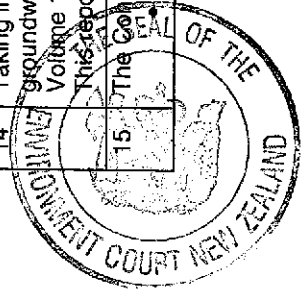


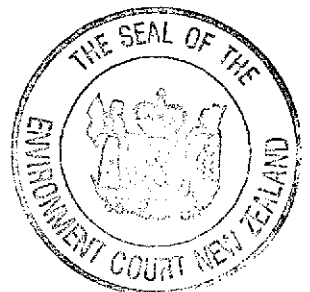


<p>map references NZMS 260 N34: 956-893, 957-893 and 959-892. These bores shall be screened at the water table and extend to a depth that provides at least 5 metres of submerged screen below the lowest water level.</p>	<p>10</p>	<p>The method of drilling monitoring bores shall not use fluids which might disturb the natural chemistry of the groundwater.</p>	
<p>11</p>	<p>All monitoring bores shall be constructed and secured so as to prevent ingress of surface waters which would negate the groundwater monitoring function.</p>	<p>12</p>	<p>Groundwater monitoring shall commence at least 18 months prior to waste being accepted at the site, in order to establish baseline water chemistry in each bore and develop trigger levels.</p> <p>(a) Trigger levels shall be set to identify significant deviations of baseline groundwater quality for each parameter specified and be based on the mean plus three standard deviations of the baseline groundwater quality data measured after a minimum of four sampling rounds over at least 12 months.</p> <p>(b) If monitoring demonstrates that the trigger levels are exceeded, then further samples shall be taken and tested within 14 days.</p> <p>(c) If the exceedance of the trigger levels is confirmed, the Consent Holder shall immediately advise the Canterbury Regional Council and notify all downstream groundwater and surface water abstractors in the catchment where the exceedance has occurred; and shall prepare a report providing reasons for the exceedance and details of monitoring and remedial measures that shall be undertaken to mitigate any adverse environmental effects. This report shall be forwarded to the Canterbury Regional Council and the Hurunui District Council within 30 days of receipt of the monitoring results confirming the exceedance of trigger levels.</p>
<p>13</p>	<p>The Consent Holder shall monitor well water levels every 3 months, and analyse for the following parameters twice a year, to coincide with the winter groundwater level maximum (generally September) and summer groundwater minimum (generally April):</p>	<ul style="list-style-type: none"> <li>• pH (field and laboratory)</li> <li>• conductivity (field and laboratory)</li> <li>• dissolved oxygen (field)</li> <li>• total organic carbon</li> <li>• alkalinity</li> <li>• sulphate</li> <li>• dissolved reactive phosphorus</li> <li>• chloride</li> <li>• sodium</li> <li>• potassium</li> <li>• calcium</li> <li>• magnesium</li> <li>• ammoniacal nitrogen</li> <li>• nitrate nitrogen</li> <li>• soluble boron</li> <li>• soluble zinc</li> <li>• silica.</li> </ul>	
<p>14</p>	<p>Taking into account the information on water levels required by Condition 13, the Consent Holder shall prepare a report reviewing the predictions about changes to the groundwater divide and reduction in baseflows of the Teviotdale Stream and Kate Creek resulting from reduced seepage to groundwater, as described in Appendix E, Volume 11 of the Transwaste Canterbury Ltd document, entitled "Kate Valley Regional Landfill Application, Assessment of Effects on the Environment", dated April 2002. This report shall be forwarded to the Canterbury Regional Council within 5 years of the grant of this consent and at five yearly intervals thereafter.</p>	<p>15</p>	<p>The Consent Holder shall monitor for the following parameters once every year, to coincide with summer groundwater minimum:</p> <p style="text-align: right;">SVOCs</p>





standard. A suitably qualified geo-technical engineer shall inspect the edges and any exposed parts of the liner system, on at least an annual basis, and after weather events capable of causing surface water infiltration, in any situation where such infiltration has occurred and at the completion of each stage of filling. The geo-technical engineer shall provide an annual report to the consent holder, and the Regional Council and shall provide certification that the degree of hydration is within design limits and that in his or her view the degree of hydration does not result in any elevated risk of mass failure. The Management Plan shall outline the processes to be followed in the event that such certification cannot be provided. This shall include a process for deciding whether further development of the landfill can safely occur and for determining appropriate mitigation measures. (Copies of the management plan, report and certification are to be provided by the consent holder to the Regional Council and to the Peer Review Panel, within 7 days of completion of the document) In the event that the certification outlined above cannot be obtained at the end of any phase of filling, subsequent stages shall not proceed until redesign work demonstrates that a satisfactory level of stability can be assured and certified by the design engineer (such certification to be provided to the Peer Review Panel and the Regional Council).



