
Water Supply

August 2000

Operations Group
August 2000

Operations Group Review of Operations for the Period Ended 31 August 2000

1. Items of Note

- The final commissioning of the system optimiser has been completed. The system is now operating well and benefits are beginning to be realised from the automatic predictions for the operation of Waterloo and Wainuiomata Water Treatment Plants.

2. Water Quality

A total of 244 samples from trunk mains were tested for coliform organisms. None of these samples tested positive.

A total of 90 samples of treated water from treatment plants were tested for faecal coliforms. None of these samples tested positive.

Secchi disc water clarity in the Te Marua north lake varied between 2.2 m and 3.8 m, and in the south lake between 2.0 m and 6.5 m. These are considered satisfactory.

The dominant phytoplankton were as follows:

- North Lake: *Oscillatoria*, *Staurastrum*, *Synedra*.
- South Lake: *Staurastrum*, *Cosmarium* and *Peridium*.

Oscillatoria is a filter clogging algae when present in high concentrations.

Synedra produces a musty smell and slick tongue sensation when abundant

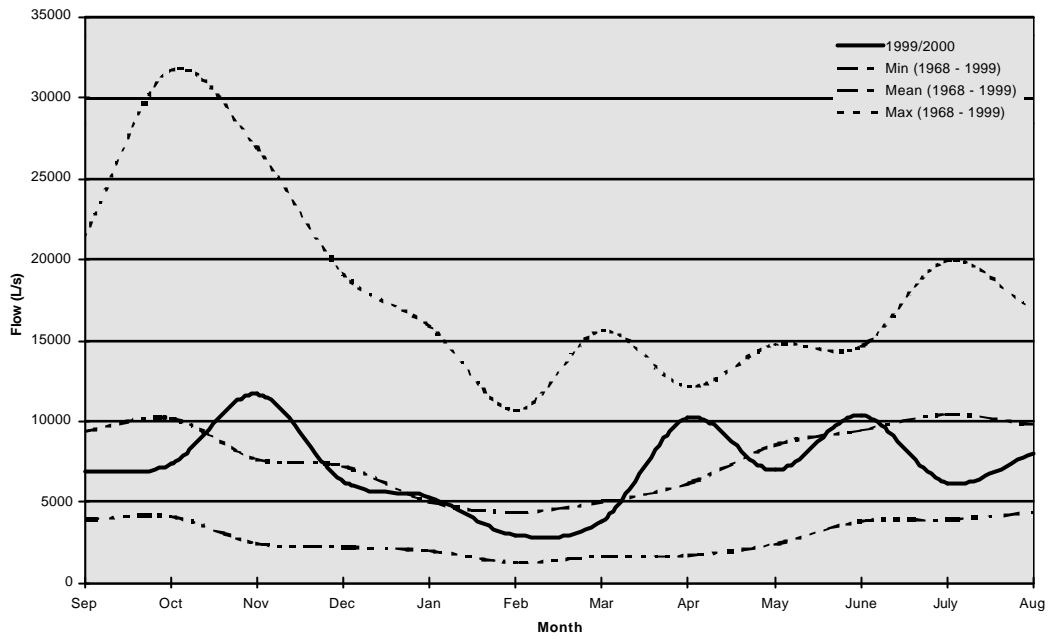
Staurastrum produces a grassy smell when abundant.

Dissolved oxygen and pH readings are also satisfactory.

Giardia and *Cryptosporidium* results were as follows:

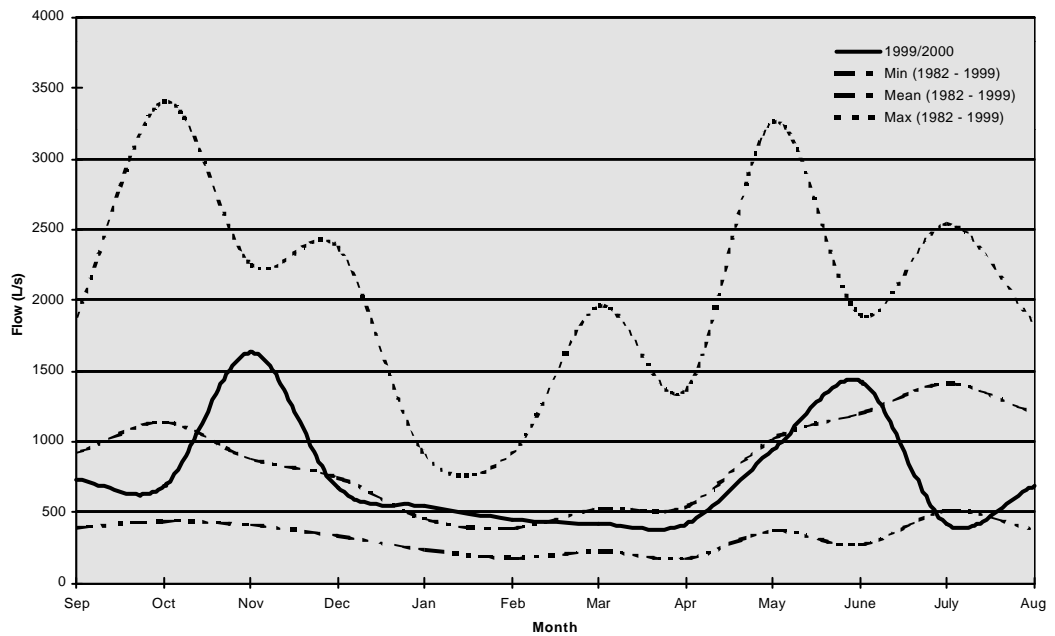
Te Marua

- | | |
|--------|------------------------------|
| Lakes |) No <i>Giardia</i> |
| |) No <i>Cryptosporidium</i> |
| Intake |) Low <i>Giardia</i> |
| |) Low <i>Cryptosporidium</i> |



