

Resource Consent Report

APPLICATION TO DISCHARGE STORMWATER TO LAND

RENEWAL OF CRC980561

Assessment of Environmental Effects



Prepared for Adams Sawmilling Company Limited

Prepared by Gary Rae

1 October 2016

Application details

Applicant details

Surname:		First names:	
Surname:		First names:	
OR Registered Company name and number:	Adams Sawmilling Company Limited (147059)		
Postal address:	24 Malcolm McDowell Road, Ashburton	Postcode:	7700
Billing address (if different):		Postcode:	
Phone (home):		Phone (work):	
Cell phone:		Email address:	adamssawmill@xtra.co.nz
Contact person:	Wayne Farr (director)		

Are you an Environment Canterbury staff member, and Environment Canterbury Commissioner, or a family member of either? Yes ☐ No ☒

Consultant/Agents details (if applicable)

Contact person:	Gary Rae	Company	Irricon Resource Solutions Ltd
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During the processing of your application who will be the contact person for making decisions	<input type="checkbox"/> Applicant	<input checked="" type="checkbox"/> Consultant/Agent	
Who will be the contact person for compliance monitoring matters	<input checked="" type="checkbox"/> Applicant	<input type="checkbox"/> Consultant/Agent	

Names and addresses of the owner and occupier of the site to which this application relates

Owner:	The applicant	Phone:	
Postal address:		Postcode:	
Occupier:		Phone:	
Postal address:		Postcode:	

Location of the proposed activity

Site address	24 Malcolm McDowell Road, Ashburton		
Locality:	Ashburton	Map reference:	BY21:0158 - 3950
Area of property (m ² /ha):	1.336 hectares	Legal Description:	RS 40696

Consents from local authorities

Under which territorial authority is the land situated:	Ashburton DC
Do you require consent from the local authority for this proposal?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, please list:	
If a consent is required from the District of City Council, have you applied for it:	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, what is the consent number and status?	

Please list any permitted activities under the District or City Plan that are part of the proposal to which the activity relates:

Current or previous consents

Do you hold, or have you held any previous consents at this site for this activity or any related activity ☒ Yes ☐ No

List any consents required by the Canterbury Regional Council and indicate whether they have been applied for:

Is this activity for a: ☐ New activity ☒ Existing activity ☐ Change of conditions for an existing consent

If yes, please supply the consent reference number(s) or consent holder's name (if different from current applicant's name)

CRC980561

Pre-application advice

Have you received any advice from Environment Canterbury prior to lodging this application ☐ Yes ☒ No

If yes, please list the pre-application number if known:

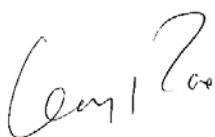
Please list any pre-application meetings or advice (verbal and/or written you have had with Environment Canterbury below:

Type of advice	Brief details, including who provided the advice and the date
<input type="checkbox"/> Meeting(s):	
<input type="checkbox"/> Verbal advice	
<input type="checkbox"/> Written advice	
<input type="checkbox"/> Other (e.g. submitted draft application/AEE)	

Application fee

Name of person/organisation that is paying the deposit	Irricon Resource Solutions Ltd
Method of payment	Internet banking
Date payment is made	September 2016
Payment reference	AdamsSawmilling
Amount of payment	\$3,450
Additional fees or refund	Direct to applicant

Signature



Date 1 October 2016

Gary Rae

Irricon Resource Solutions

Contents

1	INTRODUCTION	6
2	DESCRIPTION OF THE PROPOSAL	6
2.1	Background	6
2.2	Site details	6
2.3	Timber Treatment Process	6
2.4	Treatment and Capacity of the Stormwater System	7
2.5	Stormwater Quantity	8
2.6	Soil and Water Testing	9
2.7	Groundwater testing in downgradient bores	9
2.8	Proposed Conditions	10
2.9	Consents Held at This Site	14
3	LEGAL AND PLANNING MATTERS	15
3.1	Resource Management Act 1991	15
3.2	Canterbury Land and Water Regional Plan (LWRP)	15
3.3	Proposed Plan Change 4 to the Canterbury Land and Water Regional Plan (PC4)	16
3.4	Matters Relating To Tangata Whenua	17
3.4.1	Statutory Planning Documents	17
4	CONSULTATION	18
5	DESCRIPTION OF THE AFFECTED ENVIRONMENT	18
5.1	Location	18
5.2	Surrounding Land Use	18
5.3	Surrounding Consented Activities	18
5.4	Soils	18
5.5	Groundwater	19
5.6	Surfacewater	19
5.7	Site Contamination	19
5.8	Sensitivity of the receiving Environment	19
6	ASSESSMENT OF ACTUAL AND POTENTIAL EFFECTS	20
6.1	Adverse effects on groundwater quality and groundwater users	20
6.2	Adverse effects from slow entry of stormwater into land (ponding)	21
6.3	Adverse effects on surface water quality and ecology	22
6.4	Adverse effects of accumulation of contaminants in soil, and on human health	22
6.5	Adverse Effects of Sediment laden discharges	23
6.6	Adverse effects on Tangata Whenua values	23

6.7	Overall Assessment of Effects	25
7	POLICIES AND OBJECTIVES	25
7.1	National Policy Statement for Freshwater Management.....	25
7.2	National Environmental Standard – Sources of Human Drinking Water	26
7.3	Canterbury Regional Policy Statement (CRPS)	26
7.4	Te Runanga O Ngai Tahu Freshwater Policy Statement.....	27
7.5	Canterbury Land and Water Regional Plan (LWRP).....	28
8	RESOURCE MANAGEMENT ACT 1991 - PART II PURPOSE AND PRINCIPLES	30
8.1	Purpose of the RMA	30
8.2	Matters of National Importance.....	30
8.3	Other Matters.....	30
8.4	Principles of the Treaty of Waitangi	30
9	Consideration of alternatives	31
10	CONCLUSION	31
11	APPENDICES.....	31

1 INTRODUCTION

This report has been prepared for Environment Canterbury, as the regulatory authority, in accordance with the Fourth Schedule of the Resource Management Act 1991 (RMA) to support an application to renew resource consent CRC980561 by Adams Sawmilling Company Limited (the applicant)

The report and assessment of environmental effects has been prepared by Gary Rae of Irricon Resource Solutions, on behalf of the applicant.

