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Report No. 99.182

3 May 1999

File: B/4/6/1

[HK Reports-MDK 1 S 99182 Hutt City Fluoridation Consultant]

Report to the Utility Services Committee
from Murray Kennedy, Strategy and Asset Manager

Hutt City Fluoridation

1 Purpose

To review the Wellington Regional Council's (WRC) water fluoridation policy in conjunction with the water supply source to Hutt City's new Rahuhi reservoir.

2 Background

In the context of this report the "region" refers to the four cities of Hutt, Porirua, Upper Hutt and Wellington.

2.1 Introduction of Fluoride in the Hutt Valley

Part of Lower Hutt City was the first area of the region to have a fluoridated water supply - this was in 1959. Fluoridation started generally in the rest of the region, except for Petone, in 1965.

Lower Hutt City was challenged over the addition of fluoride in 1960, the case being finally decided in the City's favour by the Privy Council. The Privy Council read the word "pure" to be synonymous with "wholesome". The addition of fluoride made the water wholesome by improving dental health.

In the early 1990's Hutt City indicated they expected to complete the new Rahuhi Reservoir to serve Petone and other parts of the City in 1993. Completion is now planned for July 1999.

2.2 1993 Fluoride Review Process

In 1992 and 1993 the source of the water to be supplied to the new Rahui reservoir was under review. The WRC operations staff favoured using water from the Wainuiomata Water Treatment Plant (WTP). This was also the lowest cost source of supply and required the minimum additions to the WRC water supply infrastructure.

A section of the Petone community was opposed to this on the grounds that the water would contain both chlorine and fluoride. In response, the WRC established an external review panel of prominent citizens to consider the fluoridation issue and the source of supply for the new reservoir.

The 1993 WRC Fluoridation Review was extensive. Newspaper advertisements seeking submissions were supported by editorial comment. A total of 248 submissions were received and there were also public hearings. The Panel met with a range of technical experts. They had access to the results of a 1989 Heylen Research opinion poll. This poll was conducted for the New Zealand Dental Association by polling people residing in several fluoridated areas in New Zealand.

The WRC received the independent review panel report in June 1993 including the following recommendations:-

The Panel recommends to the WRC that.

- 1. It does not review its policy of the fluoridation of the public water supply. The Panel recommends that fluoridation continue and be extended to Petone.*
- 2. It does not connect Petone to the Wainuiomata supply when the new treatment station is opened. Rather, Petone continue to be supplied from an artesian bore.*
- 3. No further public consultation on the fluoridation policy is required at this time.*
- 4. The Council promote the monitoring of the impact of the adjustment of fluoride levels in water supplies by the appropriate national, regional and Maori health authorities.*
- 5. The Council undertake an education programme on its fluoridation policy, with special reference to Petone prior to the fluoridation of its artesian water supply.*
- 6. Untreated water be supplied at taps at the Buick Street and Gear Island treatment stations in Petone and a new point of supply of untreated water be provided at the Waterloo pumping station in Lower Hutt.*

2.3 WRC Resolves to Provide Fluoridated Water to Petone

At the June 1993 meeting of the Regional Council Wellington Metropolitan Bulk Water Supply Committee resolved to recommend:-

That Council does not review its policy of the fluoridation of the public water supply.

The Council subsequently adopted this recommendation.

Also, following further public consultation in Petone, the same Committee at its October meeting resolved to recommend.

The Committee recommends to Council that.

1. *The Buick Street Pumping Station remain in service until:-*

- a) *completion of the new Rahui Reservoir,*
 - b) *a major failure of equipment,*
- whichever is earliest.*

Water supplied to Petone will be at the lower cost sourced from the WRC trunk mains, normally from Wainuiomata.

This was subsequently adopted by Council.

Essentially this should have resolved the fluoridation and water source issue for the new Rahui reservoir. Unfortunately, with the ongoing delay in building the new reservoir, the fluoridation issue has been raised again.

2.4 WRC's 1998 Position

The WRC's Utility Services Committee more recently approved Waterloo water as the source of supply for the Rahui reservoir. A change of source was accepted because Hutt City indicated the new Rahui reservoir would serve, in time, an area greater than Petone. Rahui, Gracefield and Naenae reservoirs are all at the same elevation and will supply the wider Hutt Valley as a single supply zone. Consistency in the water produce is highly desirable. Waterloo water is fluoridated but not chlorinated. Hutt City Council has accepted that water from the Waterloo WTP can supply the Rahui reservoir.

2.5 Hutt City Seeks Region Wide Consultation on Fluoride

Hutt City Council passed the following recommendations at its Works and Services Committee meeting on 2 December 1998.

That the Committee:-

1. *notes that the WRC, as the bulk supplier of water, is responsible for the decision on fluoridation of water supplies,.*
2. *agrees that, in view of the proposed changes to the Petone water supply source, and that the decision to fluoridate water supplies was made 38 years ago, it is now appropriate to revisit the issue;*
3. *agrees that consultation on the issue offluoridation of the water supply should be undertaken by the WRC,*
4. *requests the WRC to carry out an effective consultation programme on the issue offluoridation of the water supply on a water supply source basis,. and*

5. *requests the WRC consult with the local Councils to obtain agreement on proposed consultation programme details and timeframes before consultation is carried out.*

This information was conveyed to Utility Services Division in a letter dated 9 February 1999.

3 **Developments in Fluoridation Since 1993**

Since 1993 there have been a few developments of note in the use fluoride in water supplies which have come to our attention.

- In 1994 the New Zealand Public Health Commission published a 128 page report titled "An Analysis and Monitoring report - Water Fluoridation in New Zealand". Councillors have been provided with a copy of the publication.
- An approach to the local Public Health Service resulted in the attached letter, **Appendix 1**. Of particular significance is the new information that fluoridation is effective throughout a person's life. It therefore offers benefits to anyone with their natural teeth.
- In 1996 the State of California legislated for the mandatory addition of fluoride in water systems supplying over 10,000 people. The City of Los Angeles (2.4 million population) is currently installing fluoride dosing equipment. Los Angeles is the largest U.S. Metropolitan area currently not adding fluoride to its water supply.
- 43 of the largest 50 US cities reticulate fluoridated water. Seventy five percent of the USA population is expected to receive fluoridated water by the year 2000. (Worldwater and Environmental Engineering Jan-Feb 1995)
- No real change in the UK or Europe with regard to fluoride.
- The New Zealand 1995 Drinking Water Standards recognised that people were consuming fluoride from sources other than water. For example fluoride in toothpaste. Consequently, the fluoride added to the region's water was reduced from a target average of 1 milligram per litre to 0.85 mg/L (range of 0.7 to 1 .0mg/L).
- Two publications "Fluoride and Oral Health" by the New Zealand Public Health Commission in 1995 and "Preventive Dental Strategies for older populations " by W M Thomson et.al. are both fully supportive of fluoridated water supplies.

The Public Health Service, as our health advisor, has reviewed this list and considers it to be a fair reflection of the situation. It is important to note that fluoridation is not a water supply issue but a dental health issue. This is why professional health advice is presented to the Committee.

- Research by P. Dennison, Community Dental Service Hutt Valley Health, compares the impact on five year olds of non fluoridated water in Petone, Korokoro and Paekakariki with five year olds in other areas receiving fluoridated water. The comparison is across similar socio-economic groups based on school deciles. On average, the severity of deciduous (baby) tooth decay (decayed, missing, filled – DMFT) in the non-fluoridated areas was double that of fluoridated areas, and the number of teeth extracted because of decay in non-fluoridated areas was three times more than in fluoridated areas. These differences were statistically significant. Some of the charts presented by P Dennison at a Councillor workshop are attached as **Appendix 2**.

4 **Consultation with Other Parties Regarding Fluoridation**

An informal approach to the Utility/Water Supply Managers of the other three cities indicates that fluoridation is not a current issue in these cities. Also, there has been minimal correspondence to the WRC on the subject over the last few years.

Within Hutt City itself the fluoridation issue seems to have a higher profile in the Petone area.

5 **WRC's Fluoridation Policy**

In summary, the 1993 fluoridation review was a very robust process. The process is also mentioned in the 1994 Public Health Commission report on Fluoride where it is held up as an example of effective consultation. Since the 1993 review there has not been any significant new knowledge about the effects of fluoride. The knowledge which has been gained though is positive, in that it reinforces earlier work. The effect of fluoride on teeth of five year olds in the Wellington area highlights the benefits to young persons. Our health advisors remain strongly in support of fluoridation.

On the basis of all this information, officers are of the firm view that there should not be any change in the WRC's fluoridation policy.

6 **Implications of Creating a Hutt Valley Water Supply Zone**

6.1 **Hutt Valley Zone**

Hutt City has decided to incorporate the new Rahui reservoir into a Hutt Valley water supply zone. This means there should be a consistent product supplied to all reservoirs. Resource consent constraints and recent capital works limit the supply to the Waterloo WTP, if aquifer water is supplied. Therefore, all the Hutt Valley should have water which is at the natural aquifer fluoride level or enhanced by the addition of fluoride at a water treatment plant.

6.2 Fluoride Options for Hutt City

It is possible to stop the addition of fluoride at Waterloo and Wainuiomata but still continue to supply the other cities in the region with fluoridated water. This can be achieved as follows;

- Stop fluoridating at the Waterloo and Wainuiomata Water Treatment Plants.
- Construct a fluoride dosing plant at the Gear Island WTP to dose water for consumption in Wellington City. A preliminary estimate suggests the capital costs will not exceed \$400,000.
- Hutt City can supply the suburb of Stokes Valley with Waterloo WTP water by strengthening the City's distribution system. At present Stokes Valley is supplied from the Te Marua WTP.

The outcome is that all of Hutt City, apart from the suburb of Manor Park, can receive non-fluoridated water.

The WRC can differentiate between our customers and offer Hutt City a choice of fluoridated or non-fluoridated water.

7 Water Supply Options for Hutt City

If non-fluoridated water is supplied to all of Hutt City apart from Manor Park, then some changes to where fluoride is added for our other customers is required. Those changes though will not affect the fluoride content of water supplied to our three other city customers.

The other option available to Hutt City is to continue to receive fluoridated water from Waterloo. If the City chooses this option then Rahui reservoir would receive fluoridated water continuously. This decision then has to be conveyed to the residents of Petone. It is suggested that the WRC indicates to Hutt City it would join the City in explaining the WRC fluoridation policy at a public meeting in Petone.

