

## Community Hall & Public Toilets

Lots of use, little land available for effluent disposal.



The Taranaki town of Okato may look small to drive through however they hold some mighty big functions at the local community hall.

It is also on the surf highway and attracts numerous visitors, particularly during the summer months. So many that the New Plymouth District Council decided to build a new public toilet alongside the hall to cater for the influx.

With only 100m<sup>2</sup> of land available for effluent disposal the council were struggling with a big problem.

A combined wastewater flow of over 4000 litres per event from the hall and a daily use of up to 500 litres from the public toilets. 4500 litres of effluent per day into 100m<sup>2</sup> of land DOES NOT GO. The result would be a wet, sodden, smelly and unhealthy mess.

After drawing a blank from the local designers, plumbers and sewage system agents the architect contacted Dave Miller for advice.

Dave had previously undertaken a number of similar designs

for maraes, camping grounds and school/community halls which he had presented papers on to national wastewater conferences with the solution.

Dave quickly designed a peak load storage, treatment and timer dosing system that solved the problem and didn't cost the earth.



Okato community hall with public toilet down side street.



Okato Community Hall and public toilet. The only land available for effluent disposal is the narrow strip immediately behind the hall and to the left of the public toilet – approx 100m<sup>2</sup>.



## Large Homes Replace Holiday Batches

When a weekend batch is replaced with a large full occupancy house finding sufficient area for effluent disposal can prove difficult.

Dave was asked by the architect to come up with a solution to the lack of available area on this Paekakariki site above.

Once the new house, driveway, turning areas and outdoor living area's were designed, there was little area left for effluent disposal.

Dave designed an advanced sewage treatment and disposal system that only took up a strip of land alongside the driveway.

The living areas were not affected and the new owners are very happy with the result.



## Website Updates

Check out the Dave Miller website, containing regularly updated samples and design philosophies for specific building requirements. For Lifestyle Blocks, Schools, Rural Restaurants, Cafés, Marae, Community and School Halls.

[www.davemiller.co.nz](http://www.davemiller.co.nz)

## Failed Systems can really put a smell up your nose and still cost money to put right



A good case of take the money and run. A plumber's effluent disposal system. Dripline laid on the surface, through a watercourse at the rear of an owners property.



Septic tank to nowhere. Our system works fine, the owners said. Yes, the toilet flushed OK and it all ended up in the paddock behind the house and thereby into the local creek.



Treated effluent disposal area can be located in planted areas within the house section.



Ideal disposal area for treated effluent into an existing bushed area at the rear of the property.

# Ohakune School Sewer Pump Problem

(Ngati Rangi Kura)



This school is situated below the level of the town sewer main and the school sewage was pumped up into the sewer with a traditional sewer pump.

Anyone who has to rely on a sewer pump will tell you they are an endless source of trouble, worry and expense. It was no different for this school.

The sewer pump frequently broke down and on a number of occasions it threatened to close the school.

The Ministry of Education asked Dave to investigate and come up with a low maintenance solution. Dave's design solution was simple. Why pump sewage (with all the inevitable breakdown problems) when the system need only pump effluent.

The process uses a Septic Tank Effluent Pump (STEP) kit which fits inside an interceptor tank. The sewage is filtered and the cloudy liquid (effluent), can be pumped for kilometres if necessary, using a ½ hp single phase pump.



Ngati Rangi Kura - Ohakune: Septic Tank Effluent Pump system installed inside the tank under the green lid. The pump has a 25-30 year operating life - quiet, reliable and long lasting.

Dave had already installed a similar system for the Holcim Cement factory and 14 staff houses in Westport and presented a paper on the process involved at a national conference.

This process is now becoming accepted as an industry norm and can be used for single domestic houses to full sized communities.

The moral of the story is DON'T pump sewage if it is possible to pump effluent.

# Research and Experience

Dave has over 37 years of practical and design experience in evaluating soil conditions (soil mechanics) and sewage treatment system processes and is able to advise on and design the most appropriate sewage treatment system for almost any site and conditions.

