



AUT.008339.01.03  
AUT.008339.02.03

# *Resource Consent*

*Pursuant to the Resource Management Act 1991, the Northland Regional Council (hereinafter called "the Council") does hereby grant a Resource Consent to:*

## **FAR NORTH DISTRICT COUNCIL, PRIVATE BAG 752, KAIKOHE**

To undertake the following activities associated with the Russell Sewage Treatment Plant on Sec 1 SO 310696 Blk I Russell SD at or about location co-ordinates 1703384E 6096527N:

**AUT.008339.01.03:** To discharge treated wastewater, including Russell Landfill leachate, to ground via disposal boreholes.

**AUT.008339.02.03:** To discharge contaminants to air (primarily odour) from the treatment plant and borehole disposal areas.

*(Note: All location co-ordinates refer to Geodetic Datum 2000, New Zealand Transverse Mercator Projection)*

Subject to the following conditions:

### **AUT.008339.01.03 DISCHARGES TO GROUND**

- 1 The maximum volume of treated wastewater discharged per day, being midnight to midnight, to the borehole disposal system shall not exceed 1,235 cubic metres.
- 2 The volume of landfill leachate discharged to the treatment plant via the rising main shall not exceed a rolling average of 5 cubic metres per day, as calculated using the seven most recent days, being midnight to midnight.

**Advice Note:** *The daily volume of Russell landfill leachate discharged to the treatment plant is required to be recorded under the consent CON 4789.*

- 3 The Consent Holder shall maintain a meter on the outlet of the treatment plant prior to the ultra violet light disinfection system. This meter shall have a measurement error of  $\pm 5\%$  or less and shall be used to determine compliance with Condition 1 in accordance with Schedule 1 (**attached**).

- 4 The electronics of the meter required by Condition 3 shall be verified at least once every five years by 30 June of that year to ensure that the specified accuracy is maintained. Written confirmation from a suitably qualified person that the meter accuracy has been verified shall be forwarded to the Northland Regional Council's Monitoring Manager within one month of the verification being completed.
- 5 The concentration of the following determinands in the treated wastewater, as measured at NRC sampling site 105944 (Russell Sewage @ Plant after UV), shall not exceed the following limits. All limits are in grams per cubic metre:

Determinand	Rolling Median	Rolling 90th percentile
Five Day Biochemical Oxygen Demand (BOD <sub>5</sub> )	10	25
Total Suspended Solids (TSS)	10	25
Total Kjeldahl Nitrogen	20	40
Total Phosphorus	15	30

For compliance purposes, the rolling median and 90 percentile concentrations shall be calculated in accordance with Schedule 1 (**attached**).

- 6 The concentration of Escherichia coli bacteria in the treated wastewater, as measured at NRC sampling site 105944 (Russell Sewage @ Plant after UV), shall not exceed:
- (a) A rolling median of 50 per 100 millilitres; nor
  - (b) A maximum of 1,000 per 100 millilitres in any single sample.

For compliance purposes, the rolling median shall be calculated in accordance with Schedule 1 (**attached**).

- 7 There shall be no ponding or surface runoff of treated wastewater caused by the borehole disposal activity.
- 8 The exercise of this consent shall not cause land instability within or adjacent to the borehole disposal areas or on adjacent properties. The Consent Holder shall monitor groundwater levels in accordance with Schedule 1 (**attached**). For compliance purposes, a written assessment report prepared by a suitably qualified and experienced person on the land instability risk within each of the bore disposal areas shall be forwarded to the Northland Regional Council's Monitoring Manager by 31 May each year. Unless otherwise agreed in writing by the Northland Regional Council's Monitoring Manager, this report shall compare the groundwater level monitoring results for each observation bore with pre-set groundwater trigger levels, which shall be stated in the report, to determine whether or not a calculated slope "factor of safety" of 1.3 or greater is consistently achieved.

