

CONTRIBUTORS CONTINGENCY – CONTRACT NO. 3458**April 2017**

Quality Record	Name	Date	Revision
Prepared By	Allan Jones	21 April 2017	
Reviewed By			
Authorised By			
Revised By			

Prepared by:
Nelmac for NRSBU

P O Box 3215
Richmond
NELSON
Phone: (03) 5410289
E-mail: bellsadmin@ncc.govt.nz

Contributors Contingency Report – Contract No. 3458 Bells Island WWTP & NRSBU

April 2017

Contents

1.0	Introduction	3
2.0	Location of Contributors for Overflows	3
3.0	ENZA Foods	3
4.0	NBMP / Alliance	3
5.0	Nelson Pine (NPI)	4
6.0	Conclusions	4
APPENDIX A		6
CONTRIBUTOR CONTINGENCY PLANS		
	ENZAFOODS NZ Ltd	7
	Alliance Group Ltd	8
	Nelson Pine (NPI) Effluent discharge to Bells Island Contingency plan	9
APPENDIX B.....		11
CONTRIBUTOR LOCALITY ON THE NRSBU RISING MAIN NETWORK		

1.0 Introduction

This report outlines various options to reduce flows from the three industrial contributors in the event of an overflow event or major failure of the rising main, details of locations of each contributor to the various stages of rising main and pump stations in the NRSBU network.

2.0 Location of Contributors for Overflows

See Appendix B for location map of contributors on the NRSBU network

Nelson Pine (NPI) is the outermost lying contributor, pumping directly into Beach Rd pump station. NPI would be required to shut flows down if an overflow were to occur at Beach Rd, Saxton Rd or any part of the rising main to Bell Island

Alliance is located in the Wakatu Industrial Estate and injects flow directly into the rising main upstream of Saxton Rd. Alliance would be required to shut flows down in the event of an overflow at Saxton Rd pump station or any part of the rising main from Wakatu to Bell Island

ENZA's waste flows directly into the Saxton Rd pump station, ENZA would require shutting flows down in the event of an overflow at Saxton Rd or the rising main between Saxton Rd and Bell Island

Overflows occurring at Wakatu, Songer St or Airport would not require any contributors to stop their flows.

3.0 ENZA Foods

See Appendix A for ENZA's full Effluent Contingency Plan

ENZAFOODS NZ Ltd	Reception	547 5649
Geoff Hunter	Maintenance Manager	021 920 305
Doug White	Factory Manager	021 920 380

ENZA have a large pond and 18 storage tanks. They can use these to store a buffer of up to 8 hours.

As a food producer they have compliance issues so cannot reduce their wash downs.

They run a 24-hour seven-day operation.

They can if necessary drop their production and reduce the waste by half.

4.0 NBMP / Alliance

See Appendix A for NBMP’s full Effluent Contingency Plan

John Strawbridge	Engineering Manager	0274 359 193
Brian Mills	Production Manager	0277 024 658

NBMP/ Alliance have two storage tanks that normally operate at a low level. Depending on where the pump out level is at i.e. higher start level or to lower stop level. The tanks can be used to buffer the waste for up to 2 hours before they would require stopping production.

Based on a 5 ½ day working week;

- Full production with day and night shift produces about 7400m3 per week.
- Single shift production produces about 4000m3 per week.

Because of compliance issues, the production cannot continue without producing this level of waste.

Therefore, the contingency plan is to carry on production if possible or stop production. No reduction of flows is possible.

During heavy rainfall periods, the NBMP pumps cannot pump into the main; due to the higher pressure in the main from the Richmond high capacity pump.

Alliance are to be notified if there are any high rainfall warnings in place so that they can lower their storage tanks to minimise interruption to production.

5.0 Nelson Pine (NPI)

See Appendix A for NPI’s full Contingency Plan

Control Room	Duty Operator	03 543 8521
NPI	Shift Supervisor	03 543 8814
Philip Wilson	Research & Environmental Manager	03 543 8871/ 021 998 832

NPI have a large storm water /storage pond that can hold up to 8 hours flow at average dry weather flows.

The primary treated wastewater will then spill to the large storm water pond, this can give a buffer of up to 8 hours. If has been raining the pond may have more than the minimum level. When this storm water pond is full, it overflows to the Penny-farthing stream.

It would take some time to drop the pond level because of the limited size of the pond discharge pump.

