID-19 and national planning processes slowing down, there is no new information to report to the Chatham Islands Steering Group for this meeting.
2. Work is continuing on the minor edits and corrections to the Chatham Islands Resource Management Document and consideration is being given to changes that may be required as a result of the Plantation Forestry NES. A briefing was provided late last year on this.
3. We are awaiting advice from central government on the timing of decisions on the Freshwater NPS, Biodiversity NPS and Productive Land NPS. At the earliest, decisions are expected in July.



## 6. Corporate Support

### 6.1. Corporate Update

#### Chatham Islands Council Steering Group

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<b>Date of meeting</b>	12 May 2020
<b>Activity</b>	CIC Corporate Services update
<b>Author</b>	Tanya Clifford

#### Purpose

1. The purpose of this paper is to provide an update on the services being performed under the corporate services umbrella for the Chatham Islands Council Regional Council contract. This paper is informative only, no decision is required.

#### Key points

2. The Environment Canterbury Accountant who normally supports this contract, is working reduced hours due to the COVID-19 pandemic, which has been communicated to the Chatham Islands team. Additional support from Environment Canterbury is available, as required.
3. *Annual Plan 2020/21:* Planning for the 2020/21 Annual Plan budget has commenced. We are awaiting confirmation on the level of support to be provided from the Government as part of the budget announcement, expected in May 2020. Key staff resources have been booked to ensure the Annual Plan is designed and delivered within statutory timeframes. Direction from Council has also been taken in relation to changes to rate increases in light of the economic impact of the COVID-19 pandemic and Council's revenue and financing policy.
4. *Reporting:* The quarterly report to the DIA has been drafted and provided to CIC. Council reporting completed as required. Reporting formats have been discussed with CIC Council and management. It is intended formal Council reporting will be split between a high-level Council report and a more detailed audit and risk committee report. As always, we appreciate receiving feedback on these reports, so they can be adjusted to reflect the needs of the user.
5. *Payroll:* CIC payroll is processed by ECan staff, with no concerns raised. Final Holidays Act payments will be made as paperwork is made available.
6. *System upgrade:* The Chatham Islands Council are upgrading the Authority financial reporting system to a new version. Additional support from the Environment Canterbury Systems Accountant is available, if required.

## 6.2. Communications

### Chatham Islands Council Steering Group

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<b>Date of meeting</b>	
<b>Activity</b>	Communications
<b>Author</b>	Liz Wright

#### Communications report for April

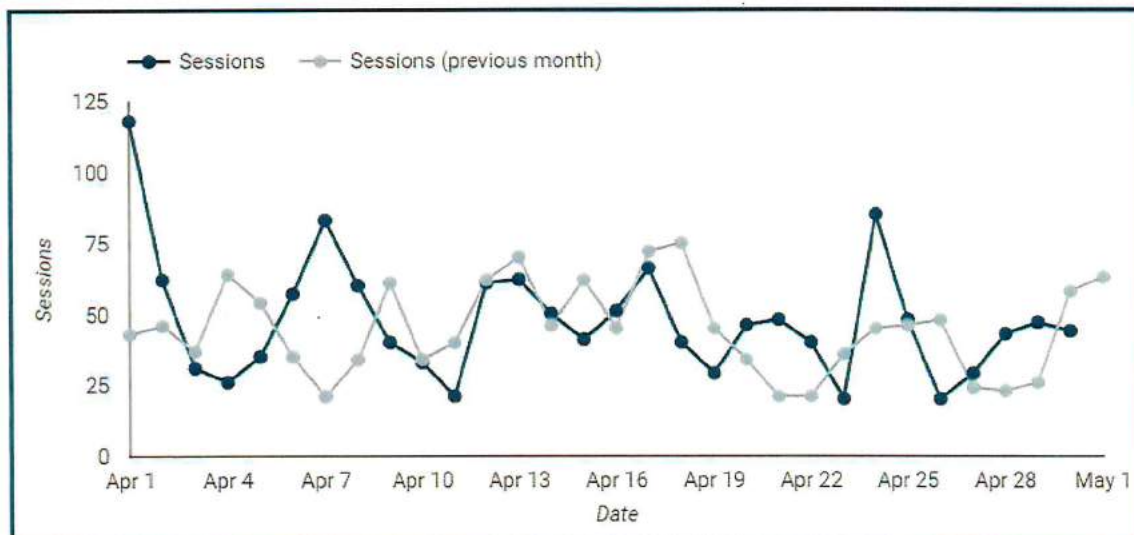
1. Website updates
  - a. Message from the Chatham Islands Emergency Team (COVID-19)
  - b. Council meeting agenda
  - c. Joint Public Notice - Here to Help flyer
  - d. Alert Level 3 rules
  - e. News story with the Mayor's message regarding ANZAC Day.
2. Facebook posts done by Environment Canterbury staff
  - a. Message from the Chatham Islands Emergency Team (COVID-19) – directing to website
  - b. Joint Public Notice – Here to Help flyer – directing to website
  - c. Advising residents of the Alert Level 3 rules (CIC and Emergency Management) – directing to website
  - d. Mayor's ANZAC day message – directing to website
3. In progress/coming up
  - a. Updates to info (website, Facebook etc.)
  - b. Biosecurity/pest management review comms support
  - c. Create Councillor profiles
  - d. Refresh communications and engagement strategy for 2020
  - e. Update communications workplan for 2020.
4. Website report: 1 to 30 April 2020
  - a. Traffic to the website was down slightly, compared to the previous period
  - b. 76% of visitors were new to the site
  - c. The total number of visits to the site was 1,436, compared with 1,401 visitors for the same period a year ago – an increase of 45.