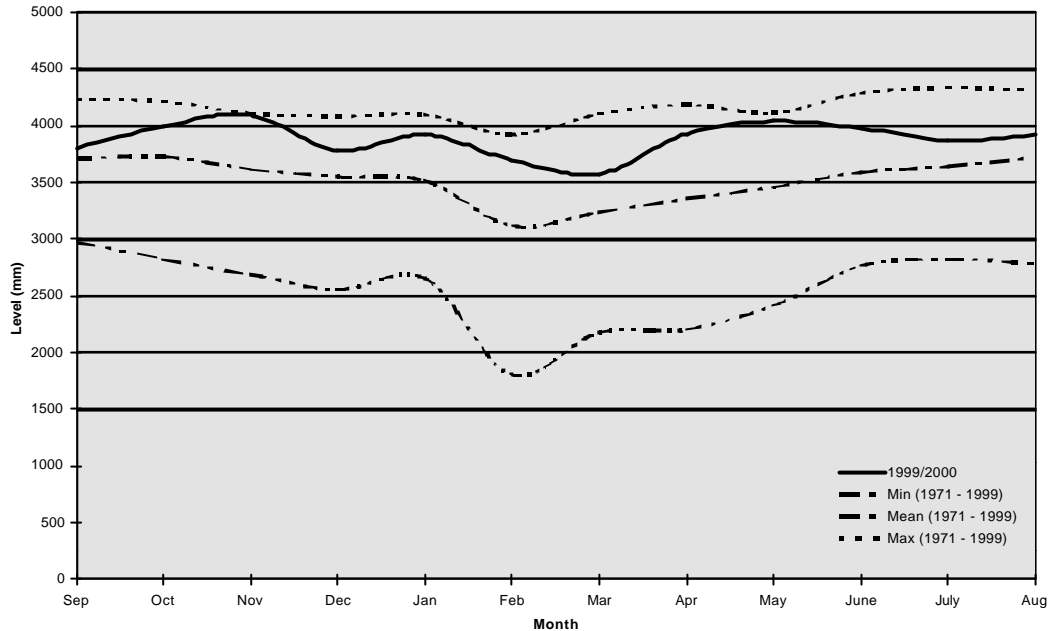
Wainuiomata River Flows

Flow in the Wainuiomata River during August was below average.



Aquifer Levels

The Waiwhetu aquifer level for August was above average.



4. Production

4.1 Wainuiomata

4.1.1 Quality

There are no quality issues to report

4.1.2 Safety

➤ There are no accidents or incidents to report.

4.1.3 Operations

8/9/10 August: The communication between the treatment plant and fluoride building failed. Hence there was no control of plant flow so the plant was run manually during the day only.

11 August: New radio equipment was installed to replace the cable between the treatment plant and fluoride building.

19/20 August: The plant was off because of the river conditions.

4.1.4 Projects

➤ Capital Works

- ◆ The new alkalinity, aluminium and particle counter instruments should be commissioned on 4 September.
- ◆ The track from the end of the Orongorongo road to the intakes is being upgraded.

4.1.5 Plant Tours

10 August: Rob Blakemore and students from an Opus course

14 August: WHO tour

25 August: Civil engineering students from Massey University

4.2 Waterloo Water Treatment Plant

4.2.1 Quality

There are no quality issues to report.

4.2.2 Safety

A worker cut their thumb while stripping cable.

4.2.3 Operations

3 August: A Naenae motor electrical connection burnt out. On further inspection terminals on other motors were running hot. These problems have been rectified.

4.2.3 Plant Tours

10 August: Rob Blakemore and students from an Opus course

4.3 Gear Island

4.3.1 Quality

There are no quality issues to report.

4.3.2 Safety

There are no accidents or incidents to report.

4.4 Te Marua

4.4.1 Quality

There are no quality transgressions to report.

4.4.2 Safety

A technician tripped on uneven ground, causing a minor back strain.

4.4.3 Operations

2 August: Treated colour high alarm caused by faulty instrument.

11 August: Sudden dip in process water level signal during electrical storm. This dip was caused by the normal operation of the lightning protection equipment. Modifications to software are being made to prevent any future problems.

11 August: Treated water high pH alarm caused by power cut during electrical storm.

16 August: Low chlorine alarm resulting in a plant slam-shut. Cause unknown. Further investigation is underway.

4.4.4 Plant Tours

7 August: Opus International Consultants Ltd : 10 people

7 August: Wellington School of Medicine : 10 people

14 August: Wellington College of Education : 41 people

16 August: Wellington College of Education : 22 people

18 August: CIT Software Engineering : 7 people

4.4.5 General

- The new aluminium and alkalinity instruments have been commissioned and are due to go on-line once issues regarding the most economic disposal of exhaust water have been resolved.
- The third stage of Te Marua's automated energy management is underway and is due for completion in early October.

5. Distribution

5.1 Health and Safety

A worker twisted their right knee, causing torn ligaments.

5.2 Pipeline Section

5.2.1 Maintenance

- Ongoing maintenance of the 1050 mm main from the Ngauranga valve chamber included:
 - ◆ Excavation and raising manholes from Kaiwharawhara Pumping Station to Thorndon
 - ◆ Maintenance on the Highland Park and Kaiwharawhara branch lines
 - ◆ Fabrication of spindles and brackets on all the scour and branch valves

5.2.2 Haywards Optimisation

- The outlet main from the No. 2 Reservoir was excavated and the Clayton valve, isolation valves, bypass valves and all pipework were removed.
- All the pipe specials for the outlet main were fabricated and installed, along with a new butterfly valve.
- Anchor blocks were boxed and poured at the valve chamber and the whole area backfilled.
- The double air valve on the inlet main to No. 2 Reservoir was renewed.
- The branch valve to Haywards Substation B Reservoir was renewed.

5.2.3 Wainuiomata 750 mm Cast Iron Main

- The 750 mm cast iron main in the Council year in Moores Valley Road was excavated and the pipe special fabricated for the Wainuiomata Stormwater Deviation Contract.
- A coupling and welding flanges were cut in and a 100 mm scour valve installed on the rising main to No. 2 Reservoir for the same Contract.

6. Health and Safety : Total Injury/Illness/Incident Record

➤ Production

There were two injuries incurred during August.

➤ Distribution

There was one injury incurred during August.

➤ Network

There are no accidents or incidents to report.

The following table summaries the Operations Group health and safety data for 2000.