If they shut down one of their lines, they could reduce their waste outflow rate by 30 to 40 percent.

6.0 Conclusions

As all three industries have a limited amount of storage, it will depend on the type or severity of an overflow or rising main failure what actions requiring implementation to reduce or stop the flows from the contributors.

Which contributors are required to be contacted, depends on the locality of the overflow or leak.

If the overflow can immediately be stopped, there is no need to stop contributor's flows

If the overflow cannot be immediately stopped, contributors affecting the location of the overflow must be contacted to stop their flows immediately

Weather conditions and the time of year that a failure occurs will also have a bearing on contributor flows.

As two of the contributors are seasonal (ENZA Foods and Alliance), this will also have a bearing on flows.

A major break in the main could result in the industries shutting down production, or if from a leak from one of the Gibault joints, (The most likely scenario) the contributors could carry on pumping as normal after consultation with the appropriate NRSBU and environmental representatives.

Tankering the flows to Bells WWTP is not really seen as an option because of the large volumes involved (each contributor can produce in excess of 1000m³ of waste daily) and the cost.

Refer to the rising main failure document for details regarding a major failure of the rising main

7.0 SUMMARY

Because of the contributors limited storage, the only real options in the case of a main failure is for the industries to either keep pumping or shut down production.

No consideration has been given to either legal or financial implications of asking the three industrial contributors to stop production if necessary

APPENDIX A

CONTRIBUTOR CONTINGENCY PLANS

ENZAFOODS NZ Ltd
Nelson Plant

Effluent Contingency Plan

This Contingency Plan is in place to cover an event should the NRSBU (Nelson Regional Sewage Business Unit) be unable to take all or any of our effluent. This will cover such events as, but not be limited to:

- Pipeline failure
- Bells Island failure
- Heavy rainfall events

EFL processes fruit 24/7 from January to September each year.

EFL Nelson capacities:

- Main pond: 2,000m³
- Storage tanks (18 x 25m³): 450m³
- *Total: 2,450m³*
- Factory discharge: 1,000m³/day or 41m³/hr

At any one time we assume the pond and storage tanks to be half full which leaves 1,225m³ capacity. At 41m³/hr influent this equates to 29hrs buffer.

Depending on the severity of the event and expected duration of the disruption, various options exist to mitigate any adverse environmental impact. These would generally be ceasing operations progressively on the various production lines. These options would need to be discussed by the parties at the time.

Contact Phone Numbers		
Bells Island Treatment Plant	Office	03 541 0289
Bell Island Nelmac	Duty Operator	021 301 391
Team Leader – Bell Island	Allan Jones	021 845 810
ENZA FOODS NZ Ltd	Reception	547 5649
Geoff Hunter	Maintenance Manager	021 920 305
Doug White	Factory Manager	021 920 380

Alliance Group Ltd
Nelson Plant
Effluent Contingency Plan

This contingency plan is in place to cover an event should the NRSBU (Nelson Regional Sewage Business Unit) be unable to take any or all of our effluent

It would cover such events as, but not limited to:

- Pipeline failure
- Bell Island plant failure
- Heavy rain events

The contingency plan recognises that storage capacity at AGL Nelson is in the form of two tanks with a combined capacity of 180 cubic meters. In normal operational circumstances this equates to approximately 3 hours processing

It also recognises that given successful implementation of actions detailed below takes this capacity to approximately 6-8 hours

Once notified of an issue by the NRSBU the following strategies should be implemented:

- 1) If able and generally in advanced warning situations, (e.g., heavy rainfall warning, Bell Island planned shutdown) monitor tank levels and pumping flow rates so as to maximise on-site storage capacity
Responsibility: **Engineer in charge**
- 2) Cease use of belly wash
Responsibility: **Production manager/ Stock yards**
- 3) If possible minimise stock washing
Responsibility: **Production manager/ Stock yards**
- 4) Limit hosing in the non-foods, salt-house effluent plant and yards
Responsibility: **Production manager/ Departmental Supervisors/ Operational staff**
- 5) Limit departmental water use including optimising dry clean-ups, where possible
Responsibility: **Production manager/ Departmental Supervisors/ Operational staff**
- 6) Prioritise stock to be slaughtered, (e.g., bobby calves, milk lambs).
Responsibility: **Production manager/ Stock yards**
- 7) After all contingencies have been put in place, when the tanks reach 85% full level a decision on ceasing processing will need to be considered
Responsibility: **Production Manager/ Engineer in charge**