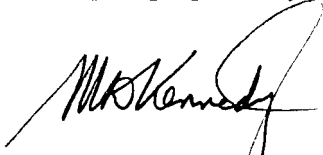
8 Recommendations

It is recommended that the Committee;

- Notes that the 1993 fluoride consultation process was independent, comprehensive and had full community representation and that there have been no significant changes since that date.*
- Notes that the Public Health Service, as our health advisor, fully supports the addition of fluoride to water supplies.*
- Endorses the Council's policy of adding fluoride to the water supply to provide a dental health benefit.*

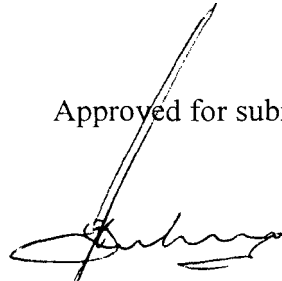
- (iv) *Notes that preparations are well advanced to supply the Rahui reservoir with water from the Waterloo Treatment Plant when the reservoir is completed in about two months.*
- (v) *Indicates to Hutt City Council that it is feasible to supply the City, except for the suburb of Manor Park, with non-fluoridated water should that be its requirement.*
- (vi) *Indicates to Hutt City Council that if it wishes to receive fluoridated water, then the WRC will assist the Hutt City Council, when it conveys its decision to the residents of Petone.*

Report prepared by:



MURRAY KENNEDY
Strategy and Asset Manager

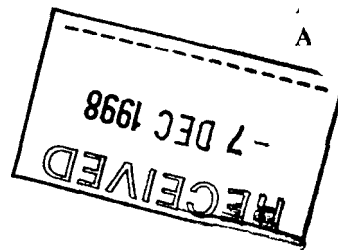
Approved for submission:



DAVID BENHAM
Divisional Manager, Utility Services

Attachments: Appendix 1 Letter from Public Health Service
 Appendix 2 Charts presented by P Dennison at a Councillor workshop

4 November 1998



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R e f . N o _ _ _ _

Dear Andrew

Fluoridation of Petone's Water Supply

Thank you for your letter of 30 November 1998 concerning the fluoridation of the Petone water supply and request for any information the Ministry may have since the publication of *Fluoride and Oral Health: the Public Health Commission's advice to the Minister of Health 1995*.

As you are aware, water fluoridation has been a controversial issue for many years. Research, international findings and trends, advice from experts throughout New Zealand and overseas, and other relevant information is considered in the development of policy advice and the provision of advice and information to public health providers and the public.

There is overwhelming evidence of the effectiveness and safety of water fluoridation in improving the oral health status of New Zealanders, and in particular in reaching those groups most at risk of dental decay. New information has shown that water fluoridation is effective throughout the lifespan, preventing root caries in adults and older people, so that fluoride can be seen to be of benefit to anyone with their natural teeth.

The Ministry of Health has published *Drinking Water Standards for New Zealand*. These guidelines recommend the adjustment of water fluoride to between 0.7 mg/L and 1.0 mg/L for oral health reasons.

There are a number of issues about water fluoridation which are frequently raised and the following comments on these may be helpful.

1. Adverse health effects

The report on *Water Fluoridation in New Zealand* (PHC 1994) should address many of the concerns raised regarding cancer, bones and fractures. Part of the peer review process undertaken by the Ministry includes the use of independent experts for detailed or lengthy articles, to ensure the quality of advice. In our experience of reviewing the published literature and other reports on fluoride research, it is noticeable that many of the articles that raise fears about water fluoridation lack substance or repeat previous statements already shown to be without scientific validity.

For example, many studies are *in vitro*, that is they are laboratory studies not involving a whole organism, such as a tissue culture study. The disadvantage of these types of studies is that they are limited in the range of effects that they can demonstrate and they do not take into account the complex and dynamic processes that take place in vertebrate organisms, including humans. Such *in vitro* evidence needs to be confirmed by epidemiological studies and/or studies involving whole animals. They do not provide definitive evidence of health effects. If the results of adverse health effects demonstrated by *in vitro* studies were applicable to humans, there would be solid epidemiological evidence of increased rates of adverse health effects in fluoridated areas when compared with non-fluoridated areas. This is not the case, there is no such epidemiological evidence.

Reports of independent experts in relevant fields of medicine, epidemiology, oral health and water engineering have been unanimous that benefits of water fluoridation outweigh any (very small) potential risks. Research studies on the safety of water fluoridation have been reviewed repeatedly by international and Australasian experts, including a World Health Organization expert group. The conclusion of all these reports is uniform. There are no significant health risks associated with water fluoridation at optimal levels. Mortality rates and health statistics (other than for oral health) in fluoridated and unfluoridated communities are similar.

Diesendorf M, Colquhoun J, Spittle BJ, et al. 1997 New Evidence on Fluoridation

With reference to your request for recent information, probably the most relevant recently published article was *New Evidence on Fluoridation* (Diesendorf M, Colquhoun J, Spittle BJ, et al. 1997. Aust NZ J Public Health 21(2): 187-90). This article is referenced on occasion by those concerned about adverse health effects from water fluoridation.

The article appeared to be a mix of review of the scientific literature and commentary on water fluoridation. The review was selective, and presents more of the scientific literature that suggested adverse effects of fluoride on health than that indicating inconclusive or positive findings. In examining whether this article added any new information to the accumulated research on water fluoridation, the Ministry considered the references studied, and the findings, of *Water Fluoridation in New Zealand*, and whether the references quoted by the authors added to the findings of that report.

The article refers to a letter to the 8 March 1995 issue of the JAMA (Jacmin-Gadda et al 1995). This letter reported a comparison of hip fracture rates in areas with water fluoride levels above and below 0.11 mg/litre. It was the only study referred to by the authors and published since the PHC report which shows a higher rates of hip fracture with higher water fluoride levels. A critical appraisal of the content of this letter at the time it was published, by the Ministry of Health, showed dubious internal validity as a number of confounding variables which are known to affect osteoporosis and hip fractures were not considered in the study. The results may have been due to these other factors, such as dietary calcium intake, ethnicity, bone density, and dietary patterns during youth and middle age, rather than fluoride intake. Daily individual water intake was not assessed and data on water fluoride levels was only available from 1991. Fracture history was self-reported. The Ministry wrote to the authors requesting a copy of the report of the study to enable complete critical appraisal and

peer review to ascertain the significance of the findings. The reply stated that no report was available because the study was still in progress.

Returning to the Diesendorf et al article, the Ministry was uncertain of the validity of the claim, used to reject the study of post-menopausal women, that 'fluoride would be expected to affect bone most . . . before menopause'. In general fluoride accumulates in the skeleton with age.

The Ministry would also dispute the assertion in the article that 'low levels of fluoride ingested for several decades can cause . . . skeletal fluorosis'. It is considered very unlikely that in developed countries skeletal fluorosis is associated with exposure to 1 ppm fluoride in the absence of high long term intake and/or metabolic susceptibility.

The authors asserted that in 'three to four decades, when people in areas where water is artificially fluoridated have accumulated fluoride in their bones from birth to old age, the increase in hip fractures and skeletal fluorosis will be larger'. If this was true then the rates of hip fracture should be higher already in older people in naturally fluoridated communities than in unfluoridated communities. The authors presented no information on this.

Water Fluoridation in New Zealand commented on the studies indicating an association between water fluoridation and osteosarcoma. The toxicological evidence presented by the authors was referred to in the PHC report as 'weak and inconclusive'. There was no evidence that altered this summary.

There was also no mention of studies published since 1994 that have inconclusive findings or do not support the evidence cited of an association between fluoride and adverse effects on bone.

New Zealand and Australian references in *Water Fluoridation in New Zealand* that show a difference in dental caries prevalence associated with fluoridation were not mentioned by the authors, despite this report being referenced in the article. The greater benefits of fluoridation for low socio-economic groups were also not acknowledged.

It is not practicable to respond to all the claims in the article within the scope of this letter. These have been amply detailed elsewhere, such as in *Water Fluoridation in New Zealand*. However, this discussion should demonstrate the types of claims made through selective use of the literature.

2. *More cautious approach*

Returning from this specific article to more general issues frequently raised about water fluoridation, the approach to fluoride should not be confused with water fluoridation. One of the reasons for promoting water fluoridation is that it is the safest and most effective means of ensuring people receive appropriate levels of fluoride to optimise the oral health benefits while avoiding risks of over-consumption which may occur with fluoride tablets. This may be where some people may perceive a 'more cautious' approach to fluoride, as the use of fluoride tablets is currently recommended to be on the advice of an oral health professional.

3. *Unproved benefits*

There may be assertions of ‘unproved benefits’ and that there is no difference in dental decay rates between fluoridated and non-fluoridated areas but these are not supported by research.

The role of fluoride in the prevention of dental caries is well documented in international studies and from New Zealand data. Repeated findings are that the caries experience of children living in fluoridated areas is lower than those living in non-fluoridated areas. In initial studies the finding was that caries were reduced by 40 to 60 percent. In later studies the reduction was reported to be lower but still significant. This is explained by the introduction of fluoridated toothpaste. Communities with non-fluoridated water supplies are now exposed to fluoride and lower decay potential.

The Ministry of Health has data on dental decay rates that show a real and significant difference in oral health status between fluoridated and non-fluoridated areas, with children having access to fluoridated water experiencing lower rates of dental decay. Recent figures show a 19 percent improvement in fluoridated areas compared to non-fluoridated ones.

The information is differentiated between fluoridated and non-fluoridated communities. This general statistic does not take into account population mobility between fluoridated and non-fluoridated areas, that is, total fluoride exposure history. This diminishes the effect of fluoridated water on the improvements it makes to oral health.

A significant reduction in total caries has been documented for two children in New Zealand since the 1970s. Between 1973 and 1988 the decrease was approximately 70 percent. Decreasing caries prevalence of deciduous teeth was also evident for five-year-olds; in 1988, 50 percent had never experienced tooth decay compared with only 14 percent in 1950.

Most studies show that water fluoridation provides benefits above and beyond those from other fluoride vehicles alone (for example, toothpastes, supplements). There is now increasing evidence that fluoride is especially effective in controlling root-surface caries, and so is of benefit to the whole population with natural teeth.

4. *Fluoridated toothpaste*

As discussed above, it is important to remember that fluoridated water contains fluoride levels of between 0.7 and 1.0 parts per million. These levels are consistent with levels found naturally elsewhere in the world and are shown to maximise oral health benefits. Fluoridated toothpastes contain fluoride levels of 1000 parts per million in adult strength brands. Thus the warnings on the packaging are to remind people that the products are to be used appropriately. There have been examples of children squeezing out toothpaste and freezing it to consume as confectionery. Obviously, toothpaste is not intended to be consumed in large amounts like that. Any food or other product can be harmful if consumed inappropriately. A common analogy used with fluoridated water is that, before you could consume enough to

cause toxicity from the fluoride, the water itself would have 'poisoned' you as you would need to drink a bath full of water.