**Advice Note:** *The trigger levels for each groundwater observation bore and piezometer stated within the Riley Consultants report entitled "Engineering Review of the Sewerage Disposal System", dated 13 June 2006, shall be used unless an adjustment to these is warranted to more effectively achieve the purpose of this condition.*

- 9 Within three months of the commencement date of this consent, the Consent Holder shall forward to the Northland Regional Council's Monitoring Manager a programme for two-yearly monitoring and reporting of the infiltration efficiency (soakage rate) within each of the disposal bore areas A, B and C, as shown on the **attached** Riley Consultants drawing entitled "*Far North District Council Wastewater Treatment and Disposal, Russell Road, Russell – Location of Observation Bores and Piezometers*", No. 96173-6-1, Date: 27 November 2012. The monitoring programme shall be sufficiently detailed to enable the detection and quantification of any reduction in infiltration efficiency in any individual group of bores within each disposal area over the term of this consent. The Consent Holder shall provide a copy of the two-yearly monitoring report to the Northland Regional Council's Monitoring Manager by 31 May.
- 10 The Consent Holder shall submit to the Northland Regional Council's Monitoring Manager, an annual programme of works that are proposed to be undertaken to investigate and minimise stormwater infiltration and groundwater inflows into the sewerage reticulation system.
- 11 The Consent Holder shall submit a written report to the Northland Regional Council's Monitoring Manager by the 31 July each year that provides details of the outcome of any infiltration and inflow investigation works undertaken in accordance with the programme required to be prepared in accordance with Condition 10.
- 12 Safe and easy access to NRC Sampling Site 105944 (Russell Sewage @ Plant after UV) and to all observation bores and piezometers shall be provided for consent compliance and audit monitoring purposes.

#### **AUT.008339.02.03 DISCHARGE OF CONTAMINANTS TO AIR**

- 13 There shall be no discharge of contaminants to air at or beyond the legal boundary of Sec 1 SO 310696 Blk I Russell SD, which in the opinion of an enforcement officer of the Northland Regional Council is noxious, toxic, dangerous, offensive or objectionable to such an extent that it has, or is likely to have, a more than minor adverse effect on the environment.

#### **GENERAL CONDITIONS**

- 14 The Consent Holder shall monitor the exercise of these consents in accordance with Schedule 1 (**attached**). Changes may be made to Schedule 1 with the written approval of the Northland Regional Council's Monitoring Manager.

15 The Consent Holder shall keep and maintain a written record of all servicing and maintenance carried out on the wastewater treatment and bore disposal system, and forward a copy of this record to the Northland Regional Council's Monitoring Manager by the 31 May each year, and also upon request by that manager.

16 As a minimum, the operation and maintenance of the wastewater treatment and disposal system shall be carried out in accordance with the most recent version of the Management Plan for the system, but also always subject to the conditions of these consents. The Management Plan shall include, but not be limited to, the following:

- (a) A schedule, including frequencies, of regular inspection, servicing, and maintenance items to be carried out on the treatment and disposal systems.
- (b) Contingency measures for unauthorised discharges.

Changes may be made at any time to the Management Plan in consultation with the Northland Regional Council's Monitoring Manager. A copy of the amended Management Plan shall be provided to the Northland Regional Council within one month of it becoming operative and shall be deemed to be the most recent version for compliance purposes.

17 The Consent Holder shall, for the purposes of adequately monitoring the consent as required under Section 35 of the Act, on becoming aware of any contaminant associated with the Consent Holder's operations escaping otherwise than in conformity with this consent:

- (a) Immediately take such action, or execute such work as may be necessary, to stop and/or contain such escape; and
- (b) Immediately notify the Council by telephone of an escape of contaminant; and
- (c) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and
- (d) Report to the Council's Monitoring Manager in writing within one week on the cause of the escape of the contaminant and the steps taken or being taken to effectively control or prevent such escape.

With regard to telephone notification, during the Council's opening hours the Council's assigned monitoring officer for these consents shall be contacted. If that person cannot be spoken to directly, or it is outside of the Council's opening hours, then the Environmental Emergency Hotline shall be contacted.