Operations Group Health and Safety Data 2000: Total Injuries

Production

2000	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	2,005	2,364	2,662	1,835	2,612	2,438	2,251	2,564					Jan = Bee Sting Mar = Wasp Sting Aug = Cut thumb while stripping cable. Stumbled and strained lower back.
Employee numbers	12	14	14	11	14	14	14	14					
Injuries	1	0	1	0	0	0	0	2					
Days lost	0	0	0	0	0	0	0	5					
Incidence rate (number of injuries per 100 workers)	8	0	7	0	0	0	0	14					
Frequency rate (injuries per 1,000,000 hours exposure)	499	0	376	0	0	0	0	780					
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	1,950					

Distribution

2000	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	1,387	1,873	1,896	1,458	2,089	1,817	1,834	2,056					Jan = cutting wheel kicked back and cut into inner thigh Mar = Hit on head by acroprop. Lump on head and bloodshot left eye Aug = Twisted right knee (torn ligaments)
Employee numbers	9	11	11	9	12	11	11	11					
Injuries	1	0	1	0	0	0	0	1					
Days lost	5	0	0	0	0	0	0	2					
Incidence rate (number of injuries per 100 workers)	11	0	9	0	0	0	0	9					
Frequency rate (injuries per 1,000,000 hours exposure)	721	0	527	0	0	0	0	486					
Severity rate (days lost to injury per 1,000,000 hours worked)	3,605	0	0	0	0	0	0	973					

Network

2000	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	4,239	4,940	5,437	4,236	5,193	4,418	4,376	4,391					Mar = Back sprain while walking Jun = Tripped over, sprained hand
Employee numbers	22	25	26	23	25	25	25	24					
Injuries	0	0	1	0	0	1	0	0					
Days lost	0	0	0	0	0	0	0	0					
Incidence rate (number of injuries per 100 workers)	0	0	4	0	0	4	0	0					
Frequency rate (injuries per 1,000,000 hours exposure)	0	0	184	0	0	226	0	0					
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0					

Definition of an Injury/Incident = anything that is work related and entered into the OSH Accident Register (blue book).

Operations Network Review of Operations for the Period Ended 31 August 2000

1. Items of Note

- During the period three burst mains were reported and all repaired within the allotted time frame.
- The Water Services Agreement with the Wellington City Council is producing good results, which are aided by the joint auditing procedure that has been put in place to monitor work activities.

2. Water Quality

2.1 Routine Testing (A1)

The water quality was monitored and the appropriate laboratory tests were completed for August. There were 153 samples from the reticulation system tested for bacteriological compliance. Compliance for the month is 100 percent. Compliance for the year to date is 100 percent.

2.2 Water Tests Initiated by Customers (A2)

	August	Year to Date	Compliance Year to Date (%)
Number received	10	17	-
Within ability of Operations Network to control	8	9	-
Formal response within five days	10	17	100%

3. Customer Services

3.1 Counter and Other Office Services (F)

Information has been provided to customers requesting information by letter, telephone and over the public counter. A breakdown of enquiries received during the reporting period is as follows:

August	
Counter enquiries	108 + 9 encroachments
Proposals from other utilities	7
Plan records : New services recorded	20
Response time requirement compliance	100%

3.2 Performance Standards (G)

August				
	Expected Compliance	Number of Activities	Completed to Standard	Compliance Achieved
Miscellaneous				
A Quality complaints (samples)	85-95%	9	9	100%
A System Flushing (M1.4)	85-95%	102	102	100%
B Pressure and flow	85-95%	19	19	100%
B Loss of Supply (M1.5)	85-95%	9	9	100%
C Planned Shutdowns	95%	18	18	100%
C Unplanned Shutdowns	95%	47	47	100%
D Mark Outs	90-95%	31	31	100%
G Workmanship (joint audit results for July 2000)	90-95%	86	82	95%
O Meter Reading	100%	<i>Achieved</i>	<i>Achieved</i>	<i>Achieved</i>
Significant Leaks (M1.2 or o/e)				
H Burst Mains	85-95%	3	3	100%
H Other	85-95%	-	-	-
Non-significant Leaks				
H Mains (M1.2) : includes 4 O&E	85-95%	22	22	100%
H Valves (M1.3)	85-95%	23	22	95%
H Hydrants (M1.4)	85-95%	67	64	95%
H Domestic Services (M1.5) : includes 1 O&E	85-95%	116	116	100%
H Stopcocks (M1.6)	85-95%	300	300	100%
H Water Meters (M2.1)	85-95%	32	32	100%
L Damages (Variation)	85-95%	26	26	100%

Locates and Investigations (Wellington Regional Council Internal Target of Three Working Days)

August 2000		
Locate stopcocks	81/81	100%
Leak locations	83/83	100%
Flow tests	9/9	100%
Seepage/investigations	2/2	100%
Miscellaneous supply jobs		

	Jobs Failed by 1-24 Hours	Jobs Failed by 1-5 Working Days	Jobs Failed >5 Working Days
Burst mains			
Stopcocks			
Hydrants	1	2	
Valves	1		

	Jobs Failed by 1-24 Hours	Jobs Failed by 1-5 Working Days	Jobs Failed >5 Working Days
Mains			
Domestic services			
Water meters			
Damages			
Quality complaints			
System flushing			
Pressure and flow			
Loss of supply			
Mark-outs			
Workmanship			

Additional Work Carried Out

New services	40
Variations (exclusive of burst mains)	2
Service renewals	1

Burst Mains

There was a total of three burst mains during the month of August. These were as follows:

9 Woodstock Terrace, Tawa	11 August 2000
3 Tree Top Lane, Newlands	17 August 2000
44 Montgomery Avenue, Karori	21 August 2000

All burst mains were attended to within 30 minutes and repaired within 8 hours.

Overs and Extras

50 Willis Street, Wellington	Major repair, service off main
44 Montgomery Avenue, Karori	Burst main
3 Tree Top Lane, Newlands	Burst main
Harbour View Road, Northland	Major repair, Leak location, mains repair
9 Woodstock Terrace, Tawa	Burst main

4. Health and Safety

There were no accidents or incidents to report this month.

5. Meters

A total of 1,443 suburb, voluntary and high use meters were read, and entered into the system by 23 August 2000.

6. Pumping Stations, Reservoirs and System Control

6.1 General

Normal routine maintenance has resulted in the Wellington City system operating satisfactorily.

6.2 Control System

The control system continues to operate satisfactorily. The Mount Wakefield repeater was off for two hours after the aerial was damaged by vandals.

6.3 Thorndon Pumping Station

One of the two pressure reducing valves at Thorndon Pumping Station has been overhauled and has now been returned to service. Automatic remote pressure controls have been added.

6.4 Epuni Street Pumping Station

The No. 3 pump at Epuni Street Pumping Station has been removed and delivered to a contractor for overhaul. The first stage impeller has been severely damaged and the best options for repair/replacement are being assessed. A pressure transmitter has been installed to monitor the suction pressure at this stage, as the pump performances are marginal.

6.5 Vasanta Avenue Pressure Reducing Valve

The pressure reducing valve at Vasanta Avenue was overhauled after becoming unreliable.