He is a leading authority on advanced septic tank, sewage treatment and effluent management systems. Dave's knowledge in this field has resulted in him being invited to address national conferences and assist government departments.

He has been invited to present papers to:

- **Building Officials Institute of NZ (BOINZ)**  
– sewage system processes, performance & disposal methods
- **LTC/NZWWA National Conference**  
– analysis of sewage system performance
- **NZWWA National Conference**  
– on community sewage systems
- **LTC National Conference** – on peak load storage and treatment systems (camping grounds, marae, school & community halls)

He has also worked with the following organisations on waste water issues, including -

- **Consumers' Institute**
- **Ministry for the Environment**
- **NZ Surveyor**
- **NZ School Trustees Association**
- **Horizons Regional Council, and various other councils.**



## Sewage Systems Get it Right First Time

A failing sewage system can really put a smell up your nose and what's the point of having a million dollar house if the smell puts the damper on your barbecue?

Council tests show over 65 per cent of sewage systems perform no better than a filtered septic tank and the cheaper systems are producing the worst results.

These results are sent to the manufacturers of the systems involved and yet plumbers and system agents will still try to sell you 'their' system regardless of whether it actually works properly, or is even suitable for your site.

Some systems cost over \$40 a month to run while others cost only \$3 a month. A cost analysis shows that the cheaper systems can cost \$30,000 more to maintain (over 25 years) than other more advanced systems, something agents of the cheaper systems forget to tell you.

Sewage treatment systems range between \$14,000 and \$20,000 to install so a thorough site assessment and system options report is essential to know the system you choose will stand the test of time and represent good value for money.

Dave can meet you on site to investigate, and cost out, the full range of sewage systems options available for your site.

Then he can prepare a full engineering design and specification to meet Council requirements for the option selected.

By using Dave's independent design services you are guaranteed the best available system at the lowest possible cost.



# Nationwide Projects

This map shows some of Dave's various wastewater projects around New Zealand.

## Restaurants & Adventure Tourist Facilities

**Mokai Bungy: Taihape**  
Restaurant and facility

**River Valley: Rangitikei**  
Whitewater rafting.  
Lodge and restaurant

**Flat Hills: Rangitikei**  
Roadside bus stop restaurant

**Waterford Café: Manawatu**  
Pohangina Valley

## Schools

**Apiti School:** Manawatu

**Aroua School:** Taranaki

**Ngaere School:** Taranaki

**Turakina School:** Wanganui

**Aokautere School:** Manawatu

**Whakarongo School:** Manawatu

**Hukarere College:** Hawkes Bay

**Flemington School:** Hawkes Bay

**St Joseph's School:** Taihape

**Newbury School:** Manawatu

**Kai iwi School:** Wanganui

**South Makirikiri School:** Marton

**Bridge Pa School:** Hawke's Bay

**Ngati Rangi Kura:** Ohakune

## Subdivisions

**Bombay:** 3 x 50-section cluster development

**Taranaki:** Sewage upgrade assessment for 45-section subdivision

**Huinui:** 6-section subdivision

**Karamea:** 26-section eco subdivision

**Westport:** Cluster sewage system for 10 houses

**Cape Foulwind:** Sewage design concepts for 100-section subdivision

**Bay of Plenty:** 42-section Eco Village-sewage design concept

**Napier:** 7-section subdivision on beachfront

**Lake Wairarapa:** 5-section subdivision on lake edge

## Maraes

**Kaitumutumu:** Huntly

**Te Tikanga:** Halcombe, Manawatu

**Te Kauwhata:** Manawatu

**Moawhango:** Taihape

**Rongomaraeroa:** Poraongoahau, Hawkes Bay

**Waimakariri:** Cambridge

## Community Halls

**Flemington:** Central Hawkes Bay

**Aokautere:** Manawatu

**Ngaere:** Taranaki

**Newbury:** Manawatu

**Okato Community Hall:** Taranaki

**Whakarongo:** Manawatu

## Rural Factories with 150+ staff

**Fonterra:** Manaia, Taranaki

**Crusader Meats:** Bennydale, Te Kuiti

**Holcim Cement:** Westport

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