**PROPOSED RESOURCE CONSENT**  
*Pursuant to Section 105 of the Resource Management Act 1991*  
**THE CANTERBURY REGIONAL COUNCIL**

**GRANTS TO:** TRANSWASTE CANTERBURY LIMITED

**A DISCHARGE PERMIT CRC021915:** to discharge to air, landfill gas, exhaust gases, dust, odour, and other contaminants from a Landfill.

**DURATION:** 35 years

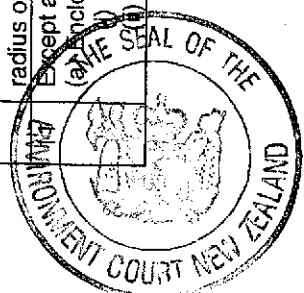
**IN CONNECTION WITH THE FOLLOWING PROPERTY:**

**LOCATION:** 666 MT CASS ROAD, WAIPARA

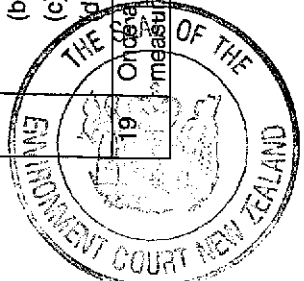
**LEGAL DESCRIPTION:** contained within Sections 1, 3, 4, 5, 6 and 7 S.O.18668, Sections 8, 9, 12 and 14 S.O.18669 and Section 15 S.O.18670, all comprised in Certificate of Title CB35D/977; Rural Section 38811 comprised in Certificate of Title CB3AV/26; Part Bed of Omih Stream; and Part Section 2 S.O.10082, Parts Rural Section 22646, Parts Rural Section 22646X and Parts Rural Section 25242, more particularly defined as parcels B and C on S.O.17195, which are Crown Land by Gazette 1963 p65 and by Transfer 573383 all in the Canterbury Land District.

**SUBJECT TO THE FOLLOWING CONDITIONS:**

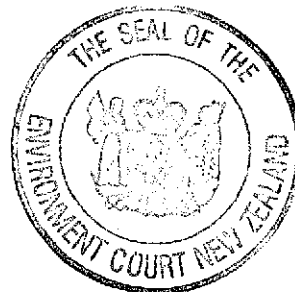
- 1 This consent is subject to the general conditions listed in Schedule 1 – General Conditions.
- 2 There shall be no objectionable odour or nuisance deposits of particulate matter beyond the boundary of the land owned by the Consent Holder, or land over which the Consent Holder has rights, as a result of any of the consent holder's activities on the site.
- 3 No working-face shall exceed the dimensions of 30 m by 30 m at any time. The working face is defined as that area where refuse is being placed and compacted in its final location, and does not include the push-run area.  
The uncovered areas of the working face and the push-run area shall be kept to a practicable minimum and all necessary steps shall be taken to minimise odour from the working face and the push-run area.  
Refuse shall be covered with clean fill or soil cover to a minimum depth of 150mm at the end of each working day. Alternative daily cover materials, such as tarpaulins, may be used in lieu of the clean fill or soil cover, with the approval in writing from the Canterbury Regional Council. No refuse shall remain exposed overnight.
- 4 To minimise odour emission during handling of odorous special wastes the following measures shall be taken:
  - (a) Vigilant attention and control of odorous loads entering the landfill, including the rejection of unexpected highly odorous loads.
  - (b) Highly odorous loads shall only be accepted if their disposal has been pre-booked, to ensure the following measures are prepared:
    - (i) Availability of odour masking chemicals;
    - (ii) An appropriately sized pit is available;
    - (iii) Suitable meteorological conditions; and
    - (iv) Suitable equipment being available.
  - (c) Potentially odorous loads shall be required to be delivered during the normal working day and covered as soon as practicable and in any event not later than one hour following placement.
  - (d) Generators of potentially odorous wastes shall be required to deliver the waste prior to putrefaction, where possible, or to apply suitable odour suppressing chemicals to the load before delivery. Loads not complying shall be refused entry and only accepted after treatment.
- 5 The concentration of methane in monitoring probes outside the Landfill footprint shall not exceed 5% by volume.
- 6 There shall be no visible emission, other than water vapour, light, heat haze, or steam, from any Landfill gas flare.
- 7 The concentration of methane at the surface of Landfill areas with intermediate or final cover shall not exceed 0.5% by volume.
- 8 The residual Nitrogen content of landfill gas in all extraction wells shall not exceed 20% by volume or exceed 5% oxygen by volume.
- 9 The Consent Holder shall install a landfill gas extraction system in accordance with the plans included in the Application.
- 10 All extraction wells shall be connected to the gas extraction system as soon as practicable and in any case not longer than 12 months after placing wastes within the radius of influence of the wells. Gas venting from the wells prior to connection to the gas extraction system may be burnt by passive flares.  
Except as provided in Condition 10, all extracted landfill gas shall be combusted in a flare or generator in accordance with the following:  
 (a) Enclosed flares shall have the following minimum specifications:  
 flame arrester and backflow prevention devices, or similar equivalent system  
 continuous automatic ignition system