The Ministry of Health promotes key messages in the policy paper *Fluoride and Oral Health* which apply to fluoridated toothpaste. The main message is that people should use fluoridated toothpaste, but that children under the age of five should use no more than a smear of fluoride toothpaste on a small brush, and that children should be discouraged from swallowing or eating toothpaste.

5. *Natural/artificial fluoride*

Fluoride is a chemical element and as such there is no difference in the way it reacts with other elements and compounds, whether the source is natural or introduced.

It is also pertinent to note that the Privy Council ruling on water fluoridation in 1963 stated that "*the addition of fluoride adds no impurity and the water remains not only water but pure water and becomes greatly improved and still natural water containing no foreign elements.*"

6. *World trend away from fluoridation*

There is no evidence of a 'world trend' away from water fluoridation. When last reviewed, over 30 countries either fluoridated their water supplies or had water supplies with natural fluoride concentrations within the recommended levels of 0.7 to 1.0 parts per million. Several communities in the United States and Canada have voted in recent referenda to introduce water fluoridation.

Within New Zealand there have been four recent referenda in local communities on whether water fluoridation should be introduced/continued/discontinued. Of these referenda, one community voted to introduce water fluoridation, one to continue it, one to discontinue it, and one to remain unfluoridated.

It is relevant to note that during the referendum on water fluoridation held in Timaru, which voted to continue unfluoridated, the Ministry of Health was very disappointed to find a pamphlet being distributed by a private (health food) company which contained misleading and alarmist information. This was distributed during the period of postal voting.

The Advertising Standards Complaints Authority required the withdrawal of the pamphlet because it contained material that was untrue and misleading but this did not occur until after voting had been completed. In our view, the public were not able to make an informed choice because of the material in this pamphlet.

The most recent referendum was held in Matamata-Piako District in February-March 1996. This was a telephone referendum, the first time such a referendum had been held in New Zealand. It was also significant that this referendum was not linked to other activities such as local body elections but was a single issue event. Council had advised that it would only consider the results of the referendum significant if more than 50 percent of voters responded.

Only thirty percent of voters voted in the referendum, and of this thirty percent, 70 percent voted against water fluoridation. Council then considered the results and decided to cease fluoridating water supplies in the district. These results suggest that a small section of the community feels very strongly about this issue and voted whilst the general community has less concern.

It is also important to recognise that telephone voting, like telephone surveys, will mean that those without telephones are unlikely to participate - these people tend to be disadvantaged or Maori, the groups for which water fluoridation is most beneficial.

7. *Mass medication and civil rights*

In 1980 the Human Rights Commission produced a very brief report on fluoridation and considered that "*In all circumstances therefore, it is considered that the question of fluoridation of water supplies by public authorities does not constitute a denial of human rights.*" The Privy Council ruling quoted above also notes that fluoridating water does not affect the naturalness of the water. Many countries have fluoride levels naturally as high or higher than the levels recommended in New Zealand. Fluoride is the seventeenth most commonly occurring element in the earth's crust, and in sea water the fluoride level is naturally 0.8 to 1.4 mg/L.

8. *Council decision making on water fluoridation*

The Ministry has legal advice that in making any decisions, such as on whether or not to fluoridate the water supply, a Council 'must have regard to all relevant considerations'. Relevant considerations would include a referendum result if a referendum had been held, however, it would not be appropriate for Council to base its decision solely on the result and exclude other relevant considerations. Council must also pay due regard to the public health considerations in making its decision because of section 23 of the Health Act and section 595 of the Local Government Act which provide that the local authorities have responsibilities to provide for the health and well-being of the public. Assuming the Council has regard to the public health, the question of how much weight should be attached to the competing relevant considerations is a discretion that has been vested in the Council.

9. *Agenda 21 and poisons*

Agenda 21 and environmental issues refer to sustainable management of the earth's resources and a reduction of waste product generation. As noted above, fluoride is found naturally in the earth's crust and in sea water. For example, fluoridated water discharged into the sea will not increase the natural fluoride levels.

Substances containing fluoride in a proportion equivalent to 0.1 percent or less of elemental fluoride (except hydrofluoric acid) are not considered to be poisons under New Zealand legislation. The level of fluoride in fluoridated public water supplies is adjusted to between 0.7 and 1.0 parts per million so is not a scheduled toxic substance.

10. *Conclusion*

The Ministry of Health and New Zealand Dental Association have produced health education resources to ensure that the public has access to reliable, well-researched

information based on sound scientific evidence. Copies of the Ministry's health education resources are available through your authorised provider of health education resources. All health education material produced by the Ministry of Health follows our recommended guidelines for development which includes pre-testing with focus groups to ensure the messages are comprehensible and the resource is appropriate.

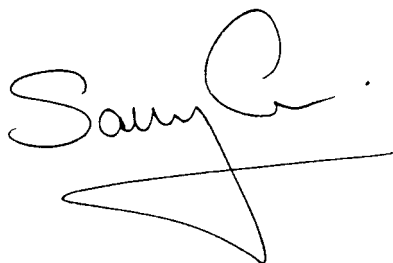
If you require any further copies of *Water Fluoridation in New Zealand* or *Fluoride and Oral Health: The Public Health Commission's advice to the Minister of Health 1995* please don't hesitate to contact me.

In summary, there is ample evidence to show the safety and efficacy of fluoride in promoting oral health and there has been no evidence, since the publication of these reports, to give a reason to change the policy advice. I can only reiterate that there is overwhelming evidence of the effectiveness and safety of water fluoridation in improving the dental health of New Zealanders, and in preventing dental decay.

When considering all this information, and taking into account the recommendations of the World Health Organization, Public Health Commission and international experts, the Ministry remains satisfied that water fluoridation is in the best interests of the public, particularly socially-disadvantaged people.

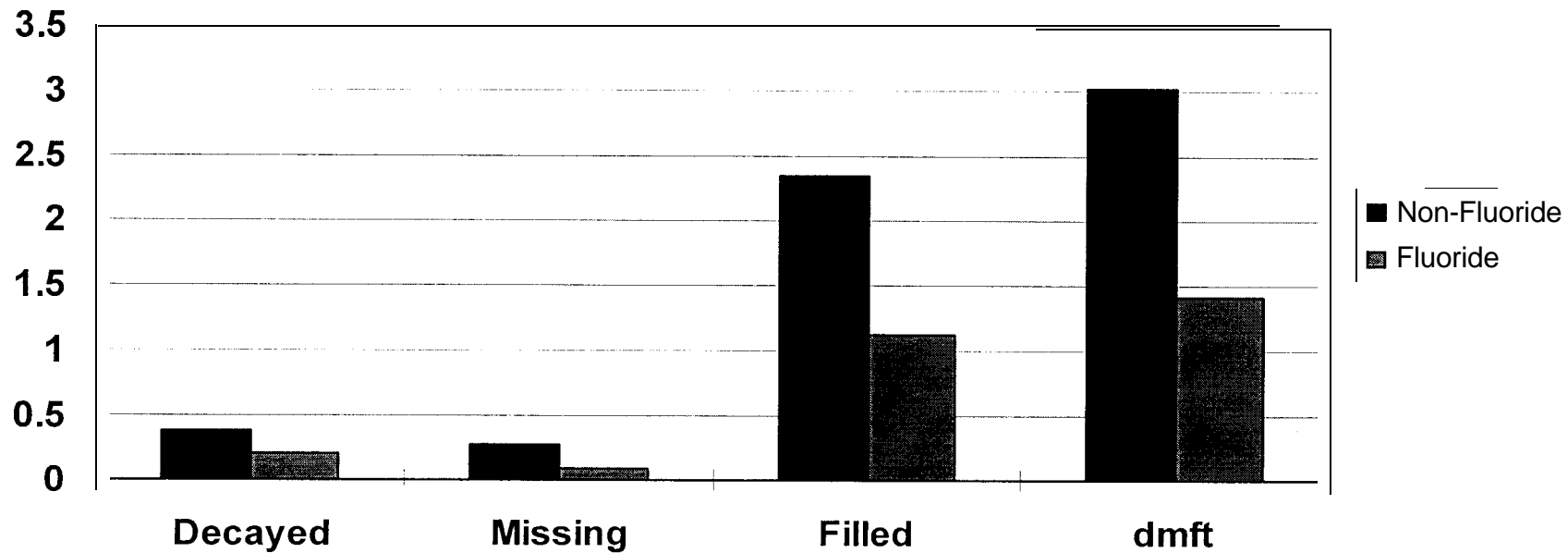
I trust this information is helpful but should you have any further queries, please don't hesitate to contact me.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Sally Gilbert', with a large, stylized flourish underneath.

Sally Gilbert
Senior Advisor (Health Protection)
Regulation Implementation Group

1997 5-year-olds in the Wellington Region by fluoridation status and school deciles*



* Ministry of Education TFEA Deciles

Many children do not use a fluoride toothpaste regularly

1997 5-year-olds Brushing Frequency	No Fluoride Petone	Fluoride Toothpaste
2 x daily	37%	63%
1 x daily	45%	27%
Occasionally	18%	10%
European	0%	7%
Non-European	31%	15%

Is fluoride an issue for families in the Wellington region?