6.6 Churton North Pumping Station and Reservoir

The pumping station and reservoir at Churton Park North have been commissioned and taken over.

6.6 Maintenance Checks

Maintenance was carried out in August as follows:

August	
Round A	Round B
Rajkot Terrace Nassau Avenue Mark Avenue Chapman Street Burnside Road Ruskin Road Broderick Road Broadmeadows High Pump Station Satara Street Kitchener Terrace Davies Road CV Birch Street CV Ohariu CV Glover Street CV Ironsides CV	Huntington Street Warwick Street Hay Street Epuni Street Mapuia Street/Mt Crawford Sar Street Alexander Road Redwood Greyfriars Road Bell Road CV Webb Street CV Prince of Wales CV Vasanta CV

7. Development

7.1 Development Statistics (F2)

Subdivisions	August	Year to Date
Construction plans approved (lots/units)	18	42
Scheme plans approved	33	69
Subdivisions cleared (lots/units)	69	122

7.2 Development Projects

7.2.1 Churton North Reservoir

The reservoir was successfully put into service on 2 August 2000. The pressure reducing valves were adjusted on 9 August 2000. Some leak detection work was successfully carried out to find one leaking manifold.

The Medical Officer of Health gave final approval for the permanent commissioning of Churton North Reservoir on 18 August 2000. Some minor maintenance items are outstanding.

Approval of “commissioning” will follow receipt of as-built plans, a list of outstanding items and final inspection. The reservoir is operating satisfactorily.

7.2.2 Westchester Drive Pumping Station and Rising Main

The pumping station has been put into service and is operating satisfactorily. Some minor maintenance items are outstanding.

7.2.3 Conditions of Subdivisions Review

Nothing has been heard from Wellington City Council this month.

7.2.4 Construction and As-built Plans

7.2.4.1 Construction Plans

Construction plans were submitted for approval of the following subdivisions:

- 12 Quetta Street, Ngaio (11 lots). These plans have not yet been finally approved, as amendments to drawings have been requested.
- Downing Street Extension, Chartwell (15 lots). Network analysis calculations were received and checked. Final approval was given to the plans on 21 August.
- Bellevue stage 4, Newlands. Amended plans were received on 25 August and are currently under consideration.
- 6 Gavaskar Place, Khandallah (3 lots). Approved 30 August.
- Parkvale Road, Karori. Plans were received on 25 August and are currently under consideration.
- de Bes Subdivision, Beacon Hill (5 lots). Water supply was constructed without approved construction plans. Connection to the public supply was approved on instruction from Logen Logeswaran on 25 July.

7.2.4.2 As-built Plans

As-built plans were submitted for approval of the following subdivisions:

- Neston Grove, Erlestoke Crescent, Churton North (23 lots). Plans approved 14 July. Cleared in *Teamwork* 4 August.
- Caughley Grove (5 lots). This has not yet been cleared, as completion of outstanding work is awaited.
- 14 Glenmore Street (5 units). This has not yet been cleared, as completion of outstanding work is awaited.
- 17 Sim Street, Raroa (8 lots). This has not yet been cleared, as completion of outstanding work is awaited.
- 17 Punjab Street (3 lots). This has not yet been cleared, as completion of outstanding work is awaited.

7.2.5 Fire Services Recently Connected

There were no fire services installed during August.

7.2.6 New Commercial Metered Services

The following new commercial metered services were connected during August:

- 62-64 Ghuznee Street : 25 mm (9 August)
- 301-303 Happy Valley Road, Island Bay : 25 mm (15 August) (not commercial)
- 9 Kowhai Road, Kelburn : 25 mm (25 August)
- 83 Aro Street, Te Aro (32 mm) : 28 August

7.3 Building Development Appraisals (F1)

	August	
	Commercial	Domestic
Building consents	12	40
PIMS applications	12	42
Compliance with response time requirement	100%	100%

7.4 Land Information Memorandum (F1)

	August
Applications processed	44
Compliance with response time requirement	100%

8. Capital Works

8.1 Main Laying

8.1.1 Contracts in Maintenance Period

The following pipelaying contracts are in the maintenance period:

- Manners Street
- Cuba Street
- Makara Road Rising Main
- Owhiro Bay Parade
- Helston Road
- Rider Main Renewals
- Fox Street

- Bell Road Zone Improvements
- Karori South and Allington Road Zones Amalgamation

The maintenance retentions for the Tirangi Road, Kingsford Smith Street and George Bolt Street Contract have been released.

8.1.2 Taranaki Street

The Contract Documents for the replacement of the 150 mm cast iron and 150 mm asbestos cement mains in Taranaki Street have been approved by Wellington City Council Water and Waste. The Contract Documents are about to be issued to approved contractors for pricing.

8.1.3 Percival Street

Preliminary Drawings and Specification have been prepared to replace the 100 mm and 75 mm cast iron mains, and 40 mm galvanised main in Upper Dixon Street, Percival Street and Allenby Terrace.

8.2 Reservoirs

8.2.1 Wadestown Reservoir

The consultant has completed the Contract Documents. The pipework and electrical drawings and specifications have been included. The Documents have been forwarded to Wellington City Council Water and Waste approval. The condition of the existing pipeline to be used as a scour/overflow for the reservoir has been investigated and will need to have a liner pipe installed. There has been a prolonged hold-up in giving approval for this project to proceed to the next stage. Wellington City Council is still considering how to arrange the bonds required by the resource consent for landscaping and road reinstatement.

8.2.2 Grenada North High Level Reservoir

The Contract Documents have been forwarded to the Consultant. The Consultant has been instructed to proceed with completion of the tender documents and to issue them to the preselected contractors for pricing.

8.2.3 Eastern Suburbs Reservoir

A response is still awaited from the client to the report on the preliminary assessment of the potential reservoir sites.

Strategy and Asset Group
August 2000

Strategy and Asset Group Review of Operations for the Period Ended 31 August 2000

1. Items of Note

- The Drinking Water Standards for New Zealand 2000 have now been published (in September) and take effect on 1 January 2001. The Standard is now more comprehensive but the main differences from the 1995 Standard have not been analysed as yet. It is noted though that the turbidity requirements for water treatment plants serving over 10,000 people reduce from 0.5 NTU to 0.1 NTU (95 percent of measurements) on 1 January 2001. This change will not impact on The Water Group's business as we already comply with the 0.1 NTU requirement. It will impact though on many communities in terms of resources and skill levels.
- The agreement with Hutt City Council to supply unfluoridated water to the Rahui Reservoir has been signed. Work is on schedule for completion by 31 March 2001.
- The system optimiser at the Waterloo Water Treatment Plant was installed in June and commissioned over a period of several weeks. A report of the actual benefits will be available for the next Utility Services Committee meeting.
- The annual benchmarking process of evaluating our performance against Watercare has started.