	<p>(iii) automatic isolation systems to ensure that there is no discharge of unburnt landfill gas from the flare in the event of flame loss</p> <p>(iv) adequate sampling ports to enable emissions testing to be undertaken, and</p> <p>(v) provision of safe access to sampling ports while emissions tests are undertaken</p> <p>(vi) minimum temperature at 750 °C and retention time of 0.5 seconds</p> <p>(vii) a permanent temperature indicator at half a diameter from the top of the flare with a visual readout at ground level.</p> <p>(b) Open flares shall comply with Condition 11(a)(i) and (ii) above.</p> <p>(c) Landfill gas fired generators shall comply with specifications 11(a)(i) to (a)(v) above.</p>
12	<p>The gas collection and treatment system shall be restored as soon as practicable in the event of a malfunction or fault.</p>
13	<p>A walkover site inspection shall be undertaken no less frequently than weekly. Any evidence of actual or potential landfill gas leaks, such as odour, cracks in the Landfill surface, gas bubbles, leaks in the gas extraction system, or vegetation damage, shall be investigated. Where necessary remedial action shall be undertaken as soon as practicable to minimise fugitive gas discharges.</p>
14	<p>Methane concentrations shall be measured and recorded on a monthly basis in each of the monitoring probes as shown on the drawings in the Landfill Management Plan outside of the Landfill footprint to demonstrate compliance with Condition 5.</p>
15	<p>Monitoring of surface emissions shall be carried out to demonstrate compliance with Condition 7 on a quarterly basis.</p>
16	<p>Landfill gas shall be monitored at each extraction well head or, if more appropriate, at manifold points, on a 3 monthly basis. The following parameters shall be measured and recorded:</p> <ul style="list-style-type: none"> <li>(a) gas flow rate</li> <li>(b) gas composition (% methane, % oxygen, % carbon dioxide)</li> <li>(c) gas temperature</li> <li>(d) ambient temperature</li> <li>(e) gas pressure</li> <li>(f) barometric pressure</li> <li>(g) ppm carbon monoxide if residual nitrogen exceeds 15%</li> </ul>
17	<p>Until such time as a permanent landfill gas flare or utilisation station is installed, landfill gas (blended) shall be monitored at each flare station on a three monthly basis. The following parameters shall be measured and recorded:</p> <ul style="list-style-type: none"> <li>(a) gas flow rate</li> <li>(b) composition (% methane, % oxygen, % carbon dioxide, ppm carbon monoxide)</li> <li>(c) gas temperature</li> <li>(d) ambient temperature</li> <li>(e) gas pressure</li> <li>(f) barometric pressure</li> <li>(g) hydrogen sulphide</li> <li>(h) total non-methane organic compounds.</li> </ul>
18	<p>Once a permanent landfill gas flare or utilisation station is installed, landfill gas (blended) shall be monitored on a continuous basis and recorded electronically;</p> <ul style="list-style-type: none"> <li>(a) gas flow rate</li> <li>(b) composition (% methane, % oxygen, % carbon dioxide, ppm carbon monoxide)</li> <li>(c) gas temperature</li> <li>(d) gas pressure</li> </ul>
19	<p>Once a permanent landfill gas flare or utilisation station is installed, landfill gas (blended) shall be monitored on a six-monthly basis. The following parameters shall be measured and recorded:</p>