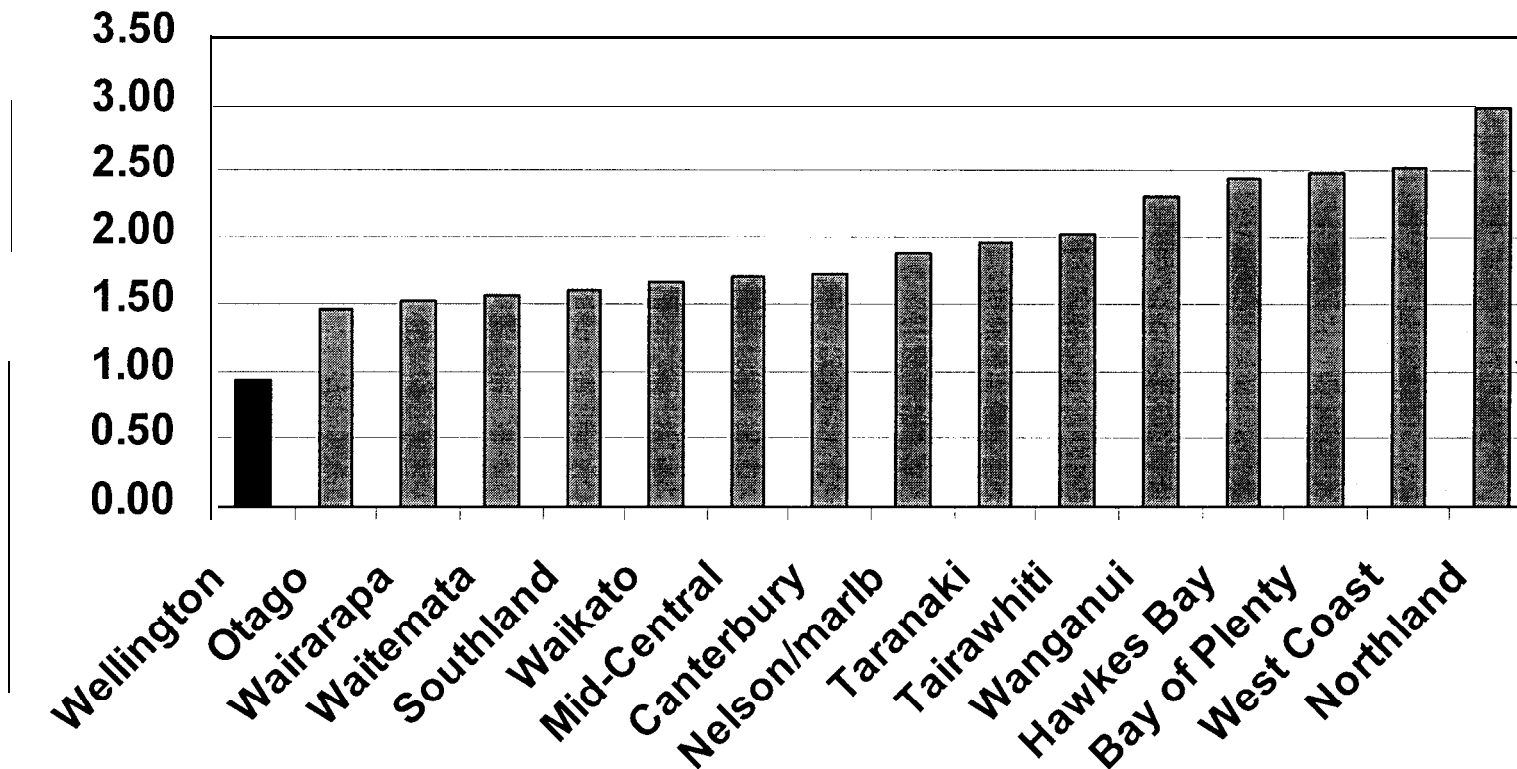
Uses a fluoride toothpaste

Yes Unknown No

Drinks non-fluoridated water?	95%	2%	3%
Drinks fluoridated water?		2%	2%

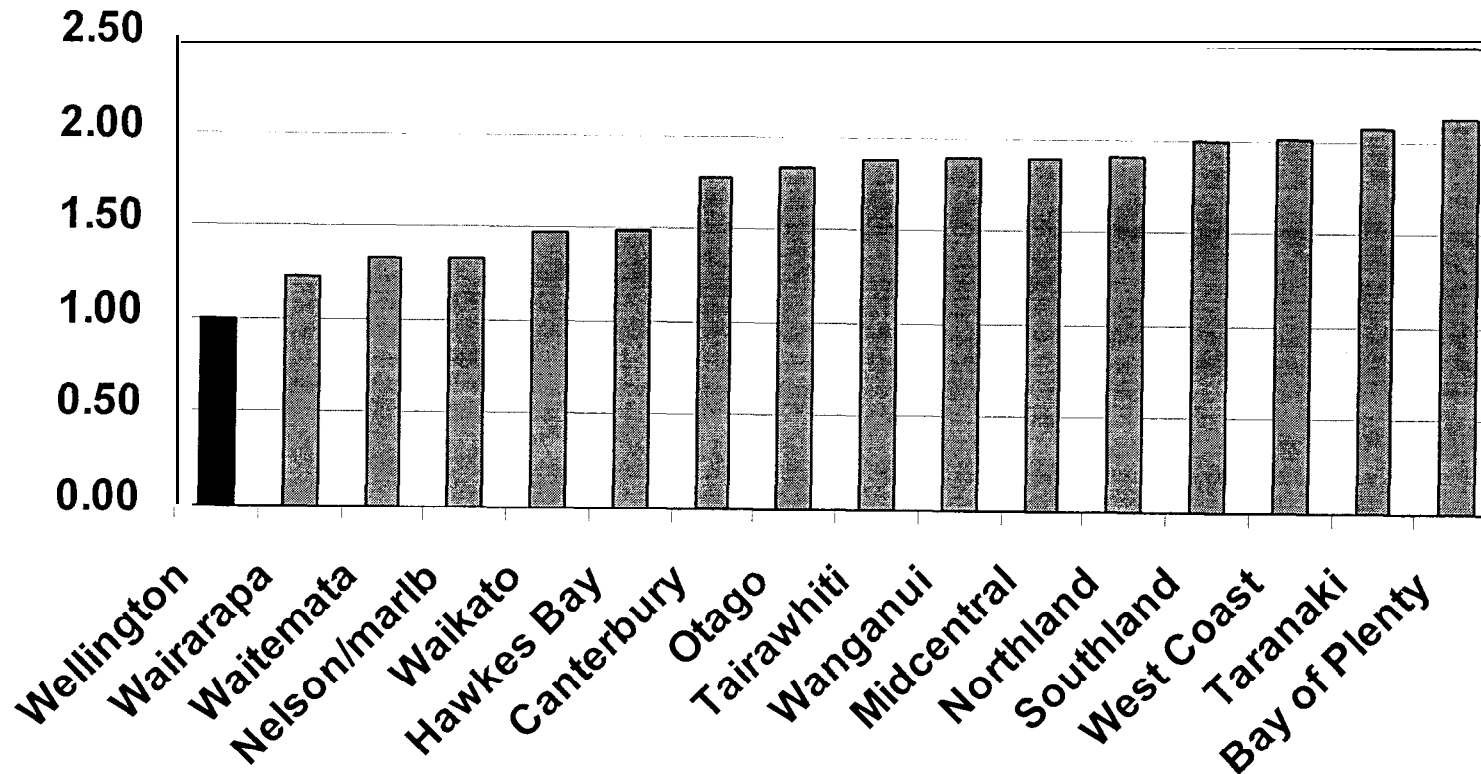
Wellington region has the best dental health statistics in New Zealand

1998 National 5-yr-old Dental Health Statistics
(missing and filled deciduous teeth)



Wellington region has the best dental health statistics in New Zealand

1998 National Form 2 Dental Health Statistics
(Missing and Filled Permanent Teeth)



us 39 Confirmation of Minutes*Resolved**(Cr McQueen/Cr Thomas)*

*That the minutes of the meeting held on 23 March 1999 be **confirmed**, the public excluded part to remain in public excluded.*

Matters Arising

Members noted that Councillor **Laidlaw** should be included as present for the meeting on 23 March 1999.

Matter for Decision**us 40 Hutt City Fluoridation****Report 99.182**

File: B/4/6/1

Councillor Werry arrived at 9.45am.

Councillor **McQueen** welcomed Peter Dermison, Public Health Dentist, Public Health Service for this item.

Mr **Dennison** gave a presentation showing the effectiveness and safety of water fluoridation in improving the oral health of residents in the Wellington region. This included new information and statistics confirming that water fluoridation was effective throughout a person's life span in protecting natural teeth. A copy of Mr Dermison's overheads were distributed to members.

Morning tea: 11 .00am

Resumption: 11.15am

*Resolved**(Cr McQueen/Cr Laidlaw)**That the Committee:*

- (i) Notes that the 1993 fluoride consultation process was independent, comprehensive and **had full** community representation.*
- (ii) Notes that the Public Health Service, as our health advisor, fully supports the addition of fluoride to water supplies noting that the additional information about the safety and **effectiveness** of fluoridation since 1993 and strongly reinforces and endorses the general conclusions of the 1993 report.*
- (iii) Notes the **significance** of the public health benefits of fluoridation and strongly **reaffirms** the WRC 's general policy offluoridating the bulk water supply.*

- (iv) *Notes that preparations are well advanced to supply the Rahui reservoir with fluoridated water from the Waterloo Treatment Plant when the reservoir is completed in about two months.*
- (v) *Indicates to Hutt City Council that it is technically feasible to supply the City, except for the suburb of Manor Park with non-fluoridated water should that be its requirement, and notes that if this path is followed the cost will lie with Hutt City Council.*
- (vi) *Notes that if any change to the WRC fluoridation policy, or its implementation, is to be considered by the WRC, the change would need to be at the initiative of, and as a result of a formal proposal from any one or more of the bulk water supply customers.*

Matter for Recommendation

us41 **Wholesale Water Pricing**

Report 99.173

File: B/5/2/1

Councillor **McQueen** welcomed Tim Davin, Group Manager Utilities Policy and **John Oldfield**, Water Supply Manager, Porirua City Council.

Mr Davin was invited to present a view on the pricing methodology for bulk water supply.

Resolved to Recommend

(Cr McQueen/Cr Thomas)

That the Committee recommends to Council:

- (1) *That a Workshop be arranged with the Hutt City Council, Porirua City Council, Upper Hutt City and Wellington City Council and the members of the Utility Services Committee as soon as possible to review the long term arrangements for wholesale water pricing.*
- (2) *That any proposed changes in pricing methodology be deferred until after the workshop meeting.*
- (3) *That the Regional Council work towards the setting of a pricing methodology at the Policy and Finance and Wellington Regional Council meetings to be held on 7 July 1999.*

Councillor Laidlaw left at 12.50pm.



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Report No. 99.407

13 July 1999

File: B/19/6/1

|||K Reports \\DK 5 99 407 Petone Water Supply 5

Report to the Utility Services Committee
from Murray Kennedy, Strategy and Asset Manager

Petone Water Supply

1 Purpose

To update the Committee on the pending change of water source for the Petone area and associated issues.

2 Background

The latest advice from Hutt City is that the new Rahui reservoir for the Petone area will be completed in August this year and commissioned in September. At that stage the Buick Street pump station will cease duty, and Rahui will be supplied from the Waterloo Water Treatment Plant. There are a number of issues related to this change which are updated below.

3 Sourcing Water from the Waterloo Water Treatment Plant

The OK main along the Petone foreshore has been brought back into service. It was last used just prior to the Wainuiomata Water Treatment Plant being commissioned in 1993. Recommissioning was slightly more expensive than originally envisaged due to unforeseen repair work. The total cost though should not exceed \$150,000 when all accounts are received. Water used in flushing the pipe was discharged into Hutt City's waste water system.

At present the OK main is running in parallel with the 1050 main. Water passing through the pipeline meets our quality standards.

4 Rahui Reservoir Rising Main

The main has been laid and will be connected into the new reservoir as part of other work Hutt City is arranging at the reservoir site. Final costs will not exceed \$530,000 compared with a budget of \$590,000.