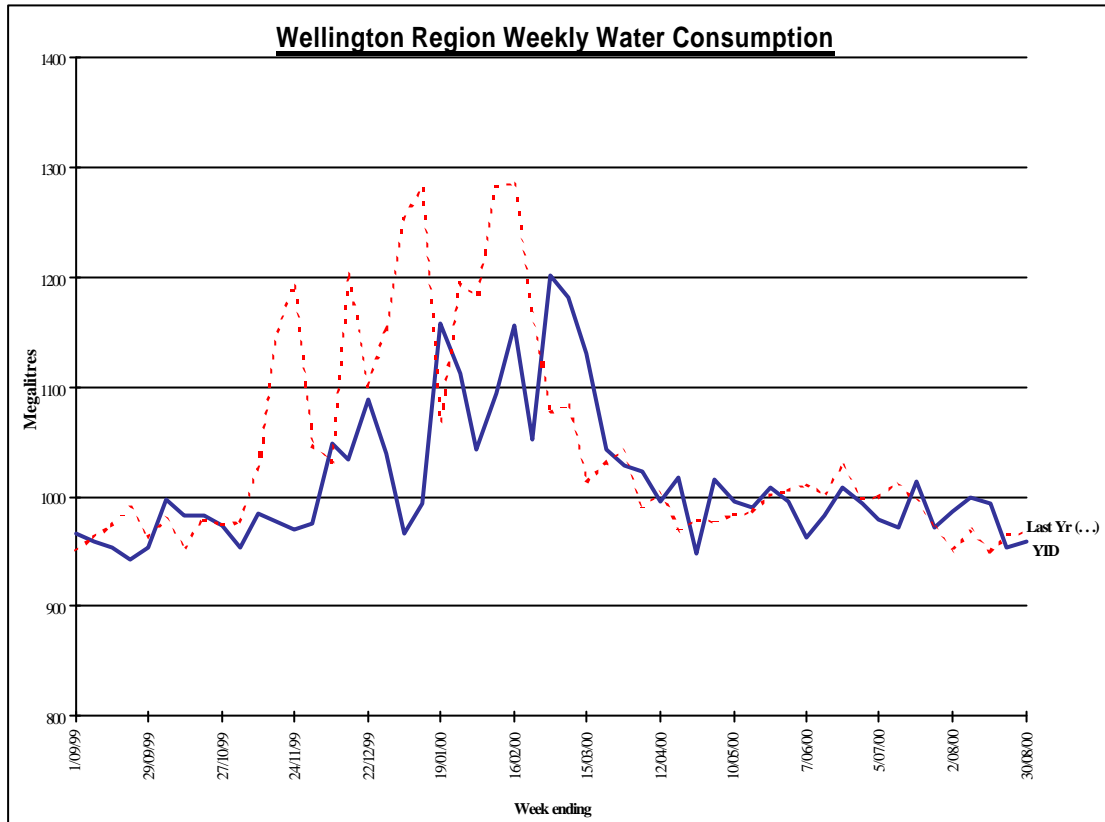
2. Sales Volume

Water Sold Over the Last 12 Months

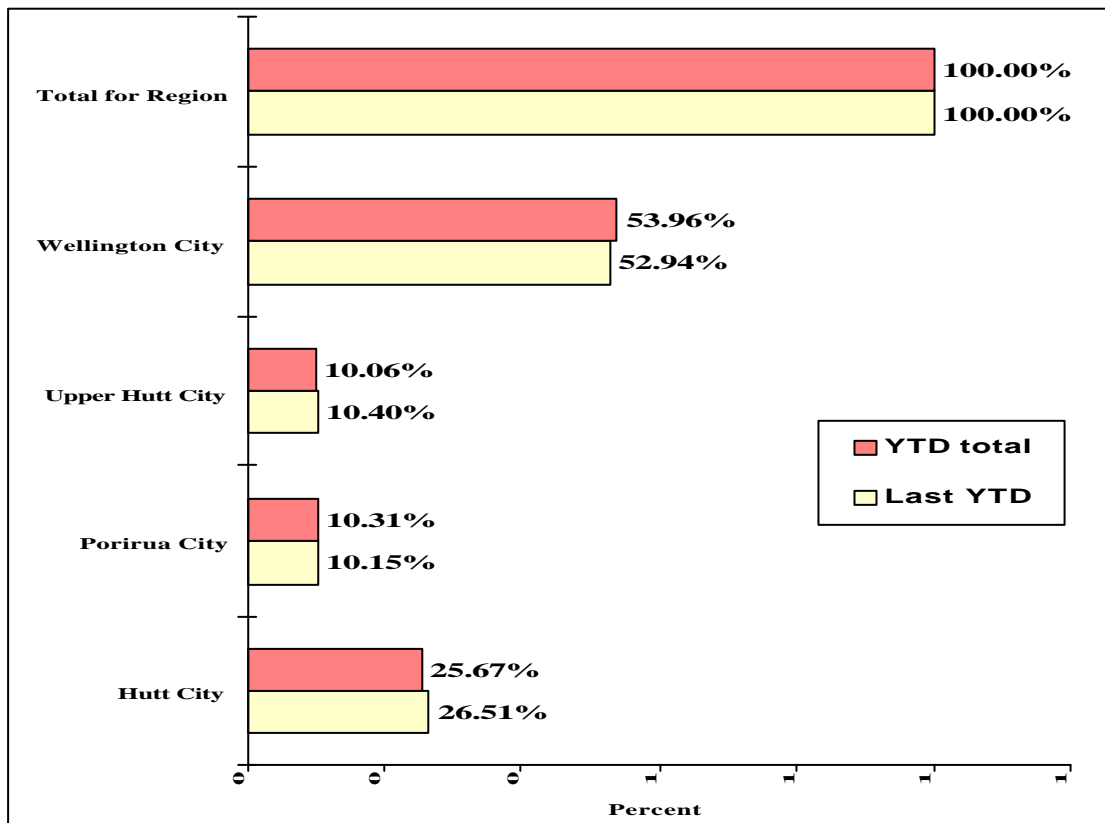
Charts outlining sales volumes are shown on pages 22 and 23.