18 The Consent Holder shall pay reasonable costs of all testing of water and shellfish product that may be required by the Authorised Health Protection Officer in cases where a shellfish growing area has been closed by the Authorised Health Protection Officer due to a sewage spill from any part of the Russell wastewater treatment plant or borehole disposal system.

19 The Northland Regional Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of these consents:

- (a) Annually during the month of November for any one or more of the following purposes:
  - (i) To deal with any adverse effects on the environment that may arise from the exercise of the consent following assessment of the results of the monitoring of the consent and/or as a result of the Regional Council's monitoring of the state of the environment, or
  - (ii) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment; or
  - (iii) To change existing, or impose new limits on conditions relating to the quality of the discharges and/or compliance standards to be met in the receiving waters.
- (b) Within three months of formally receiving a written report that is required by these consents.

The Consent Holder shall meet all reasonable costs of any such review.

**EXPIRY DATE: 30 April 2024**

**These consents is granted this Second day of September 2013 under delegated authority from the Council by:**



**S J Savill  
Consents Programme Manager –  
Water and Waste**

# SCHEDULE 1

## MONITORING PROGRAMME

The Consent Holder, or its authorised agent, shall undertake the following monitoring:

### 1 WASTEWATER VOLUMES

The Consent Holder shall keep a written record of the daily, midnight to midnight, volume of treated wastewater discharged to the disposal bores using the meter required by Condition 3.

The Consent Holder shall also keep a written record of the total volume of treated wastewater discharged to each individual disposal borehole group every month.

The Consent Holder shall forward copies of these records monthly to the Northland Regional Council and also immediately upon written request.

### 2 TREATED WASTEWATER QUALITY

The following sampling and analyses shall be undertaken on at least one occasion each fortnight unless Clause 2.1 applies.

During each sampling occasion, a composite\* wastewater sample shall be collected at NRC Sampling Site 105944 (Russell Sewage @ Plant after UV).

The composite wastewater sample shall be analysed for the following:

Determinand
Escherichia coli
5 day Biochemical Oxygen Demand
Total Suspended Solids
Total Kjeldahl Nitrogen
Total Phosphorus

Temperature, pH and dissolved oxygen concentration shall be recorded in the wastewater samples using an appropriate meter, and in accordance with standard procedures.

Any significant odours at the site are also to be noted and recorded in the monitoring report.

*\*A sample made up of equal volumes from three samples taken at least one minute apart during the same sampling event.*

#### 2.1 Sampling frequency reduction

The fortnightly monitoring frequency may be reduced to a monthly frequency if after any 12 consecutive month period:

- (a) the fortnightly monitoring has been consistently undertaken; and

- (b) the monitoring results demonstrate that the treated wastewater quality has fully complied with the discharge limits set out in Conditions 5 and 6.

At the discretion of the Northland Regional Council's Monitoring Manager, the requirement for fortnightly monitoring may be reinstated if there is any subsequent non-compliance with the discharge limits set out in Conditions 5 and 6.

### 3 COMPLIANCE WITH CONDITIONS 5 & 6

#### 3.1 Median Values

The median values for the determinands listed in Conditions 5 and 6 shall be "rolling" 12 month values calculated each month using, as a minimum, the results from the samples collected in accordance with Section 2 of this schedule and any samples collected by the Regional Council.

#### 3.2 90th Percentile Values

For compliance with Condition 5, the 90<sup>th</sup> percentile values for the listed determinands shall be "rolling" 12 month values calculated each month using, as a minimum, the results from the samples collected in accordance with Section 2 of this schedule and any samples collected by the Regional Council.

### 4 GROUNDWATER QUALITY

The following sampling and analyses shall be undertaken on at least one occasion every three months unless Clause 4.1 applies.

