



7 May 1998

Reference RC/302/1
GA153

Riley Consultants
PO Box 100-253
NORTH SHORE MAIL CENTRE

Dear Sir/Madam

**KAUKAPAKAPA HALL
EFFLUENT DISPOSAL**

Thank you for your letter of 16 April 1998.

I note that you have sought formal approval from the Ministry of Education to proceed with the various necessary consents. That action is quite appropriate however, I would ask that you contact the writer after you have the Ministry's answer and prior to taking any further action since there is now some uncertainty as to whether or not the project will proceed in its current form.

I look forward to your advice in due course.

Yours faithfully

PROPERTY MANAGER
Paul White



RILEY
CONSULTANTS LTD
 Engineers and Geologists

LETTER NO	159296	AM PM
Rodney DISTRICT COUNCIL - CREWA		
16 APR 1998		
SUBJECT	FUNCTION	COPY
PRC	PR	

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Fax Transmission To:	Paul White	/ Tyl Von Randow	Job No: 98136
Location:	Rodney District Council / Tyl Von Randow Architect		
Fax No:	09 426 7280	/ 09 810 9183	
From:	Trisha Roy	Time:	2:45
Subject: Kaukapakapa School and Community Hall - Effluent Disposal			
Total No. of Pages: 3		Date: 16/4/98	

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Message:

Further to our facsimile of 11 March 1998 outlining the feasibility of connecting the community hall to the effluent treatment system at Kaukapakapa School, we have obtained water usage records from the school. The water meter was located and read on March 26, and the caretaker has recorded the water usage up until the Easter break. The results are appended to this fax, and show that the current daily water usage is 8 litres/person/day, which is substantially less than the design rate of 20 litres/person/day.

Using the design roll of 320 (300 pupils and 20 staff) at the design water usage rate of 15 litres/person/day (still conservative according to actual data), the design flow of the system is 4.8 m³/day. The school's discharge permit has been granted for disposal of 6 m³/day, therefore there is 1.2 m³/day capacity in the system available during the week, and the full 6 m³/day available over the weekend. This equates to available capacity for the hall per week of 18 m³. This compares well with our conservative estimates of maximum flow from the hall. Therefore, the water usage records confirm that it is feasible to connect the community hall to Kaukapakapa School's effluent treatment and disposal system. Research into the actual usage of the hall will be required before submission of a request to alter the conditions of the school's discharge permit.

Kaukapakapa Community Hall
RCL Ref: 98136

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We have contacted the Ministry of Education to formally request their permission to approach the ARC for a variation of the discharge permit conditions. Once this is obtained an application will need to be made to the ARC. This will involve preparation of a brief report, drawings and payment of an application fee. It is not envisaged that Iwi, neighbours and other parties originally consulted for the current discharge permit will need to be consulted again.

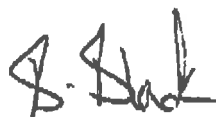
Our professional fees to prepare the report for variation of the discharge permit, continued liaison with yourselves, the Ministry of Education, the School, the hall manager, the system supplier and the ARC are estimated at \$3000 (excluding GST and any permit fees).

The commission would be carried out on a time basis and in accordance with the ACENZ Short Form Agreement for Consultant Engagement. A copy of this form will be forwarded for signing should you wish to proceed. Only work carried out will be charged. Please contact the undersigned with any queries.

Yours faithfully,
RILEY CONSULTANTS LTD



T L Roy
Engineering Geologist



B Black
Associate, Registered Engineer

KAUKAPAKAPA PRIMARY SCHOOL**EFFLUENT FLOW DATA**

<i>Day</i>	<i>Date</i>	<i>Meter Reading (m³)</i>	<i>Daily Flow (m³)</i>
Thursday	26-Mar-98	1333.3	
Friday	27-Mar-98	1334.9	1.6
Monday	30-Mar-98	1336.5	1.6
Tuesday	31-Mar-98	1338	1.5
Wednesday	01-Apr-98	1340.1	2.1
Thursday	02-Apr-98	1341.2	1.1
Friday	03-Apr-98	1342.2	1
Monday	06-Apr-98	1344.6	2.4
Tuesday	07-Apr-98	1346.4	1.8
Wednesday	08-Apr-98	1348.2	1.8
Thursday	09-Apr-98	1348.8	1.4
Friday	10-Apr-98		