The sales volumes for the period April to August provide an indicator of the volume trends. New meters installed over the last year would have recorded greater volumes than the old meters would have. This is mainly at low flows. Taking this into account, the sales trend is probably static or could even be slightly decreasing.

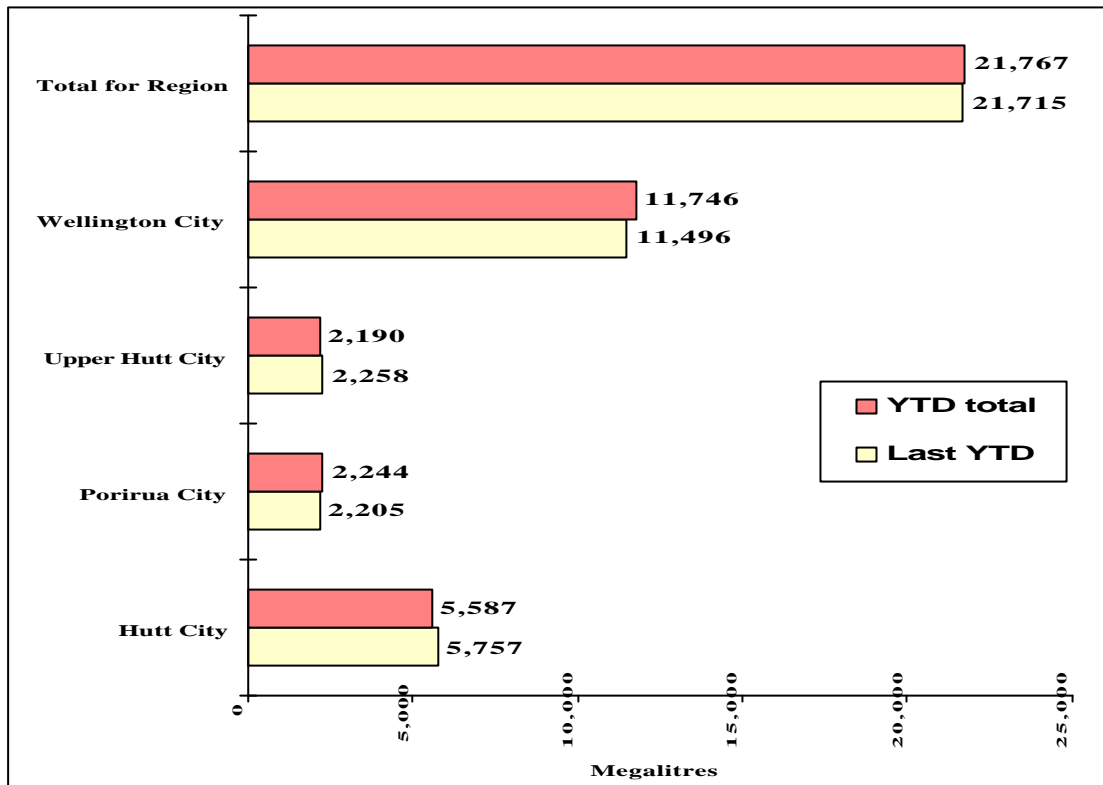
Water Sold Over the Last 12 Months



Water Sold from 1 April to 30 August 2000



Water Sold from 1 April to 30 August 2000 (contd)



3. Asset Management

- Work is close to completion on reconciling the end of year capitalisation between Hansen and SAP. Capital works to the value of \$2.997 m will be capitalised, bringing the value of infrastructure assets to \$249,634 m as at 30 June 2000.
- A review of the June 1998 Asset Management Plan has been commenced but no significant changes will be made until 2001.
- Work is underway on the 2000/01 Capital Works Programme. Funding for the year is \$4.047 m.
- Design work on a system to supply unfluoridated water to Petone from Waterloo has commenced.
- Survey work and the preparation of a subdivision plan for Karori Reservoir land is progressing.
- A resource consent application for a new well tapping the Moera aquifer at Gear Island is being finalised for lodging following completion of tests on the IBM firefighting bores.

- Discussions are taking place with objectors to Wellington Regional Council applications for renewal of existing consents to take water from surface sources. A three way agreement involving Fish and Game New Zealand, the Resource Investigations Department and Utility Services Division is proposed. This agreement will commit the signatories to investigate the reduction in the quality of the trout fisheries in both the Hutt and Wainuiomata Rivers. Surveys will be carried out and experts employed to analyse new and historical information about habitat and other factors.
- Discussions are also being held with Top Adventures, a commercial adventure tourism company that runs rafting trips on the Hutt River. They have asked that abstraction be stopped on winter weekends in order to leave as much water as possible in the river to facilitate their raft trips. Compromise proposals are being discussed.
- A review of the estimate to relocate the Kaitoke main at Silverstream is to be carried out. The Silverstream Bridge has a high risk of failure in an earthquake but relocating the main will be very expensive.
- A study of the feasibility and cost of relocating the Kaitoke main at the bottom of Haywards Hill has been briefed. This main traverses a steep, potentially unstable hillside between State Highways 58 and 2, and options for relocating it onto more stable ground are to be studied.
- Detailed planning of a large-scale pump test at Waterloo is underway. The pump test is a condition of the consent to take water from the Waiwhetu aquifer and will provide valuable information about the potential yield of the aquifer. A favourable outcome will mean that the average daily take can be increased from the current 80.5 MLD to 85 MLD.
- A meeting is to be arranged with Landcare Division staff to discuss the various catchment management and forestry management plans they have prepared for the water supply catchments. The purpose of this meeting is to focus these plans more closely on the water supply requirements of the catchments.

4. Quality Assurance

- Statistical analyses of turbidity readings to demonstrate compliance with the *Drinking-Water Standards for New Zealand* rule that requires turbidity to be less than 0.5 NTU for 95 percent of the time have been carried out. The results for August are set out below. The percentage of the time turbidity is less than 0.1 NTU has also been calculated.

Percentage Compliance	Turbidity <0.5 NTU	Turbidity <0.1 NTU
Plant	August	August
Te Marua	100%	100%
Wainuiomata	100%	95.51%

The >0.2 NTU change within 10 minutes rule has been tested for both

plants. This rule identifies “spikes” in the turbidity results that have the potential to carry protozoa into the treated water. The results are as follows:

No. of Exceedances	August
Te Marua	0
Wainuiomata	2

These rules are intended to reduce the risk of *Giardia* and *Cryptosporidium* passing through the plant. The plants incorporate “slam-shut” valves so that any water that does not comply with the *Drinking-Water Standards for New Zealand* is not delivered to the customers.