During each sampling occasion, a separate water sample shall be collected from each of the following observation bores as shown on the **attached** Riley Consultants drawing entitled "*Far North District Council Wastewater Treatment and Disposal, Russell Road, Russell – Location of Observation Bores and Piezometers*"; No. 96173-6-1; Date: 27 November 2012:

- Area A: Observation Bores 2 and 6  
Area B: Observation Bores 8, 9, 11, and 13  
Area C: Observation Bore 15

The separate water samples shall be analysed for the following:

Determinand
Faecal coliforms
Total Kjeldahl Nitrogen
Total Phosphorus

Any significant odours at the bore disposal sites shall also be noted and recorded in the monitoring report.

#### **4.1 Sampling frequency reduction**

The three monthly monitoring frequency may be reduced to a six monthly frequency if after three consecutive years:

- (a) the three monthly monitoring has been consistently undertaken; and
- (b) the monitoring demonstrates that there has been no statistically significant upward trend in any of the three determinands specified.

At the discretion of the Northland Regional Council's Monitoring Manager, the requirement for three monthly monitoring may be reinstated if there is any subsequent statistically significant upward trend in any of the three determinands specified.

### **5 GROUNDWATER LEVELS**

The monitoring and recording of the groundwater level in all observation bores and piezometers shown on the **attached** Riley Consultants drawing entitled "*Far North District Council Wastewater Treatment and Disposal, Russell Road, Russell – Location of Observation Bores and Piezometers*"; No. 96173-6-1; Date: 27 November 2012, shall be undertaken on at least one occasion each calendar month and following any rainfall event exceeding 45 millimetres per day. The required monitoring after rainfall events may be modified with the written agreement of the Northland Regional Council Monitoring Manager, subject to written technical evidence being provided to justify the change proposed.

### **6 SEEPAGE**

There shall be an annual visual assessment of the location and extent of any surface seepage or wet zones occurring between the disposal bores and the adjacent, lower-lying streams and wetland. Any seepage zones detected shall be recorded photographically and the location accurately determined using GPS. The extent of the seepage shall also be recorded using GPS and/or mapped in sufficient detail to allow an assessment of any change in seepage extent over time.

The presence of any visible groundwater outflow or ponding shall also be recorded.

### **7 NON-COMPLIANCE**

Any non-compliance with the conditions of this consent as determined by the monitoring undertaken in accordance with this schedule shall be immediately reported to the Regional Council's Monitoring Manager.



## 8 COLLECTION OF SAMPLES

All samples shall be collected using standard procedures and in appropriate laboratory supplied containers.

All samples collected as part of this monitoring programme shall be transported in accordance with standard procedures and under chain of custody to the laboratory.

All samples taken shall be analysed at a laboratory with registered quality assurance procedures<sup>#</sup>, and all analyses are to be undertaken using standard methods, where applicable.

*# Registered Quality Assurance Procedures are procedures which ensure that the laboratory meets recognised management practices as would include registrations such as ISO 9000, ISO Guide 25, Ministry of Health Accreditation.*