Contact Phone Numbers		
Bell Island	Office	03 541 0289
Bell Island	Duty Operator	021 301 391
Allan Jones	Team Leader	021 845 810
Alliance Group Contacts		
Brian Mills	Engineering Manager	543 9670 or 0277 024 658
John Strawbridge	Engineering Supervisor	543 9676 or 0274 359 193
	Duty Engineer	543 9689 or 0274 353 984
Stephen Baird	Production Manager	543 9672 or 0274 359 208

Nelson Pine (NPI) Effluent discharge to Bells Island Contingency plan

Potential scenarios that may require implementation of a contingency plan

1) Routine planned maintenance of the pipeline requiring shutting down of our Bell Island pump

The Research and Environmental Manager or his alternate should be advised of the planned maintenance timing as far in advance as possible preferably at least a week before hand. (if the duration of the expected shut is relatively short e.g. 1 hour (this may not be as critical)

Nelson pine Industries capacity to hold effluent depends on the level in the storm water/ contingency pond if the pond is full or there is a likelihood of rain just before or during the shut then it should be rescheduled.

On the day of the work to be done the NRSBU System Operator should contact the Research and Environmental Manager to confirm there will still be capacity in the pond to do the work, when the work is ready to be undertaken the NRSBU system operator should contact the furnace operator to get him to turn off the Bells island pump.

If the work is on the pipeline from NPI to the Beach road, station then the Sewerage pumps by line 1 and in the reserve by Dynea will also need to be turned off and isolated via the hold card system.

As soon as the work is completed the Furnace Operator should be advised, If he is not contactable by phone contact the shift supervisor.

Notification should also be provided to the Research and Environmental manager by phone, phone message or email. Should the maintenance work run into problems which result in the shut extending longer than 8 hours the Research and Environmental Manager or his alternate should be contacted.

2) Pipeline or pump failure at Richmond beach road pump station or in the pipeline network beyond.

Once the NRSBU system operator has determined that flow to the system needs to be stopped they should contact the NPI Furnace operator and advise them to turn off the Bells Island pump.

If they can not get a response from the furnace operator's number they should contact the shift Supervisor

If the time required to get the system running again to the level where NPI can resume pumping is determined to be more than 8 hours The NRSBU manager should be advised. He should then make contact with the industry representatives affected as soon as practicable to discuss projections for potential down time, management of potential detrimental impacts and forward planning.

3) Pipeline failure between Nelson Pine and Beach Road

If the pipeline fails between NPI and Beach Rd, pumping station the shift supervisor should be contacted immediately and advised of the situation.

The shift supervisor should then arrange for the furnace operator to turn off the bells island pump and to turn off and electrically isolate the Sewerage pump by line 1.

He should then arrange to get the sewerage pumps in the pump well in the reserve next to Dynea turned off and electrically isolated. LVL staff can do this.

The shift supervisor should then contact the research and Environmental Manager or his alternate to advise them of the situation.

Potentially one of the biggest problems will be to locate where the pipe has ruptured, as it is now a Welded HDPE 150mm pipe sitting inside a 250 mm asbestos cement pipe, the last about 200 m is 150 mm PVC pipe.

The first place to check would be the air relief valves as we have had one of these give way previously. It may be worth keeping the system running during this phase and checking for flow at each of the air relief valves to try to isolate the part of pipe that is ruptured.

4) Pipeline blockage between NPI and beach road

(Firstly, every effort should be made to ensure that this never happens by keeping chips sticks rags and other objects that may block the pipe out of the system)

If detected because of no flow from NPI, while still obtaining high pressure on the gauge after the pump; Double-check the pressure by opening the valve on top of the pig launcher (on the horizontal pipe near the pressure gauge) and observing the flow. The operator should then call the Environmental Manager or his alternate NPI contact NRSBU system operator.

Try to establish the location of the blockage, E.g. Non return after pumps Check by connecting a pump up via the pig launcher and see if you can pump. Check at air reliefs.

Try to clear by disconnecting at a flange at the beach road end and connecting a water supply at the beach road end, via a water hydrant. Ensure that the water pressure is not taken above the pressure capacity of the PVC pipe at that end. (This needs to be established) Ensure there is a double non-return on the water supply to minimize the risk of contamination of the water supply. Ensure that the pig launcher outlet is left open to allow pressure relief. If this fails to clear the blockage, try connecting fresh water supply at the pig launcher and alternate pressure from either end. Still no success, progressively remove air relief valves and pressurize with water to narrow down which section of the pipe is blocked.