5 1993 Fluoridation Review Recommendations

One of the recommendations from the independent 1993 fluoridation review panel was to carry out an education programme before the Petone supply was changed to fluoridated water. With the delay by Hutt City in building the new Rahui reservoir there was no point in doing this before now.

The initial phase of the education programme was a presentation at a public workshop organised by Hutt City for its Councillors.

This has been followed by a brochure delivered to all residencies in the Petone area in the second weekend of July in preparation for public meetings the following week. These public meetings are being facilitated by Regional Councillors from the Lower Hutt constituency. WRC officers have been invited to make presentations at the meetings along with other interested groups. Various advertisements incorporating information on fluoridation and the Regional Council's fluoridation policy are also planned.

It is expected that the education programme will cost about \$15,000. This is the same amount as Hutt City has allocated for its consultation programme on whether or not the Petone water should be fluoridated or unfluoridated.

A further recommendation from the 1993 fluoridation review was:

the Council promote the monitoring of the impact of the adjustment of fluoride levels in water supplies by the appropriate national, regional and Maori health authorities.

We are fortunate that the Public Health Service, based in Lower Hutt, has taken a particular interest in the impact of fluoridated water in reducing dental decay. A comprehensive database is available so that it will be possible for the Service to measure the benefits from fluoridation, assuming Petone water is fluoridated in the longer term.

6 Longer Term Source of Petone's Water

Once the Rahui reservoir is completed, fluoridated water will be supplied, as noted in point 3. Discussion with Hutt City officers has identified the two most practical and cost effective options for supplying unfluoridated water, if this is the longer term decision. These options would be a one off cost to Hutt City of either \$550,000 or \$400,000 depending on the final outcome.

Hutt City has also requested the WRC to allow it to take over the Petone water supply. A separate report to the Committee evaluates this request.

7 Untreated Water Public Supply Point

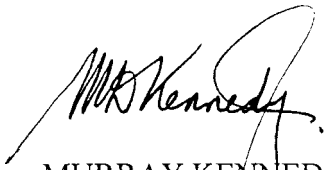
At present the WRC provides a public tap at the Gear Island pump station. This provides natural artesian water. Hutt City is responsible for testing the tap water and ensuring the tap is kept clean. The City has made provision in its Annual Plan for an extensive water feature in, or near, Jackson Street Petone. Once this is built the Gear Island tap will be removed.

One of the recommendations from the 1993 fluoridation review was the provision of an untreated water supply, though at the Waterloo Water Treatment Plant. Hutt City's Petone facility will serve the same purpose. Accordingly, it has been indicated to Hutt City that if they wish to ask the WRC for a contribution to the water feature, the request would be put before the Utility Services Committee.

8 Recommendation

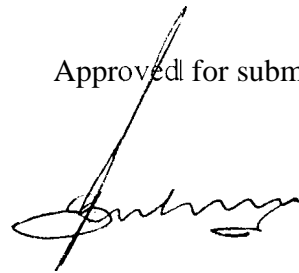
- (i) *That the report be received&d the contents noted.*

Report prepared by:



MURRAY KENNEDY
Strategy and Asset Manager

Approved for submission:



“DAVID BENHAM
Divisional Manager, Utility Services



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Report 99.497

24 August 1999

File: B/19/6/1

US99.497

Report to the Utility Services Committee
from Murray Kennedy, Strategy and Asset Manager

Commissioning of Hutt City Council's Rahui Reservoir

1. Purpose

To advise the Committee of the proposed response to Hutt City Council's request to delay the commissioning of the new Rahui Reservoir.

2. Background

Hutt City Council has written to the Wellington Regional Council as a result of a request from the Petone Community Board. The Community Board would like the commissioning of the new Rahui Reservoir delayed until the results of Hutt City Council's fluoridation consultation process are known in late October.

If, in due course, Hutt City Council advises that non-fluoridated water is required for Petone and they are prepared to pay for system changes, then commissioning of Rahui could be delayed until late in 2000.

As a consequence, the Buick Street Pump Station would be expected to remain in service until then.

3. Issues

There are several issues to be considered in evaluating whether or not Buick Street can be kept operating until late in 2000.

3.1 Power Costs

Rahui Reservoir demands can be accommodated through the "Wellington" pumps at the Waterloo Water Treatment Plant operating for a longer period, rather than an

incremental increase in pumping capacity. Annual energy charges for Buick Street would be similar to the additional energy charges we will incur at Waterloo. Annual network charges for the Buick Street Pump Station are about \$15,000. Once pumping shifts to the Waterloo Water Treatment Plant we would expect to save this amount.

3.2 Resource Consent

Condition 6 of the resource consent requires us to operate in accordance with the documents submitted as part of the consent process. It was submitted that Buick Street was to close at the end of June 1999 when the new Rahui Reservoir was expected to be completed.

If the Buick Street closure were delayed more than another month or two, we would be obliged to apply for a consent variation. While it is expected this will be granted, the cost of preparation and fees would amount to about \$2,000.

3.3 Aquifer Test

One of the conditions for our aquifer resource consent is to undertake a major pump test. This is to be at the highest sustainable steady state quantity we can achieve for a two week period. Results from this test will refine the sustainable yield from the aquifer. Preparations are underway for a test in the March/April period next year. During the period of the test we will close Buick Street. Petone would be supplied with chlorinated and fluoridated water while the test was in progress.

3.4 Timing for Delivery of Unfluoridated Water to Rahui

Design work to provide unfluoridated water to the Rahui Reservoir has not started. It was not our intention to start the process until Wellington Regional Council had resolved all the issues with Hutt City Council. Although the changes to the fluoridation process, based on supplying unfluoridated Waterloo water to Rahui are unusual, they do not appear to be technically difficult. Water going to Wellington City and originating at Waterloo must have fluoride added at Gear Island. Blending occurs when fluoridated Wainuiomata water is also being supplied to Wellington through the 1050 mm mains. As a first step we would try and find a water authority overseas that tops up the fluoridation level of blended water. As far as timing goes there seems to be a trade-off. We could design a system, which may cover all possibilities. This can be installed relatively quickly but at some cost. Alternatively, we could stage the process and add enhancements as necessary to ensure the fluoride level is between the required level of 0.7 and 1.0 ppm. This is a least cost solution, and our preference, but takes longer than the other option.

3.5 Buick Street Pump Station

There has been an expectation that the Buick Street Pump Station would close for some time. Much of the system dates from when the pump station was built in 1964, 35 years ago. Depending on usage, pump station major overhauls are undertaken about every 30 years.

In response to Hutt City Council's letter a full mechanical and pipework inspection was carried out together with an independent electrical inspection. The latter raised some immediate concerns, which are being attended to.

To ensure that the station can be kept operating until the end of 2000, and we can meet our health and safety obligations, \$148,000 has to be spent. Of this, \$78,000 is for electrical work and \$70,000 for mechanical equipment and pipelines. There would be minimal residual value from the expenditure in '15 months time.

3.6 Buick Street Operational Failure

In the event there was an operational failure at Buick Street then we would not carry out any substantial repair work. Instead, Petone would be supplied with chlorinated and fluoridated water until Hutt City Council was able to commission the new reservoir. This may take up to a week. Chances of a failure though are minimised after the overhaul work mentioned in section 3.5 is completed.

3.7 Hutt City Council Costs

Hutt City Council would also face additional costs as a substantial portion of their commissioning work has been completed. Some of this would be repeated at the end of next year if there is a delay.

4. Discussion

Construction and commissioning of the new Rahui Reservoir has been a drawn out process. There are references to a new reservoir on the Wellington Regional Council files from the early 1980s. Finance was committed by both Councils two years ago and expenditure by the Wellington Regional Council on a rising main and recommissioning the OK main to deliver aquifer water to the new reservoir is in excess of \$700,000.

There are additional costs in the order of \$180,000 if the Buick Street Pump Station is to continue in service until the end of 2000. The balance is between these costs, which are public expenditure, and a possible desire by the Petone community to continue receiving unfluoridated water.

It is difficult to see that the perceived benefits outweigh the costs. Accordingly, it is proposed to ask Hutt City Council to complete the commissioning of the Rahui Reservoir as soon as practicable.

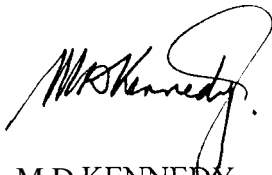
5. Recommendations

That the Utility Services Committee:

- (1) *Receive the report and note its content.*

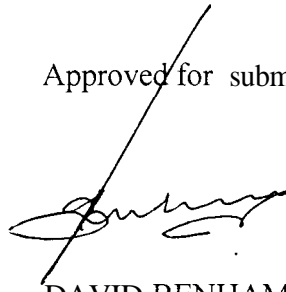
- (2) *Note that costs of approximately \$180,000 would need to be expended to continue to operate the Buick Street Pump Station safely for a further period of time.*
- (3) *Agree, as a consequence, that the Council cannot meet the request to delay commissioning of the Rahui Reservoir.*
- (4) *Note, that upon advice from Hutt City Council that Rahui Reservoir has been commissioned, unchlorinated/fluoridated water from Waterloo Water Treatment Plant will be supplied to that reservoir (this is likely to be the case in a short period of time).*
- (5) *Note, that upon request from Hutt City Council to supply unfluoridated aquifer water to Rahui Reservoir there will be a cost to Hutt City Council of approximately \$550,000 and a lead time of approximately 12 months to meet that request.*

Report prepared by:



M D KENNEDY
Strategy and Asset Manager

Approved for submission:



DAVID BENHAM
Divisional Manager, Utility Services

Report endorsed by:



DAN ROBERTS
Group Manager Operations

US 65 **Confirmation of Minutes**

Resolved

(Cr Thomas/Cr Shaw)

That the Public and the Public Excluded minutes of the meeting held on 20 July 1999, Report 99.505 and Report PE 99.498, the public excluded part to remain in public excluded be confirmed.