## What has been viewed on the website?

	Page Title	Page Views	Δ
1.	Home » Chatham Islands Council	1,039	-18
2.	COVID-19: Public notice on Council services » Chatham Is...	346	248
3.	Meet the Team » Chatham Islands Council	248	48
4.	News and Events » Chatham Islands Council	162	27
5.	Important notice from the Harbourmaster » Chatham Isla...	159	8
6.	Visit the Chatham Islands » Chatham Islands Council	155	-61
7.	Contact » Chatham Islands Council	102	10
8.	Search all Documents » Chatham Islands Council	96	22
9.	Your Council » Chatham Islands Council	75	-1
10.	Emergency Management » Chatham Islands Council	63	-2
	<b>Grand total</b>	<b>3,474</b>	<b>-442</b>

1 - 10 / 165

## When was the website visited?





## Where was the website traffic coming from?

"(direct)/(none)" is from typing into browser address bar, or via bookmark/favourite.

"organic" is from search results. | "referral" is a link from another website.

	Source/Medium	Sessions ▾	Δ
1.	google / organic	869	53 ↑
2.	(direct) / (none)	257	34 ↑
3.	m.facebook.com / referral	141	118 ↑
4.	localcouncils.govt.nz / referral	33	8 ↑
5.	facebook.com / referral	27	26 ↑
	<b>Grand total</b>	<b>1,436</b>	<b>45 ↑</b>

1 - 5 / 38 < >

## How have visitors used the website?

How many times was the website visited?

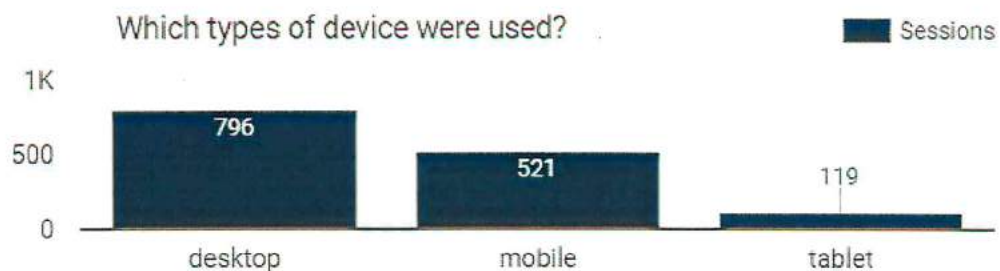
Sessions  
**1,436**  
45 ↑

How many users visited the website?

Users  
**1,181**  
25 ↑

How many pages were viewed on the website per visit?

Pages/Session  
**2.42**  
-0.4 ↓





## 6.3. Financial Updates

### Chatham Islands Council Steering Group Report

<b>Date of meeting</b>	Tuesday, 12 May 2020
<b>Author</b>	Tanya Clifford, Corporate Reporting Accountant