- The Ministry of Health has published a new Drinking Water Standard. The new standard contains a number of significant changes and comes into effect on 1 January 2001. Further more demanding changes come into effect on 1 January 2005. The full implications of the new standard are being studied.

5. Marketing

5.1 Public Relations

- As part of the Upper Hutt Science Festival, an open day was held at Te Marua Water Treatment Plant on 22 July. Guided tours of the treatment plant were offered, together with presentations on aspects of water quality and treatment plant control. Three visits were organised for the day, with a total of 75 people attending.

5.2 Other Activities

- Planning continued for The Water Group’s annual *Report of Business Activity*. A flat plan of images for the report has been presented by our design company and approved. Text content details were submitted to our design company and a first formal draft of the report received by 11 August.
- The style of images for decorating the Hoyts meeting room on Level 4 has been chosen. We will use the same images for both The Water Group *Report of Business Activity 1999/00* and the meeting room. Details about how the images will be presented will be finalised shortly.
- Progression of work regarding Utility Services and Environment working together to ensure that Environment’s *Learnwell* programme being developed for water conservation will address Utility Services’ objectives for educational material, as well as Environment’s.

6. Projects Undertaken by Engineering Consultancy for the Strategy and

Asset Group

➤ Waiwhetu Aquifer Pump Test

Information is being gathered for the preparation of the pump test plan. The pump test has been tentatively programmed for March 2001.

➤ Leaf Screens for Wainuiomata and Orongorongo Intakes

The performance of the existing leaf screens is being reviewed and the options for improving their performance are being investigated.

➤ *Te Marua Lakes Surveillance Manual*

The revised *Te Marua Lakes Surveillance Manual* and *Te Marua Lakes Emergency Action Plan* documents are operable. Some minor issues are being investigated.

➤ Orongorongo Catchment Access

The walking track from the end of the Orongorongo road to the Big Huia Pipe Bridge has been upgraded to within 20 m of the pipe bridge.

➤ Wainuiomata Water Treatment Plant Road Reseal

A programme for resealing the Wainuiomata Water Treatment Plant roads is being prepared.

➤ Waterloo and Gear Island Fluoride Dosing

The design report for the installation of new fluoride dosing systems at Waterloo and Gear Island is being finalised. Hexafluorosilicic acid (a liquid) will be dosed at Gear Island and sodium silicofluoride (a powder) will be dosed at Waterloo. Arrangements are being made to refurbish the room to house the equipment at Gear Island. Quotations are being obtained for supply of equipment.

➤ Silverstream Scour on Kaitoke Main

Installation of the new scour on the Stokes Valley branch line and a new branch on the Kaitoke main will be installed by the Distribution Section in October/November 2000.

➤ Refurbishment of the OK Main, Thorndon/Karori

The Contract Documents for slip lining with thin walled PE pipe or cement mortar lining the pipeline are completed. Tenders have been invited.

Tenders close on 22 September 2000. A separate Committee report considers the tenders.

➤ OK Main Crossing of Korokoro Stream

The drawings and design report of the new crossing of the Korokoro Stream of the OK main are almost complete.

➤ Cathodic Protection

A report detailing the current status of the existing cathodic protection systems on the wholesale water pipelines was completed.

➤ Pumping Station Noise Survey

Bel Acoustic Consulting has been commissioned to undertake a noise survey of the pumping stations. Their report is expected by the end of September 2000.

➤ Haywards Reservoir Utilisation

Installation and reinstatement of the new pipework for the Haywards Reservoir is nearing completion.

➤ Kaitoke Pipeline Either Side of Strainer Building

The design report for refurbishing the concrete pipeline between the Kaitoke Flume Bridge and the No. 2 Tunnel entrance has been completed.

➤ Hutt Estuary Bridge Pipelines

The flexible couplings for the Hutt Estuary Bridge pipelines have been delivered. Installation is proposed for October 2000.

➤ Te Marua Towers Valve Shut-off

The proposal to install pneumatic cylinder actuators on the lake inlet and outlet valves has been adopted. Arrangements are being made to purchase equipment for this installation.

➤ Flow Meters

As-built drawings of the flow meter installations are complete. There will be a review to determine what flow meters are to be installed this financial year.

Engineering Consultancy Group
August 2000

Engineering Consultancy Group Review of Operations for the Period Ended 31 August 2000

1. Work Carried Out for the Strategy and Asset Group

The main capital projects for which the Engineering Consultancy Group has responsibility are itemised in the Strategy and Asset Group report. Support is also provided for other projects being undertaken by this group.

2. Work carried Out for the Operations Group

The Engineering Consultancy Group has continued to provide support for smaller projects arising from the operation and maintenance of the wholesale water supply system.

3. Work carried Out for Wellington City Council

3.1 General

Current projects underway are detailed in the following sections.

3.2 Taranaki Street Pipeline

Contract Documents have been sent to preselected contractors for pricing a replacement main to be laid in Taranaki Street from Courtenay Place to Webb Street. This will be difficult because of the extensive underground services, as well as the constraints arising from the route being on a State Highway. The road controlling authority has agreed to a proposal to extend the allowable working hours, however much of the work will need to be carried out at night.

3.3 Percival Street Pipeline

This is a new design project commissioned by Wellington City Council. A design report is being prepared for replacement of the 100 mm cast iron main in Percival Street, Upper Dixon Street and Allenby Terrace.

3.4 Grenada North High Level Reservoir

This permanent reservoir, 160 m³ capacity, will replace the Grenada North temporary tanks. The site is at a higher level to the east of Nassau Avenue on land that has recently been transferred from TransPower to Wellington City Council. The intention of this reservoir and associated pipework is the second stage in the upgrade of the Grenada North water supply following the contamination incident in early 1998.

The consultants have prepared the Contract Documents. The Documents are about to be sent out to preselected contractors for pricing.

3.5 Wadestown Reservoir

Montgomery Watson Ltd was engaged for the design of a replacement reservoir, capacity 1,800 m³, along with the obtaining of resource consents necessary for the completion of the reservoir on the Town Belt, as well as for access across the Town Belt.

The Contract Documents are complete. These incorporate the pipework and electrical/controls sections prepared in this office. We are waiting for Wellington City Council approval to send out the Documents for pricing.