The information in this report has been prepared for the exclusive use of the applicants. Anyone wanting to use any information from this report that is not in the public domain should first contact the author for permission.

2 DESCRIPTION OF THE PROPOSAL

2.1 Background

The applicant owns a 1.336 hectare land area (legal description RS 40696) located at 24 Malcolm McDowell Road, Ashburton (location map as appendix 1). The site is zones as business, and is located on the north eastern boundary of Ashburton.

The site is currently used for milling, treating and storing timber. The applicant has operated a sawmill at the site since 1988, and has used the present timber treatment plant since 1993.

This activity is permitted on the site by resource consent CRC980561 for the discharge of stormwater and contaminants to land and water. CRC980561 expires on 4 April 2017.

The applicant proposes to renew CRC980561, hence this application. No changes are proposed to either the nature of the business, or the existing stormwater management structures.

The surrounding properties on three sides is commercial, and on the third side is rural. The closest residential dwelling is 320 metres downgradient of the site.

2.2 Site details

The site is 1.336 hectares in size. The site comprises sealed and compacted gravels

Total area of site	13,360 m ²
Total roof area	1,618 m ²
Sealed area	2,576 m ²
Gravels – treated wood storage	1,800 m ²
Gravels – wood storage and bare	7,366 m ²

The site is listed on the Listed Land Use Register.

2.3 Timber Treatment Process

Tree logs are brought on-site by truck, where they are cut up for timber. The slab off-cuts are sold as firewood, and sawdust is contained in an elevated silo before being trucked to clients.

Timber is treated by the Bethel process. The untreated timber is placed in a steel pressure cylinder. Air within the cylinder is extracted to create a vacuum, which removes air from within the cells in the timber. These cells are then filled with the timber treatment solution of copper, chromium and arsenic (CCA) which is pumped into the cylinder under pressure.

After treatment the timber is removed from the cylinder and held on a concrete drip pad for up to 48 hours or until "drip free" before storage on site or sale. After this stage there is no dripping of treatment chemicals from the wood.

The treatment plant is housed in a bunded, covered shed with a pressure treating cylinder of 11,000 litres capacity and storage tanks with a combined capacity of 45,000 litres. The bunded area has a capacity of 84,000 litres.

The timber treatment solution concentrate is transported to the site, diluted to working solutions and stored in holding tanks within the treatment plant shed. The covered area used for treating the timber is bunded and has a capacity to hold in excess of 180% volume of stored liquid.

A concrete lined sump (Sump A) beneath the pressure cylinder collects spilled treatment solution that is reused in the treatment process. The drip pad is covered and excess treatment chemicals drain to Sump A in the treatment shed where it is reused.

The applicant was granted resource consent CRC98561 in April 2002 to discharge potentially contaminated stormwater into the soil.

2.4 Treatment and Capacity of the Stormwater System

The land area is split into six zones for this proposal. The zones are:

- 1 Roof area and surrounding sealed area discharging to ADC reticulated stormwater system
- 2 Roof area discharging to land
- 3 Sealed area discharging to land
- 5 Treated timber storage area discharging to land
- 6 Compacted gravel area discharging to land

Building Roofs and surrounding sealed area discharging to ADC

Stormwater from the office and staff building roofs is discharged to the sealed surrounding land surface. The stormwater is directed to a sump which leads through an underground pipe to the Ashburton District Council stormwater system on Malcolm McDowell Road. This area totals about 158 m².

Roof area discharging to land

Stormwater from the other building roofs is discharged to the ground, from which it is directed by gravity to the gravelled land area, and to two soak holes. This area totals about 1,535 m².

Sealed area and gravel storage area discharging to land

Stormwater from the sealed roading around the site flows onto the gravel area, to discharge to land through infiltration, with surplus run-off directed to two soak holes by overland flow.

This area totals about 7,366 m².

The soak holes are located in proximity to the wood machining shed and to the sawmill shed. The two soak holes are about two metres by two metres to a depth of about three metres. The holes are filled with stones and surrounded by Bidim geotextile cloth. The bottom of the soak holes extend into the sandy gravels underneath the site.

Treated timber storage area

Stormwater from the northeast sector of the site where treated timber is stored, and the area surrounding the drip pad, is diverted towards a sawdust filled treatment sump (Sump B) before discharging to an infiltration basin. This area totals about 1,800 m².

2.5 Stormwater Quantity

The stormwater design flows generated from the site have been estimated using the HIRDS rainfall data presented in the following table, and in the application form, for various durations and return periods using the rational formula. Runoff coefficient suitable for each area have been selected as recommended in NZBC E1.

Inflows to Sump B and infiltration trench – treated timber storage area

Sump B, which treats the stormwater from the area where the treated timber is stored is designed to contain stormwater from a one in five year, 10-minute rainfall event. For this 1,800 m² area the volume of stormwater for a storm of this intensity and length is calculated as 14 m³, being 1,800 m² of area X 7.8 mm of rainfall (39 mm/hr for 10 minutes as estimated by HIRDS). The volume of Sump B is 14.4 m³, being 8m X 3m X 0.6m. The stormwater flows from Sump B into the infiltration basin, which has a volume of 50 m³ (10m x 10m x 0.5m) The system has sufficient capacity to treat the stormwater from this area, and to discharge it to land.

Inflows to Soakholes 1 & 2

Soak holes 1 and 2 direct the initial storm flow volumes that do not infiltrate into the ground surface of the site. The calculation of inflows to the two soakholes are combined as there are no separate flow paths to the individual soakholes. The stormwater from the sealed areas flows over the graveled areas to the soakholes, therefore the whole volume is treated as moving over the graveled area for ease of calculation.