Matter for Recommendation to Policy and Finance Committee

us 66 **Reallocated Capital Expenditure**

Report 99.484

File: B/1 6/8/3, B/40/1 0/4

Resolved to Recommend

(Cr Thomas/Cr Laidlaw)

That the Policy and Finance Committee:

- (1) Approve a **further** \$52,000 to complete the Gear Island Water Treatment Plan switchboard installation.*
- (2) Approve an increase **from** \$150,000 to \$235,000 for the **first** stage of the rehabilitation of the OK **main from Thorndon to Karori.***
- (3) Note that both projects will be contained within the total approved capital expenditure of \$4.165 M for 1999/2000.*

Matters for Committee Decision

US 67 **Commissioning of Hutt City Council's Rahui Reservoir**

Report 99.497

File: B/19/6/1

Resolved

(Cr Laidlaw/Cr Shaw)

- (1) That the report be received and the contents noted.*
- (2) Note that costs of approximately \$180,000 would need to be expended to continue to operate the Buick Street Pump Station safely for a further period of time.*
- (3) Agree, as a consequence, that the Council cannot meet the request to delay commissioning of the Rahui Reservoir.*

- (4) Note, that upon advice *from* Hutt City Council that Rahui Reservoir *has* been commissioned, *unchlorinated fluoridated* water *from* Waterloo Water Treatment Plant will be supplied to that reservoir (this is likely to be the *case* in a short period of time).
- (5) Note, that upon *request from* Hutt City Council to supply *unfluoridated* aquifer water to Rahui Reservoir there will be a cost to Hutt City Council of approximately \$550,000 and a lead time of approximately 12 months to meet that request

Councillor Thomas requested her dissenting vote be recorded for recommendation (5) above.

Councillor Allen left at 12.1 Opm.

US 68 **Wholesale Water Supply: Review of Fees and Charges for Private Supplies: Period July 1999 to June 2000**

Report 99.504

File: B/5/3/1

Resolved

(Cr Shaw/Cr Laidlaw)

- (1) *That a variable water rate of 44.4 cents per cubic metre for private supplies for the period 1 July 1999 to 30 June 2000 be approved*
- (2) *That **fixed** fees and charges the same as was set for the 1997/98 financial year be approved.*

Matters for Information

US69 **Divisional Report**

Report 99.500

File: O/2/1 /10

Councillor Shields left at 12.1 Opm on other Council business.

Resolved

(Cr Laidlaw/Cr Shaw)

That the report be received and the contents noted

US 70 **Questions**

There were no questions.



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Report 99.729

30 November 1999

File: B/10/1/3

J Support/Gay/99729

Report to the Utility Services Committee
from Murray Kennedy, Strategy and Asset Manager

Petone Water Supply

1. **Purpose**

To update the Committee on Petone Water Supply issues.

2. **Rahui Reservoir Water Supply**

As reported at the last Committee meeting, the new Rahui reservoir was brought into service on 8 October. Water supplied to the new reservoir has met our quality standards. However, the level of iron in the water at times has been near the maximum allowable under the New Zealand Drinking Water Standards. Iron is an aesthetic determinant, as opposed to a health determinant. It is expected iron levels will reduce over time and are probably linked to the re-commissioning of the main along the Petone foreshore.

3. **Fluoridation Consultation**

Hutt City Council (HCC) has completed their fluoridation consultation process for Petone and will consider all the information at a Council meeting on 7 December. Results from the household survey are given in a letter received from HCC (**Attachment 1**). Residents are generally in favour of receiving a non-fluoridated water supply and are prepared to pay for it.

4. **Gear Island Temporary Supply**

Hutt City Council had previously requested a non-fluoridated supply from the Gear Island Water Treatment Plant (WTP) as an interim arrangement. Officers from both Councils met to discuss this.

A variation is required to the Gear Island WTP resource consent. The need to notify the consent publicly was accepted as a probable outcome. Notification and the statutory close out period over the holiday period led us to the conclusion that a temporary supply could not be operational until late March. At the same time, Wellington Regional Council (WRC) officers were able to indicate a permanent solution can be constructed in substantially less than the 12 months initially advised.

As a result, HCC officers with some reluctance have agreed that the Gear Island interim solution can be parked in the meantime.

5. **Permanent Unfluoridated Water Supply**

Preliminary investigation work has now been completed into supplying Petone with non-fluoridated water on a permanent basis. To achieve this changes are required at the Waterloo and Gear Island WTPs. Costs will not exceed \$410,000 which is less than the \$550,000 indicative figure prepared before the investigation work was carried out. Hutt City Council and our other customers have been advised of this cost and some of the technical details (**Attachment 2**).

If the \$410,000 for the capital cost is borrowed at 8.5% interest, and repaid over 15 years, then the annual charges are \$48,400.

6. **Funding System Changes**

In the event HCC asks the WRC to supply non-fluoridated water to Petone, the vexed question of funding remains unresolved.

To assist in the resolution process our other three city customers have been asked to consider whether or not the WRC should pay some, or all, of the capital costs (**Attachment 3**).

Two of the city customers have replied that they will not be able to formulate a policy in time to consider the issue at their last Council meeting of the year. Accordingly, a response is now expected in February.

7. **Petone Water Feature**

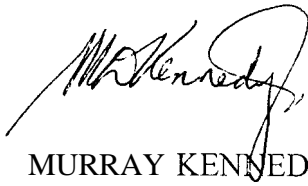
At present the public can take artesian water from a tap at the Gear Island WTP before the treatment process. Hutt City Council monitors the quality of this water. Several aspects of the arrangement are not satisfactory.

Hutt City Council is proposing to construct a water feature in the central Jackson Street area. A design competition is being held at present and an application has been made to the Millennium Office for funding assistance.

8. **Recommendations**

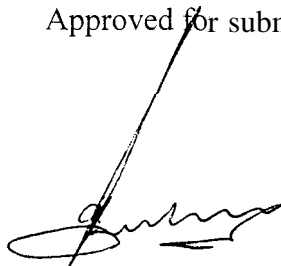
That the report be received and the information noted.

Report prepared by



MURRAY KENNEDY
Strategy and Asset Manager

Approved for submission



DAVID BENHAM
Divisional Manager, Utility Services

Attachments (3)

Contact: Gary O'Meara
Group/Division: Water Services
Telephone: 04-570-6886
Facsimile: 04-569-3180
E-Mail: omeara@huttcity.govt.nz
Our Reference: WS80-12-02

18 November 1999

Murray Kennedy
Strategy and Asset Manager
Wellington Regional Council
PO Box 11-646
WELLINGTON

Dear Murray

CONSULTATION RESULT -FLUORIDATION OF PETONE WATER SUPPLY

The results of the consultation with the Petone community on the fluoridation of the Petone water supply have now been received from Council's consultants, Colmar Brunton Research.

A report on the results of the consultation together with recommendations is to be presented to the Hutt City Council Works and Services Committee on the 23 November 1999. A copy of the report will be forwarded in due course.

The consultation consisted of interviews with 1000 people in the affected area. Residents were asked about their knowledge of the issue and were read out a brief summary of the reasons why the area was facing a change to fluoridated water. They were then asked the following 3 questions:

1. If there were no cost to Hutt City residents, would you prefer to have fluoridated or unfluoridated water?
2. If the cost were spread over the whole City, unfluoridated water for Petone and Korokoro would cost around \$2 extra in rates per year for 15 years. If this were the case would you prefer to have fluoridated or unfluoridated water?
3. If the cost were just spread over Petone and Korokoro, unfluoridated water for these areas would cost around \$25 extra in rates per year for 15 years. If this were the case would you prefer to have fluoridated or unfluoridated water?

B/

FILE No.	B1191611	
TO NOTE	INIT.	DATE
M Kennedy		
TO ACTION		



HUTT CITY
COUNCIL

30 Laings Road
Private Bag 31912, Lower Hutt
New Zealand
<http://www.huttcity.govt.nz>



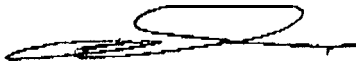
The results of the consultation are outlined as follows:

	No cost	\$2	\$25
Don't Know	3%	2%	4%
No Preference	8%	7%	6%
Fluoridated	13%	16%	22%
Unfluoridated	76%	75%	68%

Awareness of the issue was very high with 90% of people interviewed aware they were facing a change in their water supply and that the significant change was the addition of fluoride. The consultation results have a maximum margin of error of $\pm 3.1\%$ at the 95% confidence level.

The results clearly indicate that the **majority** of the affected community would prefer their water supply to remain **unfluoridated**.

Yours sincerely



Gary O'Meara
WATER SUPPLY MANAGER



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Office of the Chairperson

File: B/1 9/6/1

28 October 1999

Dear

Petone Water Supply

As you are no doubt aware, the Wellington Regional Council (WRC) and Hutt City Council (HCC) have been discussing the future of Petone's water supply. In particular, we now have to consider the costs of changes to the wholesale water supply system if HCC indicates it prefers an unfluoridated water supply for Petone.

The purpose of this letter is to seek your views on implications of the cost issue, as your City purchases water from the WRC.

First, a brief background to the situation.

In 1993 WRC engaged an independent review panel of eminent citizens to consider water fluoridation. This review was triggered by HCC's proposal to build a new reservoir for Petone. The panel recommended that the WRC continue its fluoridation policy and extend it to the Petone water supply when the new reservoir was built. They also proposed that Petone should continue to receive aquifer sourced water, though this was not the WRC's plan at the time.

For various reasons HCC delayed the new Petone reservoir project. In 1998, following further representations from HCC, the WRC agreed to supply aquifer water from Waterloo to the new Petone reservoir. The WRC had earlier agreed to construct and pay for a new pipeline to the reservoir in accordance with our normal policy, at a cost of \$550,000. Supplying aquifer water by recommissioning an old pipeline along the Petone foreshore has cost an additional \$180,000. This also adds security of supply to the whole water distribution system. The new Rahui reservoir was commissioned by HCC in October this year.

Prior to completion of the new Petone reservoir, Petone was supplied with unfluoridated water from the Buick Street pumping station. This pumping station has now been closed because of its age and poor condition, and Petone water is now supplied from the aquifer, via the Waterloo Water Treatment Plant. This water is currently fluoridated (but not chlorinated).

In February this year WCC indicated it was keen for the WRC to carry out a public consultation process across the four cities to decide whether water should continue to be fluoridated. In May, after receiving advice from its health advisors, the WRC strongly endorsed its fluoridation policy and declined HCC's request for further consultation. It has been indicated to HCC though that if Petone requires unfluoridated water it could be made available, provided HCC pays. Costs are currently estimated at \$550,000. At present the wholesale water supply system has been set up as a fluoridated system. Separating out unfluoridated water, specifically for Petone, requires significant changes at the Waterloo and Gear Island Water Treatment Plants, and possible additional pipe work.

Hutt City Council is of the view that the WRC should pay the cost for changes to the wholesale water supply system if Petone residents decide, through a public consultation process, that they prefer unfluoridated water. The HCC is about to complete its own consultation in Petone. Because the wholesale water supply system is ring fenced, in a financial sense, then if the WRC paid for the changes, the costs would be borne, in time, by all four city customers.

An attachment sets out the pros and cons of whether or not the WRC should pay the estimated \$550,000 for system changes, if requested to do so by HCC. At present the WRC is of the view it should not pay for the changes in order to provide Petone with unfluoridated water. We have already committed \$730,000 to this project. However, if there was a consensus by our water supply customers that we should pay some or all of the cost of providing Petone with unfluoridated water, then I would take the matter to my Council for further consideration.