	(a) hydrogen sulphide (b) total non-methane organic compounds.
20	The Consent Holder shall measure and record on site weather conditions every 30 minutes. The parameters measured shall include: (e) wind velocity and direction (f) barometric pressure (g) rainfall, and (h) temperature.
21	The Consent Holder shall notify the Canterbury Regional Council of any complaints received by the Consent Holder regarding odour or dust as soon as practicable, and no longer than one working day after the complaint is received.
22	When complaints regarding objectionable or offensive odour or dust are received by the Consent Holder, the Consent Holder shall record the following details in a complaint log: (a) type and time of complaint; (b) name and address of complainant (if available); (c) location from which the complaint arose; (d) wind direction at the time of complaint; (e) the likely cause of the complaint; (f) the response made by the Consent Holder; and (g) action taken or proposed as a result of the complaint.
	The Complaint log shall be available to the Canterbury Regional Council and Hurunui District Council at all times, on request.
23	The Consent Holder shall maintain a log of all inspections, investigations and actions taken with respect to the landfill gas system.
24	The Consent Holder shall submit a summary of landfill gas monitoring results to the Peer Review Panel at the end of each year.
25	The Consent Holder shall include within the Landfill Management Plan provisions setting out how the Landfill Gas Collection and Treatment system will be maintained to comply with all conditions.
26	If monitoring demonstrates that the methane gas concentration limit specified in Condition 8 is exceeded, then remedial action shall be carried out and the concentrations re-tested within 14 days. If this is not practicable, the Consent Holder shall prepare a programme of remedial action, including a timetable, within 14 days of the exceedance. The proposed programme shall be implemented within the proposed time period.
27	The Consent Holder shall provide sufficient on-site electrical generation, or other appropriate measures, to ensure the operation of landfill gas flare equipment is not interrupted for more than two hours through loss of mains power supply.
28	The Canterbury Regional Council may, on any one of the last five working days of June each year, serve notice of its intention to review the conditions of this consent for the purposes of: (a) dealing with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or (b) requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.



**PROPOSED RESOURCE CONSENT**  
*Pursuant to Section 105 of the Resource Management Act 1991*  
**THE CANTERBURY REGIONAL COUNCIL**

**GRANTS TO:** TRANSWASTE CANTERBURY LIMITED

**A WATER PERMIT CRC021916:** to take and use up to 40,000 cubic metres per year of surface water from Pump Creek for a potable water supply at Tiromoana Station, Mt Cass Road.

**DURATION:** 35 years

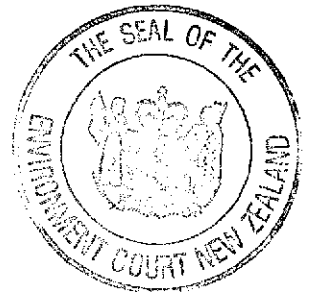
**IN CONNECTION WITH THE FOLLOWING PROPERTY:**

**LOCATION:** 666 MT CASS ROAD, WAIPARA

**LEGAL DESCRIPTION:** contained within Sections 1, 3, 4, 5, 6 and 7 S.O. 18668, Sections 8, 9, 12 and 14 S.O. 18669 and Section 15 S.O. 18670, all comprised in Certificate of Title CB35D/977; Rural Section 38811 comprised in Certificate of Title CB3A/26; Part Bed of Omihiri Stream; and Part Section 2 S.O. 10082, Parts Rural Section 22646, Parts Rural Section 22646X and Parts Rural Section 25242, more particularly defined as parcels B and C on S.O. 17195, which are Crown Land by Gazette 1963 p65 and by Transfer 573383 all in the Canterbury Land District.

**SUBJECT TO THE FOLLOWING CONDITIONS:**

- |   |   |
|---|---|
| 1 | This consent is subject to the general conditions listed in Schedule 1 – General Conditions.  |
| 2 | The taking of surface water is authorised only for the potable water supply as shown on the Drawing C3 General Site Arrangement.  |
| 3 | The Consent Holder shall monitor the quantity of water taken from the potable water supply system. The volume of surface water taken shall be recorded at monthly intervals. The annual volume of surface water shall be reported in writing to Canterbury Regional Council by 1 October each year for the period up to 30 June.  |
| 4 | The Canterbury Regional Council may, on any one of the last five working days of June each year, serve notice of its intention to review the conditions of this consent for the purposes of:<br>(a) dealing with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage;<br>or<br>(b) requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment. |
| 5 | The abstraction of water in terms of this permit shall be limited to basic domestic requirements for site staff whenever the flow in Pump Creek is at or below one litre per second.  |



**PROPOSED RESOURCE CONSENT**  
*Pursuant to Section 105 of the Resource Management Act 1991*  
**THE CANTERBURY REGIONAL COUNCIL**