The following flow assumption have been adopted:

- Each soak pit is assumed to be 2m wide by 2m long by 3m deep
- Soakage area is 4127m²
- Soakage pit infiltration rate is 300 mm/hour
- Void space in the soak hole is 38%
- Storm intensity of 1 hour 10% AEP – 148.5 mm/hour

The calculation is attached as appendix 4.

The calculation shows that the soakage pits may not be able to capture and infiltrate the 1 hour 10% AEP storm volume. The excess volume infiltrates the general land surface on the graveled part of the land area, within the limits of the property. The downgradient boundary is banded to retain the stormwater within the land area. The bund was originally installed to prevent any flow of stormwater into the Ashburton

District Council stockwater race that formerly ran down the boundary of the property. That race is no longer operative. Downgradient of the boundary is farmland owned by Ashburton Meat Processors Limited.

Volume of Stormwater from 2% AEP 24 hour rainfall event

The Land and Water Regional Plan requires that the stormwater discharge does not cause stormwater from up to and including a 24 hour duration 2% Annual Exceedance Probability rainfall event to enter any other property, and does not result in the ponding of stormwater on the ground for more than 48 hours, unless part of the stormwater treatment system.

The volume of stormwater in a 24 hour 2% AEP rainfall event on the total area of the site is calculated at 1309 m³ – 10,727 m² area x 122.1 mm 2% 24 hour AEP. The bunding around the downgradient boundaries of the land area is to keep this potential volume within the boundaries. The applicants have stated that water has not flowed into neighbouring properties when it has accumulated after an intense rainfall event.

2.6 Soil and Water Testing

CRC980561 requires a sampling and testing programme to monitor the concentration of important contaminants in the soil and in the groundwater.

Samples for testing, as detailed in condition 4 of CRC980561, are required to be taken annually from:

- sediment from soak hole 1 and soak hole 2
- groundwater monitoring bore L37/1039
- sediment from the surface of the infiltration basin
- sediment from the chemical delivery point, timber storage area, and from the area surrounding the treatment shed.

All samples are analysed to determine concentrations of:

- Arsenic, chromium, copper and boron
- Total petroleum hydrocarbons - C7-C9, C10-C14, C15-C36

The details of how the samples are analysed are contained in Condition 6 of CRC980561.

Condition 7 details the response required if the results of the sample analysis of any sample taken in accordance with the consent shows that the concentration of any contaminant exceeds the concentration specified in Tale 1.

The results from the testing of these samples is attached as appendix 11

2.7 Groundwater testing in downgradient bores

There is no data recorded for concentrations of the major contaminants from any down gradient bores. The water quality tests on samples from the applicants bore show very low concentrations of contaminants in the groundwater. The 2015 samples measured boron at 0.9%, chromium at 0.03% and copper at 0.011% of the trigger levels. The arsenic concentration was below the limit of detection at less than 1% of the trigger level.

2.8 Proposed Conditions

It is proposed to carry out the activities under the same conditions as currently apply under CRC980561, with the exception of deletions for conditions that no longer apply. Deleted wording is shown as ~~striketrough~~ added wording is shown with grey background.

Consent Conditions – existing

- 1
 - (a) The discharge shall only be stormwater flowing from roofs, stored treated timber, hard standing and unpaved areas of RS 40696, BLK XIII, Ashburton Survey District.
 - (b) Stormwater shall only be discharged onto land at or about map reference NZMS 260 L37:1150-0111.
 - (c) The only timber treatment chemicals used at the site shall be solutions of copper, chromium and arsenic (CCA).
 - (d) The timber treatment area including the pressure cylinder, drip pad and CCA holding tanks shall be bunded and located within a covered shed. This area shall be designed to hold at least 120 percent of the volume of stored liquid
 - (e) Timber treatment chemicals used or spilled in this area shall be directed to a sump (Sump A, shown on plan CRC980561) located beneath the pressure cylinder. Water and chemicals from the sump shall be re-used in the treatment process.
 - (f) Treated timber shall remain on the drip pad until substantially drip-free, as defined in clause 1.4.6 of the "Approved Code of Practice for the Safe Use of Timber Preservatives and Antisapstain Chemicals", after treatment with CCA.
 - (g) Sump A shall be visually inspected at least once every 12 months. Any sludge or visible contaminants shall be removed immediately.
 - (h) The integrity of the sump shall be tested at least once every three years using the methodology described in (h) (i) - (iv), to ensure that no contaminants are entering the soil surrounding the sump
 - (i) The sump shall be filled with water
 - (ii) Over a consecutive three-day period, the depth of water in the sump shall be measured and recorded
 - (iii) If any additional water enters the sump during the three-day period, the test shall be re-commenced
 - (iv) If the difference in water-depth exceeds two millimetres over the three-day period, the consent holder shall implement all necessary measures to reduce the discharge from the sump
 - (i) In the event of a spillage of fuel or timber treatment chemicals, emergency response procedures shall be undertaken to contact the spill and prevent contaminants from entering the infiltration basin and any soakhole on site. The consent holder shall provide to the Canterbury Regional Council within 24 hours details as to the time, date and duration of the spillage, the emergency procedures undertaken to clean up the spillage and any potential effects of the spill.
- 2
 - (a) Stormwater shall only be discharged to land via:
 - (i) the surface of the timber yard;
 - (ii) a soakhole (SH1) located to the north-west of the planning shed, a soakhole (SH2) located to the south-east of the planning shed; and
 - (iii) a vegetated infiltration basin; as shown on Plan CRC980561.