I would welcome your views on the payment issue.

Out of interest, I have attached an article on fluoridation, published this week by the American National Centre for Chronic Disease Prevention and Health Promotion.

Yours sincerely



STUART MACASKILL
Chairman

Encl.

Copy to: Mayor John Terris
The Hutt City Council
Private Bag 3 1-9 12
LOWER HUTT.



caring about you & your environment

File No.: B/18/2/1

30 November 1999

Mr Gary O'Meara
Water Supply Manager
Hutt City Council
Private Bag 31-912
Lower Hutt

Dear Gary

Petone Water Supply

Thank you for your letter advising the results of surveying Petone residents about whether or not their water supply should be fluoridated.

Further information was promised by the Wellington Regional Council as part of the decision making process. We have now completed the following:

- A detailed preliminary budget for changes to the wholesale water supply system so Petone could be supplied with unfluoridated water. The maximum estimated capital cost is \$410,000 which includes a contingency sum of 15 percent. The total is less than the \$550,000 initially suggested. This was based on no more than a concept.

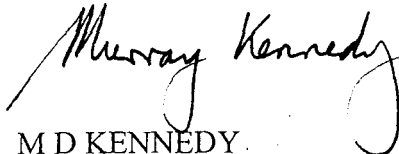
If the work proceeds then it is possible that a liquid form of fluoride, rather than a powder form, may be used at Gear Island. This would reduce the capital costs by \$30,000. There are other factors to consider and these have not been fully explored at this stage. Out of interest, I have attached the draft process and instrumentation diagrams for the changes at Waterloo and Gear Island.

- Consultants have provided a budget price of \$3,000 for applying for a variation to the Gear Island resource consent. Costs associated with processing the application and a hearing are additional.

We have been asked to comment on the difference in operating costs by closing Buick Street and supplying Petone water from the Waterloo water treatment plant. An attachment provides the details.

As far as I am aware this completes the process of providing outstanding information to Hutt City Council.

Yours sincerely



M D KENNEDY
Strategy and Assets Manager

Copies to: ~~Tim Davin
Group Manager, Utilities Policy
Porirua City Council
PO Box 50218
PORIRUA~~

~~Eachlan Wallach
Director of Operations
Upper Hutt City Council
Private Bag 907
UPPER HUTT~~

Charles Willmot
Manager, Water and Waste
Wellington City Council
PO Box 2199
WELLINGTON

Encl.

Operational Changes

1. Petone water supplied from Waterloo Water Treatment Plant (WTP) instead of Buick Street Pumping Station.
2. Petone is provided with unfluoridated water, if requested by Hutt City and agreement is reached on funding the capital works.

Buick Street Costs 1998/99

- Recorded optional costs for 1998/99; \$69,215
These costs will not be incurred once Buick Street was closed.

Waterloo Water Treatment Plant to Supply Petone (Rahui Reservoir)

- Energy costs as per Buick Street (network costs are avoided) \$19,000
- Additional energy to pump to new Rahui reservoir 20m higher than old reservoir \$6,200
- Allowance for marginal pump maintenance at Waterloo WTP \$1,000
- Allowance for maintaining Wellington Regional Council main along Petone foreshore \$10,000
- \$36,200
- Saving from closing Buick Street \$33,000

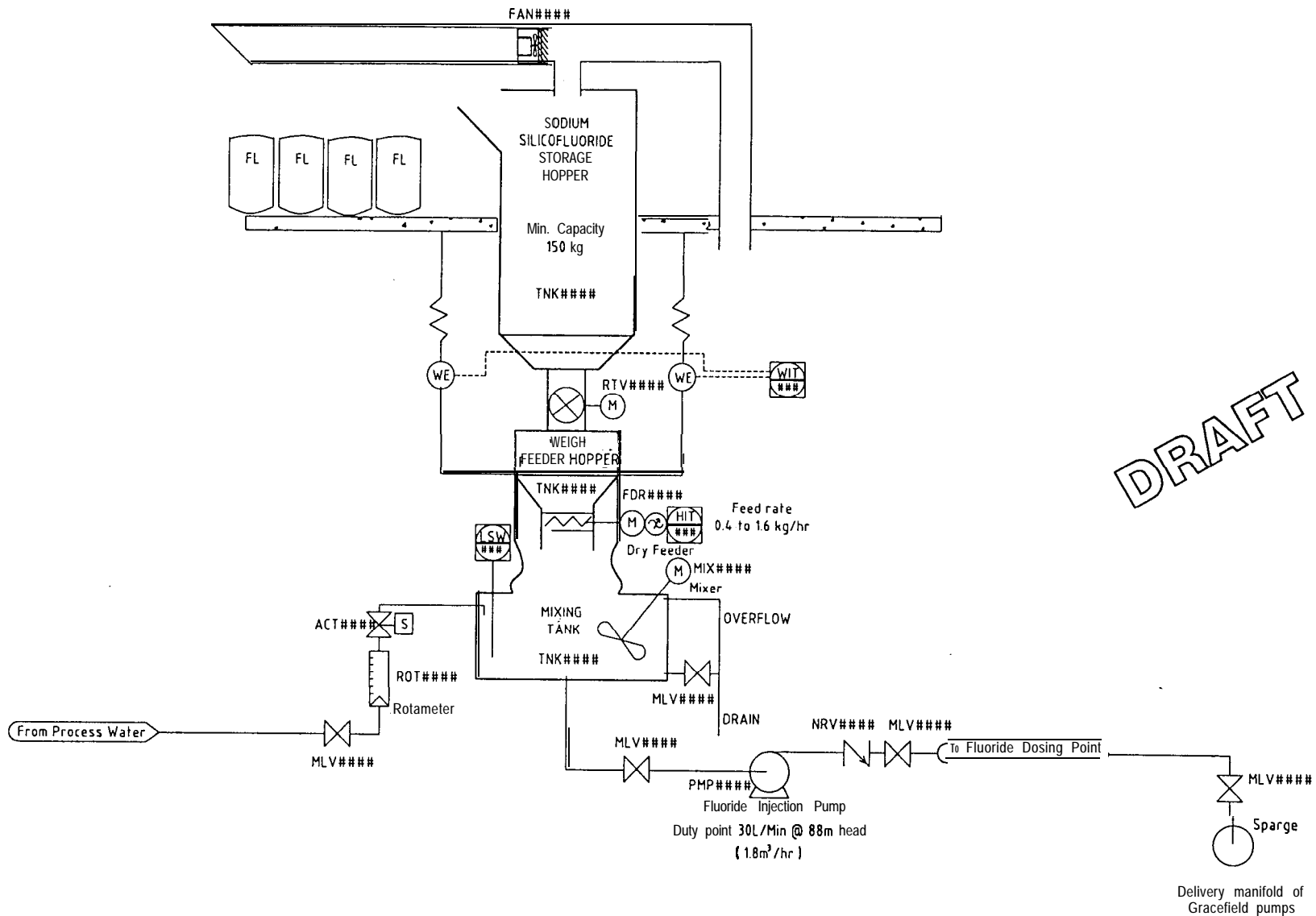
Fluoridation

Costs if Petone is supplied with unfluoridated water

- Maintenance and operation of new fluoridation equipment at Waterloo and Gear Island WTP \$10,000
- Depreciation \$12,000
- \$22,000
- Annual saving from closing Buick Street and providing Petone with unfluoridated water \$11,000

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AMENDMENT	DWN	CHK	DATE

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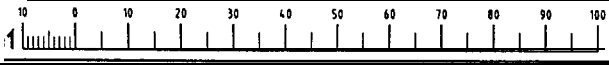
UTILITY SERVICES DIVISION
OPERATIONS GROUP

DESIGN	JOHN DUGGAN	
DRAWN	JAYTUNGA HILLA	11/99
CHECKED		
RECOMMENDED		
APPROVED		

WATERLOO WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION DIAGRAM
PROPOSED SODIUM SILICOFLUORIDE DOSING SYSTEM
FOR GRACEFIELD RESERVOIR SUPPLY

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SCALE	NTS		SHEET N°.
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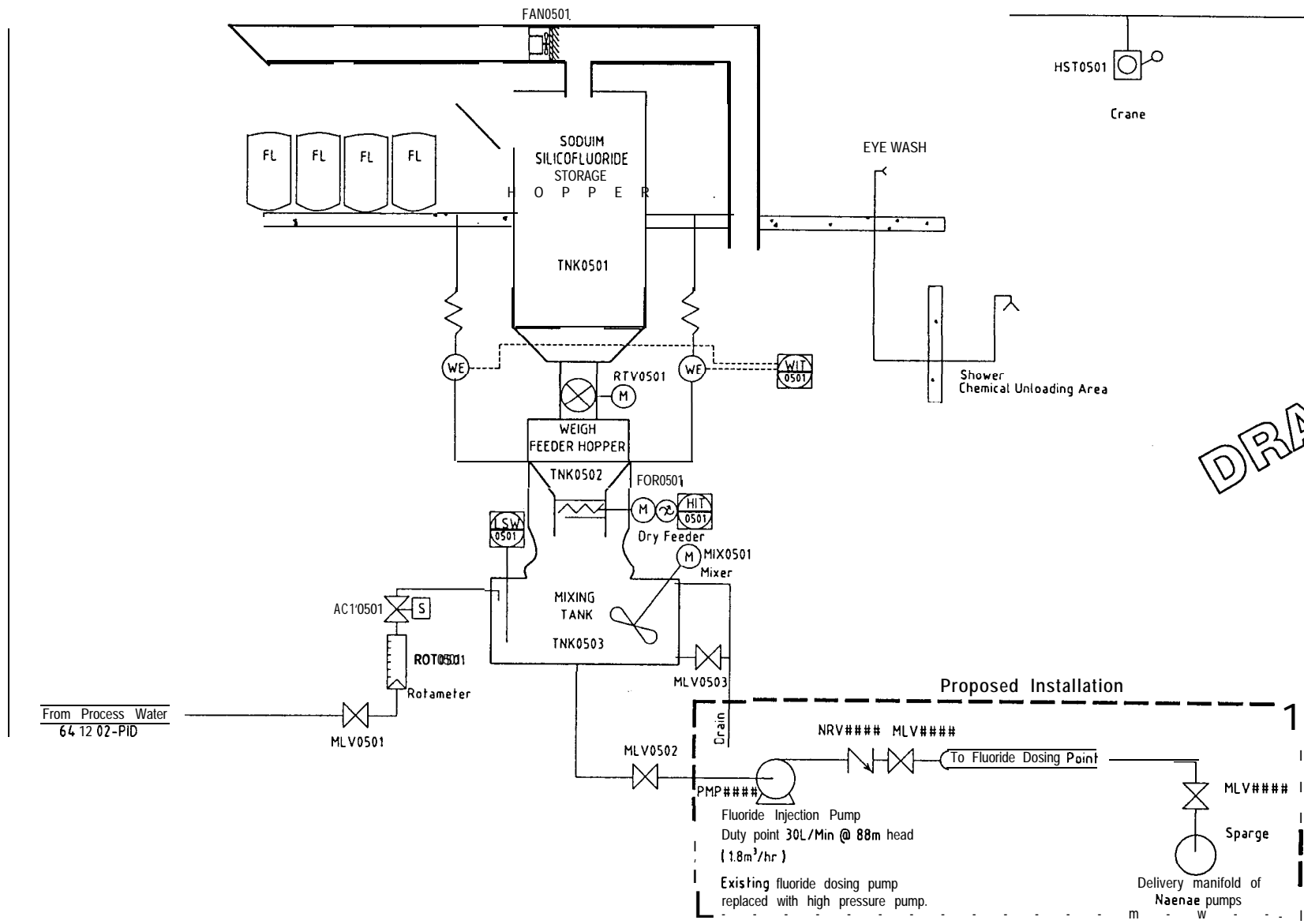