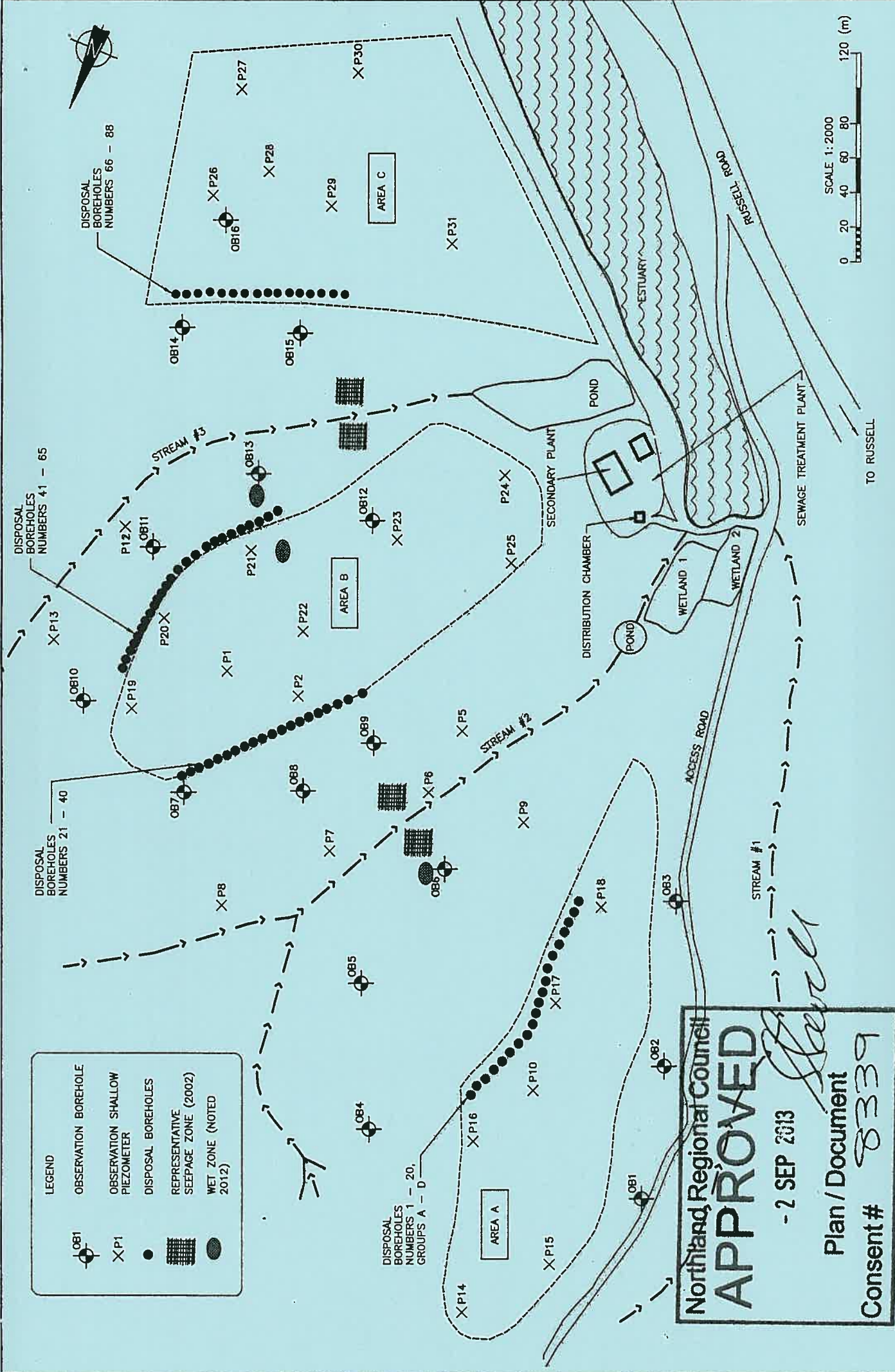
## 9 REPORTING

The Consent Holder shall forward a report to the Regional Council's Monitoring Manager by the 15<sup>th</sup> of each month for the preceding calendar month that provides the following:

- (a) The wastewater volumes required by Section 1 of this schedule;
- (b) Monitoring results of Section 2 of this schedule;
- (c) Assessment of compliance with Conditions 5 and 6 in accordance with Section 3 of this schedule;
- (d) If there is a non-compliance with Conditions 5 and 6, reasons for the non-compliances and any measures undertaken to prevent further non-compliance for that reason.

All required numerical monitoring results shall be provided in a Microsoft Excel spreadsheet, or otherwise an alternative format agreed to beforehand with the Regional Council.

The Consent Holder shall also prepare and forward an annual report to the Regional Council's Monitoring Manager by 31 May each year that provides a summary of monitoring results for Sections 4, 5 and 6 of this schedule.



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SCALE (A3)	1:2000
DRAWING No.	96173-6-1
REV.	0

TITLE FAR NORTH DISTRICT COUNCIL - RUSSELL WASTEWATER TREATMENT AND DISPOSAL  
 RUSSELL ROAD, RUSSELL  
 LOCATION OF OBSERVATION BORES AND PIEZOMETERS

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Northland Regional Council  
**APPROVED**  
 - 2 SEP 2013  
 Plan / Document  
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