- (b) All treated timber shall be stored on the north-east of the site, shown as the shaded area on Plan CRC980561. Stormwater from the timber storage area, as shown on the plan and the area surrounding the timber treatment plant, shall be directed to a sump (Sump B) prior to discharging into the infiltration basin. Sump B shall be designed to contain stormwater from a one in five year, 10 minute rainfall event.
 - (c) The infiltration basin shall be vegetated and shall have a maximum infiltration rate of 100 millimetres per hour.
 - ~~(d) The stormwater treatment system including Sump B and the infiltration basin shall be installed at the site no later than 31 May 2002. Within one month of construction, the consent holder shall submit to the Canterbury Regional Council: (Not required as the sump and infiltration basin have been installed)~~
 - ~~(i) A certificate by the person responsible for designing the stormwater treatment system or a competent person, to certify that the system is constructed and installed in accordance with Conditions (2) (b) and (c) of this consent; and~~
 - ~~(ii) All design plans, assessments and calculations undertaken to ensure compliance with Condition (2) (b) and (c) (Not required as the sump and infiltration basin have been installed)~~
 - (e) The infiltration basin shall be maintained to ensure that vegetation is in a healthy and uniform state and to ensure a maximum infiltration rate of 100 millimetres per hour, as measured using the "Double Ring Infiltrometer Test" attached to this consent.
 - (f) Sump B shall be lined with untreated sawdust to remove contaminants. The sump shall be inspected at least once every six months and the sawdust shall be removed and replaced with fresh, untreated material, as required.
 - ~~(g) There shall be a continuous bund along the south eastern boundary of the property adjacent to the stock water race. This bund shall be adequate to prevent the discharge of stormwater into the race neighbouring property.~~
- 3 ~~(a) Within six months of the granting of this consent, a monitoring well (minimum diameter 100 millimetres) shall be installed on the down gradient (in relation to the direction of groundwater flow) side of the timber treatment shed as indicated on Plan CRC980561.~~
- ~~(b) The well shall be drilled to a depth of 15 metres, screened between 15 – 10 metres below ground level, constructed of polyvinyl chloride (PVC) or a similar inert material and capped to prevent entry of surface water.~~
- ~~(c) A concrete pad at least 0.3 metres thickness to be constructed around the bore head at ground level, to prevent leakage around the casing. The concrete pad shall slope away from the bore.~~
- ~~(d) The well shall be made accessible to Canterbury Regional Council staff for the purpose of groundwater sampling.~~
- 4 (a) Samples of each of the following shall be taken in accordance with Condition (4)(b) and (c):
- (i) sediment from the lowest point of elevation of soakhole SH1, shown on Plan CRC980561
 - (ii) sediment from the lowest point of elevation of soakhole SH2, shown on Plan CRC980561
 - (iii) groundwater from the monitoring bore, Well L37/1039

- (iv) sediment from the surface of the infiltration basin taken from the lowest point of elevation, at a depth of between 0 - 500 millimetres
 - (v) sediment from the chemical delivery point (behind the treatment shed), timber storage area and from the area surrounding the treatment shed (as shown on Plan CRC980561)
 - (b) Samples shall be taken:
 - ~~(i) at least once within one month of the installation of the stormwater treatment system and the monitoring bore (including Sump B and the infiltration basin); and~~
 - ~~(ii) at least once every six months for the first four years after the initial samples are taken in accordance with (4)(b)(i);~~
 - (iii) at least once every twelve months ~~following the four year period specified in (4)(b)(ii)~~
 - (c) All samples shall be taken by a suitable qualified and experienced person using methods approved by the American Public Health Association (APHA) or the American Society for the Testing of Materials (ASTM), for such sampling.
 - (d) All samples shall be analysed in accordance with Condition (6) to determine concentrations of the following determinands:
 - (i) arsenic chromium copper boron
 - (ii) TPH (C7-C9) TPH (C10-C14) TPH (C15-C36)
- 5 Records of rainfall at the nearest monitoring station for which records can be obtained, covering the period from the date of the previous sampling to the date of the current sampling shall be provided to the Canterbury Regional Council at the same time that the analysis of sample results are provided.
- 6 All samples taken in accordance with Conditions (3), (4) and/or (7) shall be analysed for contaminants, as follows:
- (a)
 - (i) samples of water from the groundwater monitoring bore (Well L37/1039) shall be analysed for the contaminants specified in Condition (4)(d)(i), in their soluble form;
 - (ii) samples of sediment taken in accordance with Condition (4)(a)(i) shall be analysed for the total concentration of contaminants in sediment, specified in Condition (4)(d)(i) and (ii);
 - (iii) samples of sediment taken in accordance with Condition (4)(a)(ii) shall be analysed for the total concentration of contaminants in sediment, specified in Condition (4)(d)(i);
 - (iv) samples of sediment taken in accordance with Condition (4)(a)(iv) and (v) shall be analysed for the total concentration of contaminants specified in Condition (4)(d)(i), in sediment and leachate from the sediment;
 - (v) this leachate required for Condition (6)(a)(iv) shall be prepared by the use of the Synthetic Precipitation Leaching Procedure (SPLP), which is United States Environmental Protection Agency (USEPA) Method 1312 as defined in the USEPA document "SW-846 Update II, September 1994".
 - (b) The laboratory carrying out analysis for the purposes of this condition shall be accredited to International Organisations for Standardisation/International Electrotechnical Commission (ISO/IEC) Guide 25: (1990) or equivalent defined by an accreditation body recognised as operating to ISO/IEC Guide 58.
 - (c) The results of these analysis, the name of the person taking the samples, the date and time of sampling shall be provided to the Canterbury Regional Council as follows:

- (i) for those samples taken in accordance with Conditions (3) and (4), within 10 working days of the receipt of the analytical results from the laboratory;
 - (ii) for those samples taken in accordance with Condition (7), within the times specified in (7)
- 7 (a) If the results of the analysis of any sample taken in accordance with this consent show that the concentration of any contaminants exceeds the concentration specified in Table 1, the consent holder shall:
- (i) notify the Canterbury Regional Council and the North East Ashburton Residents Action Group within two working days of receipt of the confirmed laboratory results; and
 - (ii) immediately implement all necessary measures to reduce the concentration of the contaminant in the discharge or receiving environment. Such measures may include, but not be limited to: - cessation of activities that may have caused the excessive concentrations - stabilisation or capping of contaminant source(s) - revision of stormwater management procedures - upgrade of stormwater controls - removal of contaminant source(s) - removal of the sediment in the soakhole or infiltration basin to a depth of 300 millimetres, and replacement with uncontaminated soil to a similar thickness - fix any entry points along the bund adjacent to the water race
 - (iii) following the implementation of any measures undertaken in compliance with (7)(a)(ii) a second sample shall be taken from the same location as the previous sample was taken. The second sample shall be analysed to determine the concentration of any contaminants for which the concentrations in Table 1 were exceeded in the previous sample. Results of working days of receipt of the results by the consent holder.
- (b) If the results obtained in accordance with (7)(a)(iii) show that the concentrations of contaminants analysed for do not exceed the maximum concentrations specified in Table 1 then, notwithstanding Condition (4), further samples shall be taken thereafter from the same location as the second sample was taken at the following frequencies:
- (i) at least once every six months for the first four years after the second samples were taken in accordance with (7)(a)(iii); and
 - (ii) at least once every twelve months following the four-year period specified in (7)(b)(i) Such samples shall be analysed for the contaminant that exceeded the concentrations specified in Table 1, and the results reported to the Canterbury Regional Council within 10 working days of receipt of the results by the consent holder.
- (c) If the results obtained in accordance with Condition (7)(a)(iii) show the concentrations of contaminants do exceed those specified in Table 1, then the consent holder shall implement further measures as set out in (7)(a)(ii).
- 8 Any material removed in accordance with Conditions (1)(g), (1)(i), (2)(f) and (7)(a)(ii), shall be disposed of at an appropriate facility and the consent holder shall provide the Canterbury Regional Council with written confirmation of such disposal within 10 working days.
- 9 (a) If the consent holder removes any of the timber treatment plant from the site, or places capping material over the plant, then the consent holder shall provide a report to Canterbury Regional Council on the steps undertaken to determine the soil contaminant concentrations and leaching potential of soils remaining after the removal or capping of any treatment plant.
- (b) This report shall include: - the results of any sampling undertaken to determine contaminant concentrations in the soil remaining after any plant was removed or any area capped. - the results of any sampling undertaken to determine the contaminant concentrations in the leachate from soil remaining after any plant was removed or any area capped.

- (c) This report shall be prepared in accordance with the "Contaminated Site Management Guidelines No.1: Guidelines for reporting on contaminated sites in New Zealand", Ministry for the Environment 2001.
- (d) The report shall be provided to the Canterbury Regional Council within three months of the completion of the work described in (9)(a).
- 10 The consent holder shall:
- (i) maintain the groundwater monitoring bore installed in accordance with Condition (3); and
 - (ii) maintain fixtures, monitoring aids and access to any sampling points so as to ensure that necessary sampling can be undertaken.
- 11 A management plan detailing the: - operation and maintenance of the treatment system, including sumps and the infiltration basin - emergency response procedures and - chemical delivery and handling procedures shall be prepared for the site. This management plan shall set out how Conditions (1), (2), (4) - (10) shall be complied with at all times. A copy shall be submitted to the Canterbury Regional Council within 12 months of construction of the treatment system. A copy shall also be held by the consent holder along with a copy of the consent.
- 12 After two years from the date of commencement of this consent the applicant may, on any of the last five working days in June, apply to the Canterbury Regional Council under section 127(1)(A) of the RMA to change the conditions of this consent to:
- (i) provide for any alterations or additions to the stormwater collection, treatment and disposal system; or
 - (ii) alter the frequency of sampling or the contaminants sampled for as described in Conditions (4), (6) and (7).
- 13 The Canterbury Regional Council may, on any one of the last five working days of June or November 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; or
 - (c) changing the frequency of sampling and the contaminants sampled for as described in Conditions (4), (6) and (7).

2.9 Consents Held at This Site

The following active consent relating to this site is held by the applicant:

CRC980564 – to discharge contaminants into the ground from the treatment of timber. The consent expires on 4 April 2017.

3 LEGAL AND PLANNING MATTERS

3.1 Resource Management Act 1991

Section 9 of the RMA states that no person may use land in a manner that contravenes a regional rule unless expressly allowed by a National Environmental Standard or a resource consent

Section 15(1) of the RMA states that:

"No person may discharge any -

(a) Contaminant or water into water; or

(b) Contaminant onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water....unless the discharge is expressly allowed by a National Environmental Standard, a rule in a regional plan and in any relevant proposed plan, a resource consent or regulations."

3.2 Canterbury Land and Water Regional Plan (LWRP)

At its meeting on 13 August 2015, Environment Canterbury resolved to make the Land & Water Regional Plan partially operative. Sections 3, 4 and 5 of the Land & Water Regional Plan address the management of water in the Canterbury region. Section 13 addresses the specific issues of the Ashburton Sub Region.

Rule 5.93 does not apply as the discharge is not from a reticulated system

Rule 5.94 does not apply as the discharge is not from a reticulated system

Rule 5.95 does not apply as the discharge is not into a reticulated system, and it is into potentially contaminated land.

Rule 5.96 is concerned with the discharge of stormwater onto or into land where contaminants may enter groundwater as a permitted activity.

Assessment of compliance with Rule 5.96

Rule Conditions	Proposed Activity	Compliance
1 The discharge is into a reticulated stormwater system and the discharger has obtained written permission from the system owner to discharge into the system; or	The discharge is not into a reticulated system	No
2 The discharge is not into a reticulated stormwater system; and	The discharge is into potentially contaminated land	Yes
(a) The discharge is not from, or into, or onto contaminated or potentially contaminated land; and		No
(b) The discharge:		
(i) Does not cause stormwater from up to and including a 24 hour duration 2% Annual Exceedance Probability rainfall event to enter any other property; and		Yes
(ii) Does not result in ponding of stormwater on the ground for more than 48 hours, unless part of the stormwater system; and		Yes
(iii) Is located at least 1 m above the seasonal high water table that can be reasonably		Yes

(iv)	inferred for the site at the time the discharge system is constructed; and Is only from residentially zoned land	The discharge is not from residentially zoned land	No
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As the activity does not comply with conditions 2(a) or 2(b)(iv) of Rule 5.96, it is therefore a discretionary activity under Rule 5.97.