#### Purpose

1. Provide financial update for the period ending 30 April 2020.

#### Recommendations

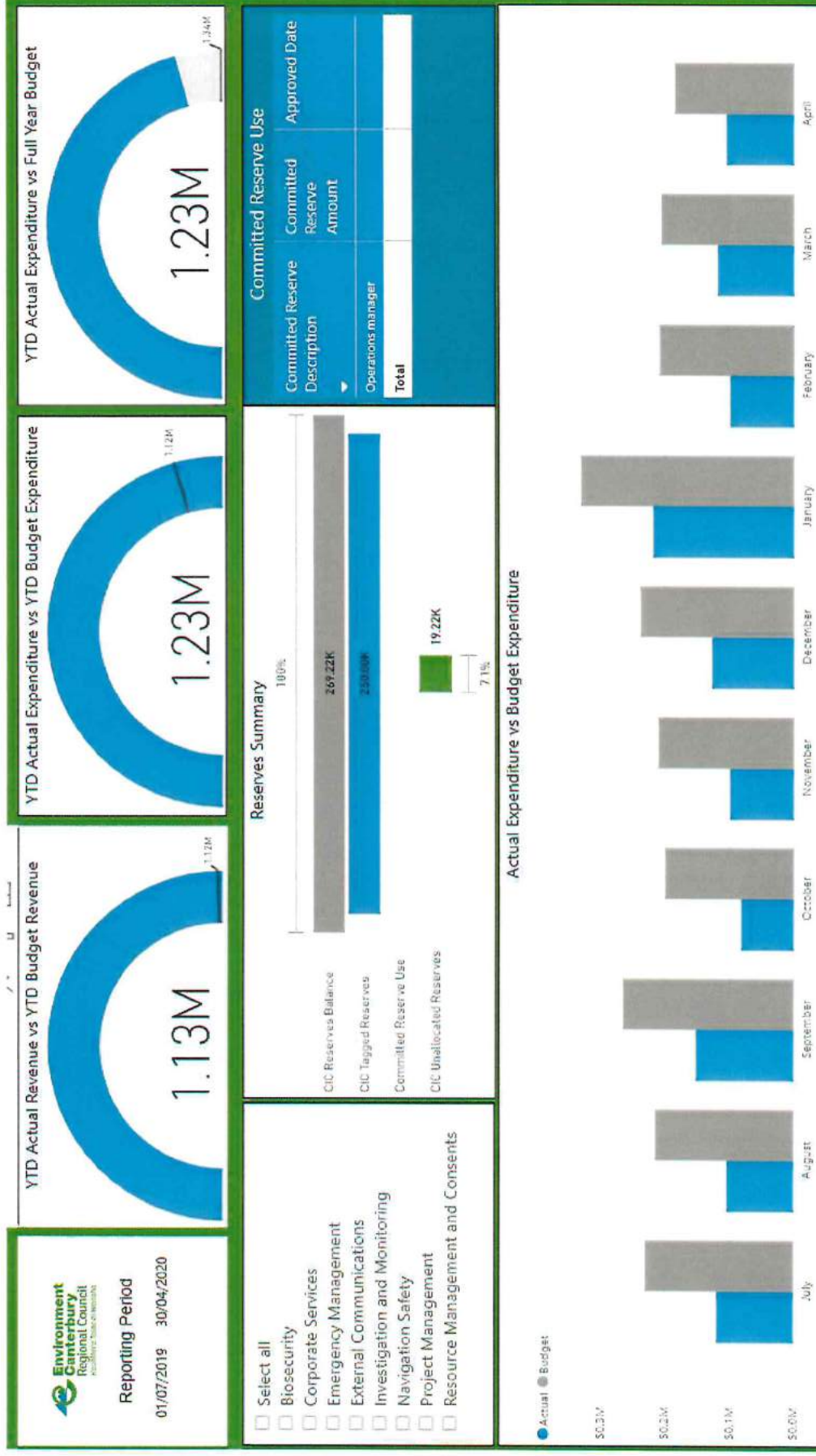
That the Chatham Islands Council Steering Group:

1. Receive the financial reports for period ending 30 April 2020.

#### Attachments

{attachment-list}

<b>Peer reviewers</b>	[Names of two peer reviewers who have reviewed this paper]
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**Biosecurity expenditure:** Precision helicopters engaged (\$150k contract) to complete gorse control initiatives on the island. In addition, the section recognises unbudgeted costs associated with updating the Pest Management Plan, which have been incurred to meet legislative requirements. For the section to achieve allocated budget by year end, savings need to be attained, or a request made to draw down on funds from the reserve or reallocate funds from other under budget sections.

**Corporate services expenditure:** The budget is primarily labour based, unlikely to spend to allocated budget by year end.

**Emergency management expenditure:** The area is primarily labour based, with minimal costs recognised to date. No notable areas of expenditure underspend.

**External communications expenditure:** Communications work is completed on an as required basis, with focus in period of updating communication on the CIC Facebook page and improving the CIC website. No notable areas of expenditure to report on.

**Investigation and Monitoring expenditure:** Water quality sample tests are completed on a periodic basis. No notable areas of overspend.

**Navigation safety expenditure:** The budget is primarily a labour one and includes a proviso to respond to maritime events and provide policy guidance. Two staff travelled to the Island in November to assist with the Port and Harbour Safety code review, which increased both labour and goods and services expenditure in the section. With this exception, there are no notable areas of expenditure, actual expenditure is likely to realign with budget by year end.

**Project management expenditure:** This code provides for use of the CIC reserve funds and the cost of seconding an Operations Manager from ECan.

**Resource management and consents expenditure:** The area is primarily labour based. Minimal work completed, with a budgeted allowance to responded to consenting and resource management issues as they arise.