Contact list

Research and Environmental Manager 543 8871 or cell phone 021 998 832

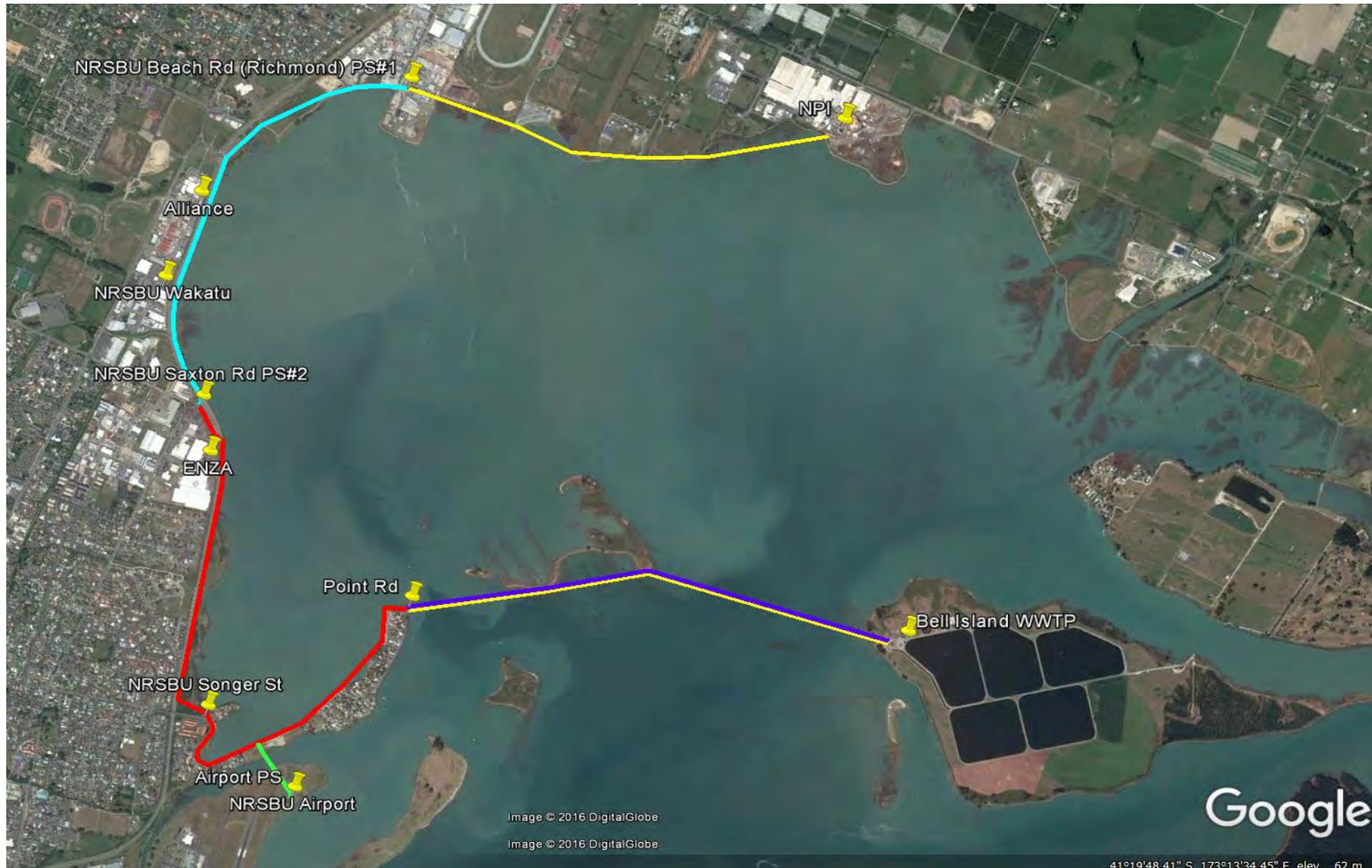
Alternate 543 8730

Furnace operator 543 8898 extension 707

Shift Supervisor 543 8814

APPENDIX B

CONTRIBUTOR LOCALITY ON THE NRSBU RISING MAIN NETWORK



GREEN SPACES

FACILITIES MANAGEMENT

REFUSE & RECYCLING

WATER