There are no rules in Section 13 (Ashburton Sub-region) of the LWRP that concern this proposal.

3.3 Proposed Plan Change 4 to the Canterbury Land and Water Regional Plan (PC4)

Proposed Plan Change 4 to the Land & Water Regional Plan has legal effect. The activity is assessed against the rules of PC2 in the following section.

Rule 5.93A does not apply as the discharge is not from a reticulated system

Rule 5.93 does not apply as the discharge is not from a reticulated system

Rule 5.94 does not apply as the discharge is not from a reticulated system

Rule 5.94A does not apply because there is no construction phase stormwater

Rule 5.94C does not apply because there is no construction phase stormwater

Rule 5.95 does not apply as the discharge is not into a river, lake, wetland or artificial water course, or into land in circumstances where a contaminant may enter a river, lake, wetland or artificial water course.

Rule 5.96 is concerned with the discharge of stormwater, other than into or from a reticulated stormwater system, onto or into land where contaminants may enter groundwater as a permitted activity.

Assessment of compliance with Rule 5.96

Rule Conditions	Proposed Activity	Compliance
1. The discharge is not from, or into, or onto contaminated or potentially contaminated land; and	The discharge is into potentially contaminated land	No
2. The discharge:		Yes
(a) does not cause stormwater from up to and including a 24 hour duration 10% Annual Exceedance Probability rainfall event to enter any other property; and		Yes
(b) Does not result in ponding of stormwater on the ground for more than 48 hours, unless part of the stormwater system; and		Yes
(c) Is located at least 1 m above the seasonal high water table that can be reasonably inferred for the site at the time the discharge system is constructed; and		No
(d) Is only from land used for residential, educational or rural activities; and	The land is used for business activities	
(e) Does not occur where there is an available reticulated stormwater system, except where incidental to a discharge to that system; and		
(f) Is not from a system that collects and discharge stormwater from more than 5 sites.		

As the activity does not comply with conditions 1 or 2 of Rule 5.96, it is therefore a discretionary activity under Rule 5.97.

The activity is therefore a discretionary activity under Rule 97 of the LWRP and Rule 97 of PC2.

No further resource consents are required in relation to the proposed activity.

3.4 Matters Relating To Tangata Whenua

3.4.1 Statutory Planning Documents

Section 6 of the RMA requires the recognition of the relationship of Maori and their culture and traditions. Further, Section 7 states that particular regard should be given to Kaitiakitanga. Section 8 of the RMA requires the principles of the Treaty of Waitangi to be taken into account in relation to managing the use, development and protection of natural and physical resources.

Further, the Canterbury Regional Policy Statement (RPS) states that Tangata Whenua should be recognised as guardians of all water bodies, and encourages consultation with the local Runanga in terms of resource management issues

4 CONSULTATION

The assessment of environmental effects has not identified any persons considered adversely affected by this proposal. The applicants have therefore not undertaken any consultation.

5 DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1 Location

The subject site (RS 40696) is located at 24 Malcolm McDowell Road, Ashburton, in a business area on the north eastern outskirts of the town.

The land area is 1.336 hectares, and is zoned industrial/commercial.

The site is flat.

Mean annual rainfall is about 700 millimetres per year

5.2 Surrounding Land Use

The timber yard is located within a commercial/industrial zone on the north eastern outskirts of Ashburton. To the south west is the Ashburton Cemetery, and to the south west is a rural land area used by Ashburton Meat Processors to treat wastewater.

There are 3 residential dwellings located within 500 metres downgradient of the soakage pits. The closest residential dwelling is located about 250 metres to the south east.

5.3 Surrounding Consented Activities

There are 3 consented discharge to land activities within a 500 metres radius of the stormwater discharge.

Consent	Activity	Owner, Distance
CRC143952	Factory process waste	Ashburton Meat processors, below downgradient boundary
CRC073856	Domestic wastewater	JR & MM Muir, 350m across gradient
CRC073813	Domestic wastewater	J Muir & M Tasker, 350m across gradient

5.4 Soils

The Landcare Research S-map online database indicates the soils beneath the site are well drained Lismore shallow silt loam. The soils have a weak loamy topsoil over a compact stony subsoil. Lismore soils are formed from gravelly glacial outwash with a variable depth of silty loess deposit at the surface. The soil is well drained and has moderate to rapid permeability.

Studies on Lismore soils at Winchmore Irrigation Research Station measured water infiltration rates ranging from 8mm – 600mm per hour through the soil surface.

Permeability investigations/infiltration rates for the site have not been undertaken, and for the purposes of stormwater design calculations, an infiltration rate of 300mm/hr has been used for the soak holes where the stormwater is discharging straight into the high infiltration rate sandy gravels.

Infiltration testing on a similar soil near Darfield in 203 measured a saturated infiltration rate of 300 millimetres per hour.

5.5 Groundwater

The land area is over an unconfined/semi-confined groundwater aquifer. The first aquifer is thought to be down to a depth of about 50 metres, although a shallower groundwater aquifer may exist closer to the Ashburton River.

Groundwater measurements from neighbouring bores less than 30 metres deep indicate levels range from 1.45 to 9.66 metres below ground level. The more likely highest water level is 3 metres below ground level. A water level measured in bore L37/0139 of 1.45 metres below ground level is significantly higher than the other water levels recorded in the area, and also higher than the initial water level of 10.07 metres below ground level recorded in that well.

Ground water flow direction is NW to SE (ECan GIS piezometric contours).

Bore L37/1039 has been installed onsite to monitor concentrations of contaminants in groundwater under the site.

Downgradient of the site there are 4 bores with 500 metres radius. Three of these bores are owned by Ashburton Meat Processors Limited, and one by a private owner.

There is a Community drinking water supply point, L37/0934, located about 1040 metres downgradient at the Celtic Rugby Grounds, but no community water protection zone.