An assessment of the old rising main that will be used as an overflow has revealed that its condition is worse than expected and will require some rehabilitation work.

3.6 Eastern Suburbs Storage

There is a storage deficit in the Low Level Zone of 10 ML. This was identified and reported on at the time of approval of the Macalister Park 20 ML Reservoir. Of this storage, approximately 7 ML is required in the Eastern Suburbs (Miramar) and 3 ML in the Southern Suburbs (Island Bay).

Because these reservoirs will balance on the Low Level Zone, a very careful analysis is required to establish the optimum reservoir levels. Additional pressure monitoring points have been established at the Moa Point Sewage Treatment Plant and Kilbirnie Crescent. Network modelling was undertaken to establish levels for the reservoir at different sites, as well as enhancement required to the pipe network.

A preliminary analysis of the three potential sites has been made, which has indicated that one site has significant advantages. A report has been prepared and submitted to Wellington City Council. A response is still awaited.

3.7 Other Wellington City Council Capex Projects

Only one new Capex design project has been commissioned by Wellington City Council.

3.8 Water Services Agreement

Under the new agreement, which came into effect on 1 July, the group is carrying out similar functions as were required under the Facilities Management Contract. These are as follows:

- Building consents

- Subdivisions
- System records
- Counter service
- New services and fire services

The scope of work relating to the maintenance of the system records may alter during the year, as Wellington City Council moves away from paper based record keeping.

The new agreement also contains a performance related bonus and penalty system related to response times.

4. Other Projects

4.1 Rallywood Bridge

The Contractor has made good progress with the construction of the bridge. Both abutments have been constructed. The bridge beams are in place and the deck concrete poured on 4 September.

4.2 Karori Wildlife Sanctuary

The overflow pipework from the Kelburn Reservoir has been modified so that any flows do not impact on the security fence. An assessment was made of the requirements for replacing the Upper Dam main scour valve and orders have been placed. Installation of the new valve is programmed for late November. Wellington City Council is funding this project.

Laboratory Services
August 2000

Laboratory Services Department Review of Operations for the Period Ended 31 August 2000

1. Items of Note

- The tender submitted for Porirua City Council's Contract 992 (Wastewater Treatment Plant Environmental Monitoring and Analysis Requirements) was unsuccessful.
- The laboratory underwent annual IANZ accreditation assessment on 21 August. This visit was for "surveillance" only but we also requested full assessment for our new *Giardia/Cryptosporidium* test method using immuno-magnetic separation. This method, EPA Method 1623/Inhouse (filtamax/IMS), has significantly improved sensitivity and recoveries on the older method. Accreditation was recommended but pending meeting minor conditions and recommendations imposed by the assessors.

2. Business Summary

2.1 Quality

There were no requests for retesting samples and test reports are being sent out within the agreed time frames.

2.2 Health and Safety

There are no incidents to report. All laboratory staff members have now attended courses and are now certificated first aiders.

Plantation Forestry

August 2000

Plantation Forestry Department Review of Operations for the Period Ended 31 August 2000

1. Log Harvest Contract

We have continued to harvest at a relatively slow rate with only one full time crew and one part time crew. As a consequence, August production was only 2,791tonnes for a royalty of \$67,881

The grade outputs for the August were:

Grade		Tonnes	%
Pruned Domestic		0	0
Pruned Export		0	0
Partial Pruned		0	0
S Grade		353.22	12.66
A Grade		312.16	11.18
L Grade		27.08	0.97
Roundwood		73.31	2.63
R Grade	(Renalls)	266.30	9.54
K Sawlog		417.56	14.96
K Rough		223.38	8.00
Pulp		658.60	23.60
O/S Pulp		56.63	2.03
Other (Corsican)		402.87	14.43
		2,790.99	

A further ground based crew is due to commence in early September. Although it would not be usual to engage a ground based crew to work this area in winter or early spring, this crew operates a low ground pressure tracked skidder. The use of the skidder overcomes the major difficulty with wheeled machines of rutting and significant disturbance of topsoil.

To date we have not agreed to any rate increases on the basis of increased fuel prices, although I am aware that approaches have been made to Rayonier. We will attempt to keep such increases to a minimum and pay a fuel allowance, rather than increase the base rates so the allowance can be reduced or eliminated should fuel prices fall in future. These increases will apply to both cartage and harvesting costs.

Renalls are still seeking further volumes and they are being encouraged to “ease” their specifications so that further product can be directed to them.

Other domestic demand appears steady with export demand being less certain with suggestions of a softening in the near future.

Mitchpine is continuing to harvest the corsican stand at around 40 tonne per week.

2. Silviculture Contracts

All silviculture for last year is now completed.

Work has not yet started on the current year's programme.

3. Plantation Forestry Operations

Because of the regular rainfall, it has been possible to continue planting that will effectively take one year out of the rotation. In purchasing additional trees we have been unable to source our "usual GF 17" trees but instead have had to accept GF 27 stock at GF17 prices. In theory, the GF27 stock should be far superior seedlings at least twice the price (\$0.17 v. \$0.35). This has occurred on other occasions but to date it is not possible to recognise the "better" trees when merely looking at them.

We are likely to lose part of the Kaitoke block to the upgrade of State Highway 2. We are currently in negotiation with Opus International Consultants Ltd which is acting for Transit New Zealand on this matter. The required land will be purchased and we will receive compensation for any lost trees.

Upper Hutt City Council, through its consultants, has sought permission to conduct tests on a site within the Maymorn Forest block as a potential site for an additional water reservoir.

4. Forest Access

Maungakotukutuku remains the only access problem.

The new road into Pakuratahi East continues to be satisfactory, with no major problems. Six loads of "millings" were spread over two areas where traction was becoming a problem. These millings have set hard and overcome the problem. I think they will provide a cheap solution to the dust problem along the river flats at Totara Park.

Work has continued on the Rallywood Bridge with reasonable progress. By mid-August most of the work in the river should be completed and the river levels will no longer be a threat to progress. The Rallywoods Partners are impressed with the volumes of steel and concrete that have gone into the foundations for the structure and visit regularly – at times bearing morning tea for the Contractors.

It will not be possible to complete the route through Rallywoods until later in the year, as there is about 200 m of new road to be constructed.

This work will not commence until summer.

5. Market Trends

Apart from some minor price reductions and some grades withdrawn, the only trend is in the number of predictions that suggest the market will fall. Demand is still not a problem as all production can be sold.