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THE REGIONAL COUNCIL

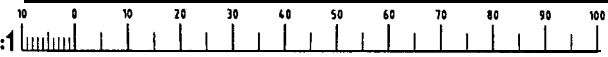
UTILITY SERVICES DIVISION
OPERATIONS GROUP

DESIGN	JOHN DUGGAN
DRAWN	JAYTUNGA MILLA 11/99
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WATERLOO WATER TREATMENT PLANT

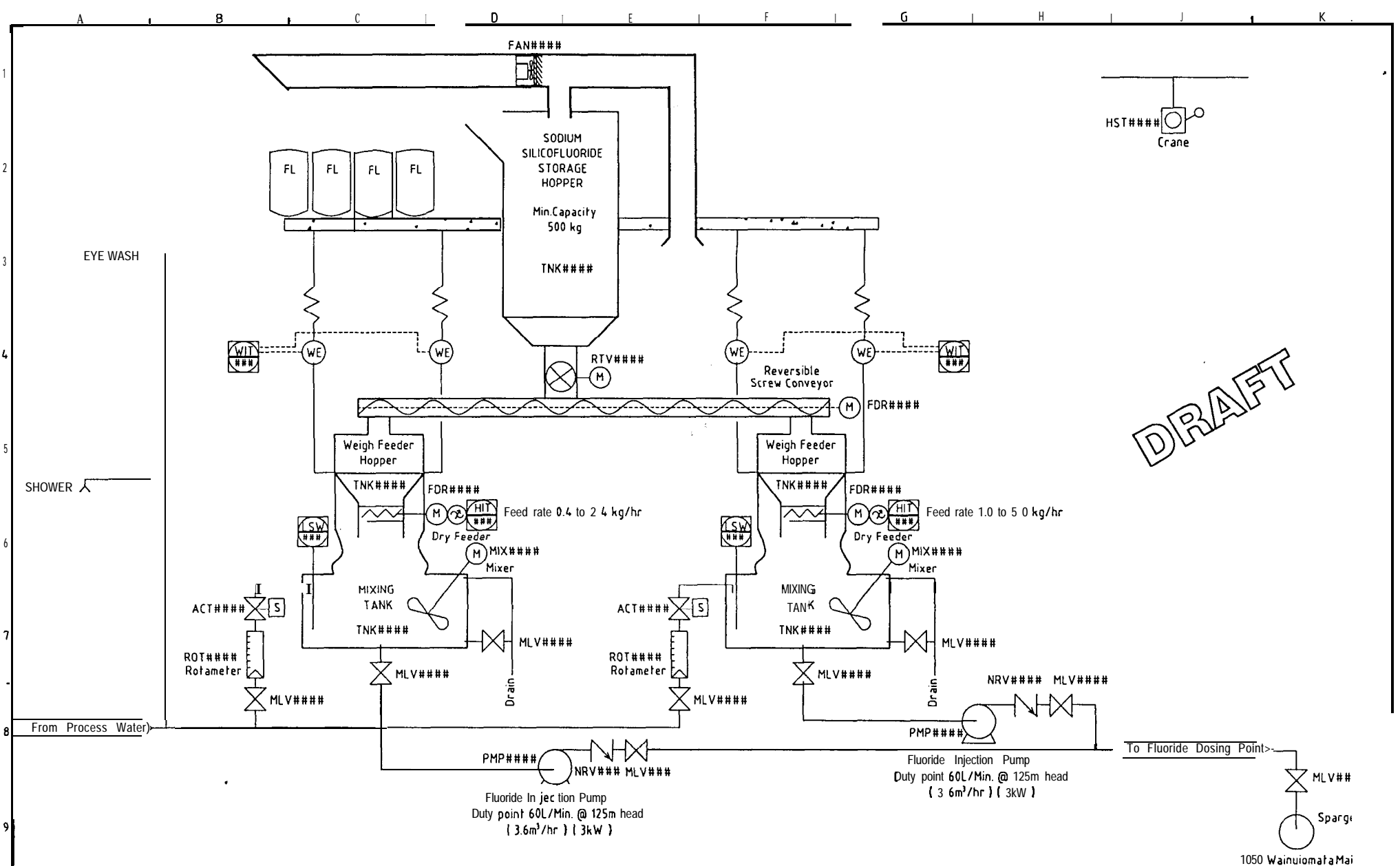
PROCESS AND INSTRUMENTATION DIAGRAM
PROPOSED ALTERATIONS TO FLUORIDE DOSING SYSTEM
FOR NAENAE RESERVOIR SUPPLY

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AMENDMENT	DWN	CHK	DATE

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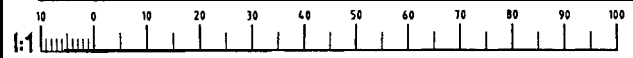
UTILITY SERVICES DIVISION
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DRAWN	JAYTUNGA MILLA	11199
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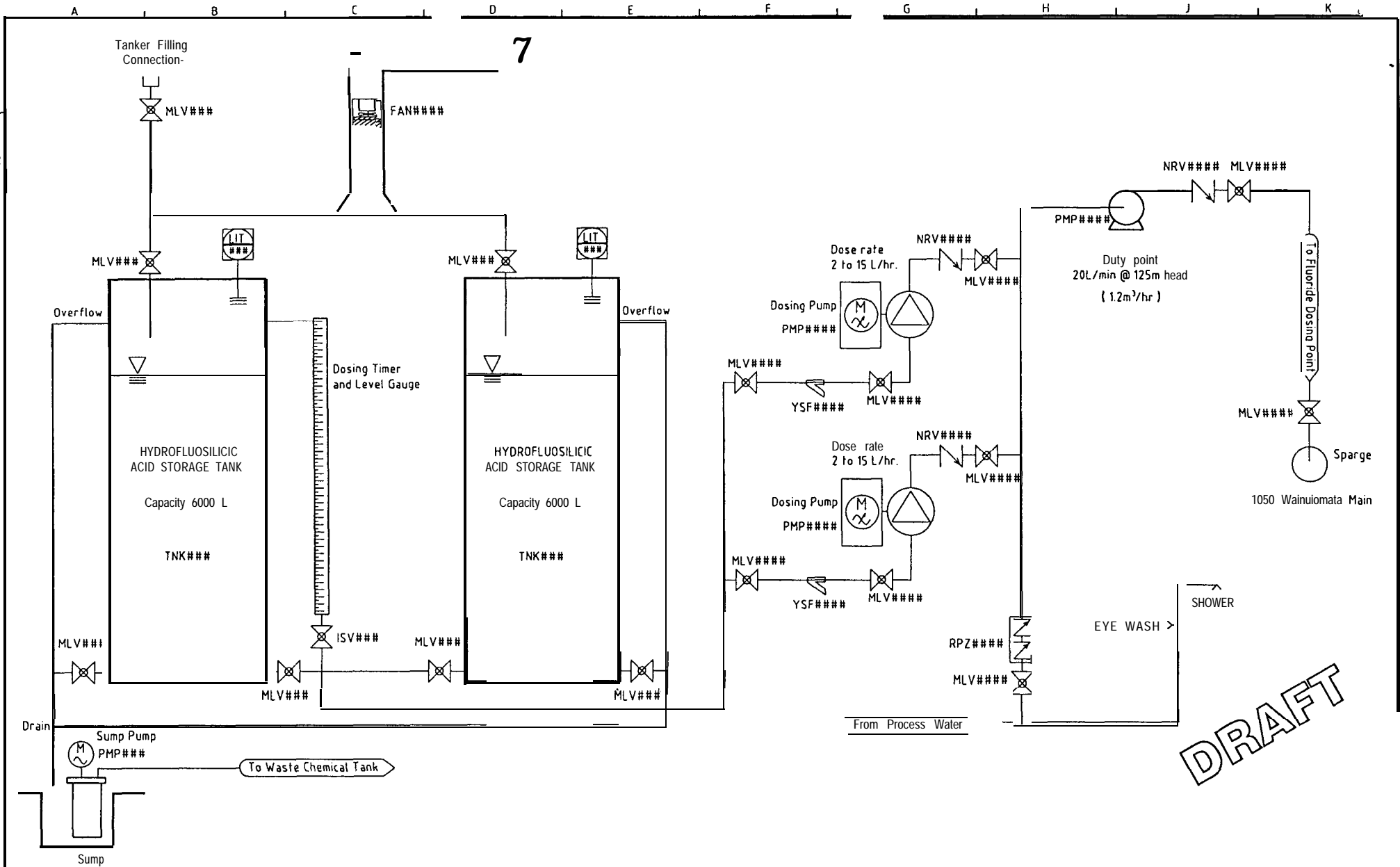
GEAR ISLAND WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION DIAGRAM
PROPOSED SODIUM SILICOFLUORIDE DOSING SYSTEM
FOR WELLINGTON SUPPLY

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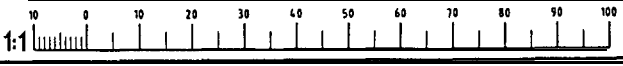
UTILITY SERVICES DIVISION
OPERATIONS GROUP

DESIGN	JOHN DUGGAN
DRAWN	JAYTUNGA MILLA 11199
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GEAR ISLAND WATER TREATMENT PLANT

PROCESS AND INSTRUMENTATION DIAGRAM
ALTERNATIVE HYDROFLUOSILICIC ACID DOSING SYSTEM
FOR WELLINGTON SUPPLY

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