5.6 Surfacewater

The site is within the Wakanui Creek Catchment area. There are no surface water bodies within 300 metres of the site. The closest water bodies are Ashburton District Council stock water races. Wakanui Creek is about 980 metres to the South West, and the Ashburton River about 3,300 metres to the South West. At the time the existing consent was granted an Ashburton District Council stock water race ran along the downgradient (south west) boundary of the land area. This water race has been closed, and there is only farmland downgradient of that boundary.

There are no springs on the property.

5.7 Site Contamination

The site is listed on the Listed Land Use Register as “Partially Investigated” due to Wood treatment or preservation and bulk storage of treated timber, and storage tanks for fuel, chemicals or liquid waste.

The existing consent, which is proposed to carry on with the new consent, contains a requirement to monitor the site for contamination by heavy metals, and hydrocarbons. The annual sample analyses are compared against trigger levels to determine whether any action is required to be taken.

5.8 Sensitivity of the receiving Environment

Stormwater from the site discharges into the ground on site. The local area is zoned business, with a number of commercial business located on Malcolm McDowell Road, the Ashburton Cemetery, and the land application system for the Ashburton Abattoir. Residential Dwellings are located at some distance from the land area,

Overall the site is not highly sensitive to the activity.

6 ASSESSMENT OF ACTUAL AND POTENTIAL EFFECTS

The following Assessment of Environment Effects (AEE) contains detail that corresponds with the scale and significance of the effects that the proposed activity may have on the environment, as required by the Fourth Schedule to the RMA.

6.1 Adverse effects on groundwater quality and groundwater users

Contaminants found in stormwater have the potential to contaminate groundwater, if pre-treatment is inadequate prior to discharge. Stormwater can potentially contain hydrocarbons, nutrients and heavy metals, and also contaminants from on-going site practices such as the use of timber treatment chemicals and other hazardous substances.

Additionally there is the potential for stormwater to cause the leaching of timber treatment chemicals and other contaminants in the soils as it passes through the soil, causing contamination of the shallow groundwater.

Treated timber is drip dried on a covered concrete area that drains back into the treatment system, before storage on compacted gravel hardstand area. As the timber is drip dry before movement onto the gravel hardstand, there is no dripping onto the ground surface in the storage area. As a consequence there is unlikely to be any movement of contaminants into the soil, and eventually the groundwater, from stormwater infiltrating the ground surface of the treated timber storage area.

Tests from the applicants monitoring bore L37/1039, for timber treatment chemicals show very low concentrations of contaminants in the groundwater. The 2015 samples measured boron at 0.9%, chromium at 0.03% and copper at 0.011% of the trigger levels. The arsenic concentration was below the limit of detection at less than 1% of the trigger level. This indicates that after the activities on this site since timber treatment began, the levels in the groundwater remain at very low levels.

There are no other water quality testing results from bores in the surrounding area.

Sump B is designed to collect any timber treatment chemicals from the treated timber storage area, before infiltrating the stormwater into the ground in the infiltration pond. The sawdust treatment media is replaced regularly from the sawdust collected on site through the timber sawing process. This prevents the contaminants progressing into the infiltration pond.

Testing undertaken as part of the existing consent has measured the levels of contaminants. The test results are attached as appendix 11.

Effects on drinking water and groundwater users

The site is located over a semi confined aquifer, with a downward hydraulic gradient. The stormwater, and contaminants, that leach from the ground surface to the water table will migrate both laterally downgradient, and also vertically down unto the deeper aquifers.

There are few bores within 5600 metres downgradient of the site used for drinking water. Tests in the applicants bore L7/1039, indicate that the activities of the business have not significantly impacted on groundwater quality, with the concentrations of the potential contaminants used on site being generally less than 1% of the trigger levels included as conditions of the existing consent.

Effects of hazardous substance storage on groundwater quality

Spills from hazardous substances, including the timber treatment chemicals and diesel, stored on site can adversely affect groundwater by infiltrating the ground surface, and percolating through the subsoils.

The timber treatment chemicals, including in the unloading area, are contained within a bunded concrete storage area, with storage capacity well above the volume of chemicals stored. The timber treatment area and drying pad is concrete, is fully bunded and roofed, and drains into the sump under the treatment tank, where it is reused. There is no contamination of the site with this material.

Diesel is stored in an outside raised steel storage tank. This structure is to be replaced with a self-contained bunded fuel storage facility that will be able to retain any spilled diesel, and avoid spilling onto the ground surface.

An Emergency Spill Management Plan included within the Management Plan will be clearly visible location at the site, which contains procedures that are to be undertaken to contain, remove and dispose of any spilled hazardous substance.

Mitigation

Downgradient monitoring well is installed and regularly monitored for a suite of heavy metals. Comparison with trigger levels which if exceeded would trigger action to reduce the source of contamination to within trigger levels, including stopping the operation of the business, and restoring the environment to the required status.

The applicant proposes the continuation of consent conditions requiring annual monitoring at a number of sites, and a continuation of the trigger limit and reporting requirements.

The applicant considers that adverse effects on water quality as a result of the proposed activity are likely to be no more than minor.

6.2 Adverse effects from slow entry of stormwater into land (ponding)

Where land surface infiltration rates, and subsoil permeability are low, the slow entry of stormwater into land can result in ponding. The ponded stormwater, potentially containing contaminants, can then potentially enter surrounding downgradient properties.

Infiltration rates on this land area through the gravel land surface, the infiltration pond bottom and sides, and through the soak holes are comparatively high, and little ponding occurs. Most stormwater does not reach the treatment/discharge structures, and infiltrates the land surface directly. Ponding has the potential to mobilise contaminants in the compacted gravels, enabling them to reach the groundwater through the two soak holes.

The downgradient area of the land area is bunded, originally to prevent any flow of stormwater into an Ashburton District Council stock water race outside the downgradient boundary. The applicants have not noted any ponded stormwater that has left the land area past the bund and onto surrounding properties.

There is minimal mud on site that can be tracked off site onto the public roads by vehicles.