*ECan continues to operate within the overall budgetary constraints of the contract.*

**Section Name**

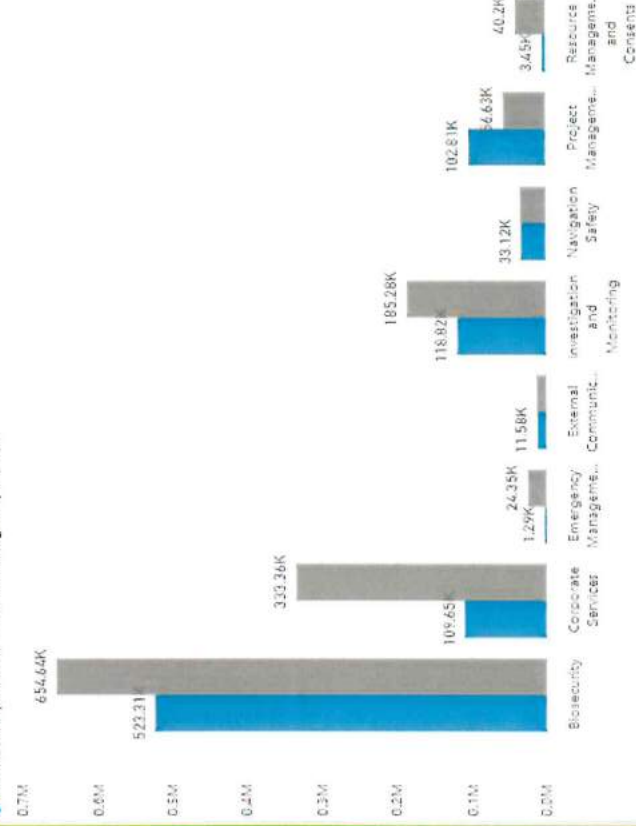
Biosecurity      Corporate Servic...      Emergency Management      External Communications      Investigation and Monitoring      Navigation Safety      Project Management      Resource Management and Consents

**Expenditure Details By Project Level**

Project Name	VTD Actual Expenditure	Full Year Budget Expenditure
CIC Biosecurity - Border Control	67,600.67	111,272.72
CIC Biosecurity - Pest Strategy, & Implementation	456,301.68	543,371.46
CIC Compliance Monitoring	600.18	19,266.53
CIC Corporate Service	30,402.32	55,104.36
CIC Education	11,580.69	12,640.26
CIC Emergency Management	1,291.78	24,345.95
CIC Finance - Services	79,250.36	276,259.55
CIC Hydrology	53,160.39	
CIC Maritime Safety	33,122.60	34,355.08
CIC Operations Manager Secondment	64,214.01	
CIC Project Management	38,591.19	56,033.48
CIC Resource Management & Consents	2,847.52	20,926.36
CIC Water Quality, Ecology, & Hydrology	65,657.09	165,278.09
<b>Total</b>	<b>904,030.08</b>	<b>1,341,465.64</b>

**Expenditure availability against Budget**

● VTD Actual Expenditure ● Full Year Budget Expenditure



{remove-from-minutes-end}



## 6.4. Travel Schedule

### Chatham Islands Council Steering Group

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<b>Date of meeting</b>	Tuesday, 12 May 2020
<b>Author</b>	Vivienne Ong Committee Advisor

#### Travel Schedule 2020

No travel to the Chatham Islands has been reported.

A reminder if anyone is traveling to the Islands to advise your travel booker to send an email confirmation of your booked travel to [Vivienne.ong@ecan.govt.nz](mailto:Vivienne.ong@ecan.govt.nz) (arrival & departure dates, brief reason for travel, and who booked by). This information is then reported back to the Chatham Islands Council.

## **9. Chatham Islands**

### **9.1 Chatham Community Focus Trust Grant Acknowledgement**

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<b>Date of meeting</b>	28 May 2020
<b>Agenda item number</b>	9.1
<b>Author/s</b>	CCFT

#### **Purpose**

For Council's information.

#### **Recommendations**

**THAT the letter from Chatham Community Focus Trust be received.**

#### **Background**

See letter attached.



20 April 2020

Chatham Islands Council  
PO Box 24  
Tuku Road  
Waitangi  
Chatham Islands 8942

Re Annual Council Grant for 2020-21

Dear Owen, the Mayor and Councillors

On behalf of the Chatham Community Focus Trustees I would like to sincerely thank the Chatham Islands Council for the 2020/21 grant \$21,214.12

These funds, gratefully received each year are distributed throughout the community towards local non-profit groups and will also help in financing our CCFT Events and the Chatham Islands Festival 2021.

These fund will also serve to assist CCFT during the uncertainty of COVID-19 with the year ahead of us.

Kind Regards

Therese McCormick  
Office Manager