**GRANTS TO:** TRANSWASTE CANTERBURY LIMITED  
**A WATER PERMIT** CRC021917: to take groundwater.

**DURATION:** 35 years

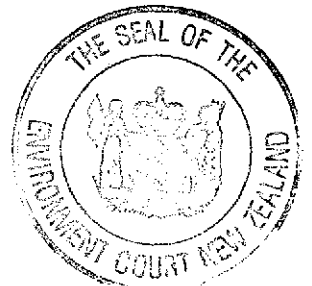
**IN CONNECTION WITH THE FOLLOWING PROPERTY:**

**LOCATION:** 666 MT CASS ROAD, WAIPARA

**LEGAL DESCRIPTION:** contained within Sections 1, 3, 4, 5, 6 and 7 S.O. 18668, Sections 8, 9, 12 and 14 S.O. 18669 and Section 15 S.O. 18670, all comprised in Certificate of Title CB35D/977; Rural Section 38811 comprised in Certificate of Title CB3A/26; Part Bed of Omih Stream; and Part Section 2 S.O. 10082, Parts Rural Section 22646, Parts Rural Section 22646X and Parts Rural Section 25242, more particularly defined as parcels B and C on S.O. 17195, which are Crown Land by Gazette 1963 p65 and by Transfer 573383 all in the Canterbury Land District.

**SUBJECT TO THE FOLLOWING CONDITIONS:**

- |   |   |
|---|---|
| 1 | This consent is subject to the general conditions listed in Schedule 1 – General Conditions.  |
| 2 | Groundwater shall only be taken from a groundwater under-drainage system installed beneath the Landfill footprint, or in related slope cuts or relief drains needed to enable Landfill construction.  |
| 3 | The Consent Holder shall measure the volume of groundwater taken from the groundwater under-drainage system. This shall be recorded. The volume of groundwater per month shall be reported in writing to the Canterbury Regional Council by 1 October every year.   |
| 4 | The Canterbury Regional Council may, on any one of the last five working days of June each year, serve notice of its intention to review the conditions of this consent for the purposes of: <ul style="list-style-type: none"> <li>(a) dealing with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or</li> <li>(b) requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.</li> </ul> |



**PROPOSED RESOURCE CONSENT**  
*Pursuant to Section 105 of the Resource Management Act 1991*  
**THE CANTERBURY REGIONAL COUNCIL**

**GRANTS TO:** TRANSWASTE CANTERBURY LIMITED

**A DISCHARGE PERMIT CRC021918:** to discharge groundwater into water.

**DURATION:** 35 years

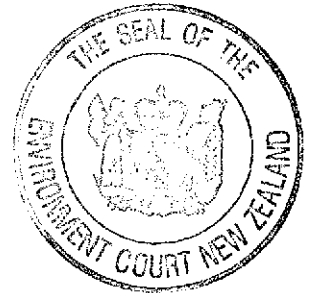
**IN CONNECTION WITH THE FOLLOWING PROPERTY:**

**LOCATION:** 666 MT CASS ROAD, WAIPARA

**LEGAL DESCRIPTION:** contained within Sections 1, 3, 4, 5, 6 and 7 S.O.18668, Sections 8, 9, 12 and 14 S.O.18669 and Section 15 S.O.18670, all comprised in Certificate of Title CB35D/977; Rural Section 38811 comprised in Certificate of Title CB3A/26; Part Bed of Omih Stream; and Part Section 2 S.O.10082, Parts Rural Section 22646, Parts Rural Section 22646X and Parts Rural Section 25242, more particularly defined as parcels B and C on S.O.17195, which are Crown Land by Gazette 1963 p65 and by Transfer 573383 all in the Canterbury Land District.

**SUBJECT TO THE FOLLOWING CONDITIONS:**

1	This consent is subject to the general conditions listed in Schedule 1 – General Conditions.
2	Any groundwater under-drainage flows shall be discharged to the surface water drainage system and routed through the sedimentation pond.
3	The Canterbury Regional Council may, on any one of the last five working days of June each year, serve notice of its intention to review the conditions of this consent for the purposes of: (a) dealing with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or (b) requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.





Both the siltation control dam and the water storage dam shall be investigated and designed in accordance with the New Zealand Dam Safety Guidelines as promulgated by the New Zealand Society on Large Dams (as agreed by the applicant). The investigation, design, peer review and monitoring of the dam shall take into account the following factors:

- The public are known to frequent the lower end of Kate Valley and the beach at the Kate Creek outlet
- The potential incremental consequences of failure in terms of socio-economic, financial and environmental matters would cause major damages in that the landfill would likely need to be closed, requiring extensive rehabilitation work.