Average daily flow (9 April 1998) = **1.64 m³/day**

Number of Occupants = **204**

Daily Water Usage = **8.04 litres/person/day**



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LETTER NO.	155331	AM PM
TAKAPUNA DISTRICT COUNCIL - CREWA		
5 - MAR 1998		
SUBJECT	FUNCTION	COPY
PRC	PR	

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Fax Transmission To: Paul White & Tyl Von Randow Job No: 98136

Location:

Fax No: 09 426 7280/810 9183

From: Brett Black

Time:

Subject: Kaukapakapa Community Hall - Effluent Disposal

Total No. of Pages: 2

Date: 5 March 1998

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Message:

As requested we are currently undertaking a feasibility study of effluent disposal options for the community hall. This facsimile summarises our findings to date.

Background

We understand that the hall has a design occupancy of 250 persons. The design manual for onsite effluent treatment and disposal (ARC TP No 58) requires a design loading rate of 20l/person/day. Therefore the maximum design wastewater volume is 5000l/day. It is recognised that the occupancy will be intermittent and wastewater volumes will vary greatly from typical week night flows (Scouts, badminton etc) of less than 1000l/day to occasional maximum flows (funerals, weddings, social events etc) generally in the weekend.

The ARC will require a Resource Consent where maximum flows exceed 2000l/day.

System Options

We have assessed the feasibility of connecting into the neighbouring schools effluent system. In 1995 the school installed a 'state of the art' drip irrigation type system and has resource consent to discharge 6000l/day of treated effluent. This design flow has been based on the future ultimate design roll of the school. Clearly to be acceptable to the ARC and Ministry of Education any additional flows from the hall entering the schools system can not compromise the performance of the system, the resource consent conditions (maximum discharge volume of 6000l/day) or the design roll of the school.

PRINCIPAL: P.B. Riley, B.E., M.Sc. (Rock Mechanics), D.I.C., M.I.P.E.N.Z.

ASSOCIATES: N.R. Fitch, B.E., M.E., N.Z.C.E., M.I.P.E.N.Z. D.R. Tate, B.E., M.I.P.E.N.Z. B.A. Black, B.E. (Hons), N.Z.C.E., M.I.P.E.N.Z. R.B. Lilley, B.E. (Hons)

Geotechnical & Geological Engineering, Dams & Hydraulic Structures, Hydro Projects, Coastal Engineering.



Combined System

From our review it is considered feasible for the hall to connect into the school system. The nature of the hall and school are typically compatible for combined treatment and disposal. More specifically:

- Preliminary calculations indicate that it may be possible for the hall's daily flows to be stored in tanks and released over the weekend period only when the school is closed.
- It is likely that we could demonstrate that there is spare capacity at the school at the design roll occupancy. Our experience at other schools indicates that actual wastewater allowances per person are lower than the design assumptions. Therefore the hall stored volumes could be partially released on week days with higher volumes released on weekends. This is our preferred option.
- A preliminary estimate to supply and install storage tanks, pumps and screens, control boxes, electrical wiring, plumbing is \$12,000 to \$15,000 + GST.

Independent System

For the option of an independent on-site treatment and disposal system we should be able to demonstrate an 'average' daily flow of about 2000l/day (based on a conservative weeks wastewater production stored and released evenly over the seven day period).

Based on this flow the cost to supply and install dripper system (similar to that of the schools and considered appropriate for the on-site conditions) is \$20,000 to \$25,000 + GST.

It should be noted that for both options a number of technical issues would need to be addressed in order to gain the necessary consent from the ARC.

At the time of writing I have been unable to discuss the issues with Ms Colleen Tebbutt of the Ministry of Education or ARC staff. I will keep you both informed of progress.

I trust this facsimile is sufficient for your purposes at this stage. If you have any questions please do not hesitate to contact me.

Regards

Brett Black

KAUKAPAKAPA PRIMARY SCHOOL**EFFLUENT FLOW DATA**

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