The applicants have not undertaken an infiltration test, however Infiltration testing on a similar soil near Darfield in 2003 measured a saturated infiltration rate of 300 millimetres per hour.

The volume of stormwater infiltrating into the land surface is the same as would infiltrate if the land area was a typical rural land surface, therefore it will not cause any localised increase in groundwater levels.

6.3 Adverse effects on surface water quality and ecology

There are no surface natural water bodies within 800 metres of the site. The network of Ashburton District Council stock water races that formerly supplied this area have been closed. The closest active race is located on Glassworks Road (assuming it is still operative, as most races in this area are no longer used), about 340 metres downgradient to the south east.

There is no risk to surface water quality and ecology from stormwater percolating through contaminated soils to shallow groundwater, and entering adjacent surface water bodies.

In mitigation the applicant proposes monitoring groundwater bore L3/1039 and comparing measured concentration of contaminants to the trigger levels contained in the existing, and proposed consent conditions, and a 5 year consent duration.

The applicant considers that the adverse effects on surface water quality and ecology from the activity will be less than minor.

6.4 Adverse effects of accumulation of contaminants in soil, and on human health

Timber treatment chemicals include those used to prevent staining caused by bacterial and fungal growths and to prevent decay. Both groups are selected for their ability to suppress the activity and growth of a large range of biota, hence their entry into other parts of the environment has the potential to cause significant harm.

There is the potential for contaminants discharged from the site to accumulate in soils in the areas where the discharges occur, that may adversely affect shallow groundwater, and human health.

The site investigation shows that the soils and groundwater under the site contain low levels of heavy metals originating from the timber treatment chemicals, as described in previous sections.

The site is located over a semi confined aquifer system with a vertical as well as horizontal migration direction.

A regular testing and maintenance schedule, a continuation of the existing schedule, is proposed to ensure that sumps and soakhole soil filters are tested, and decontaminated if necessary to prevent the movement of potential contaminants into the soil. This will reduce the potential for contaminants to accumulate.

The applicant considers that the adverse effects of the accumulation of contaminants in soil from the activity will be less than minor.

6.5 Adverse Effects of Sediment laden discharges

The stormwater soakage system will capture and infiltrate all stormwater generated by expected storms, without stormwater leaving the boundaries of the property. In high intensity low expected probability storms there will be ponding as the stormwater exceeds the capacity of the system to infiltrate the high volumes, however the bunding at the downgradient boundary will hold the stormwater in-site until it infiltrates into the soil surface. The high percentage of infiltrative surfaces on the site, compared to the sealed surfaces, results in rapid drainage of ponding from the high intensity storms.

In addition, there are no nearby surface water bodies to be affected if there was an escape of excess stormwater from the boundary of the site.

Therefore, there will not be any sediment laden discharges entering either the neighbouring downgradient property, or any surface water body.

The applicant considers that the adverse effects of the accumulation of contaminants in soil from the activity will be less than minor.

6.6 Adverse effects on Tangata Whenua values

Sections 6(e), 7(a) and 8 of the RMA place an emphasis on considering the issues of importance to Tangata Whenua when determining resource consent applications. Waterways in particular are regarded as taonga (treasures) and are therefore accorded high value in Maori society.

Chapter 2 of the Council's Regional Policy Statement 2013 outlines the issues and concerns of significance to the Ngai Tahu, while Chapter 4 outlines provisions for the relationships that Ngai Tahu has with resources in Canterbury. These chapters seek to:

1. Identify who are the relevant organisations representing Tangata Whenua in the Canterbury region.
2. Set out natural resource issues of significance to Ngai Tahu, and provide a culture context for those issues.
3. Set out the relevant matters recognised in part 12 of the Ngai Tahu Claims settlement Act 1998, including fulfilling the Canterbury Regional Councils obligations to note the existence of statutory acknowledgements of statutory areas.
4. Recognise and provide for the relationship between Ngai Tahu and natural and physical resources.

The applicant's property lies within the rohe of Te Rūnanga Arowhenua, and is not within, adjacent to, or likely to affect a Statutory Acknowledgment Area or a Silent File Area. There are no known values of particular significance to Ngāi Tahu at the site.

The closest surface water body to the site is Wakanui Creek, which is highly modified, and is located about 800 metres to the south east.

The applicant considers that the adverse effects on Tangata Whenua values from the activity will be less than minor.

Therefore the relevant Iwi management plans are the Ngāi Tahu Freshwater Policy Statement and the Iwi Management Plan of Kati Huirapa.

The proposed activity has been assessed against, and is not considered to be contrary to, these values and the relevant policies as assessed below.

Ngāi Tahu Freshwater Policy Statement

Ngai Tahu considers that each water body possesses its own Mauri or life force and has its own status or mana that is safeguarded by tribal guardians or kaitiaki.

The essence of this life force can be compromised or lost when the natural characteristics of the river or lake are altered significantly by changing the pattern of flows or levels by damming, by excessive abstraction of water, or by diverting or mixing water between different catchments.

Mahinga kai, including the management and collection of traditional food and other resources, is highly valued by Ngai Tahu. They have long been concerned about the decline in the quantity and quality of mahinga kai as a result of changes in the flow regime and water quality of rivers. The abstraction of water from some rivers, for example, has reduced flows such that at times there is insufficient water to maintain aquatic habitats and to allow the movement of fish upstream and downstream.

Many wahi tapu sites are found within, or close to, water bodies. For example, some rivers, springs and lagoons were used as water burial sites. These sites are vulnerable to inundation when dams are built or lake levels raised. Conversely, low river flows can expose sites making them vulnerable to desecration.

The water bodies in question located within the rohe of Te Runanga o Ngai Tahu and the local rūnanga of Arowhenua. From Environment Canterbury's GIS database, there are no silent file areas or historic sites within the vicinity of the proposed activity.

The life force of streams will be maintained as this application will not alter flows or prevent creeks from self-cleansing, nor will it adversely affect values associated with the abundance and diversity of mahinga kai.

Given the assessment carried out for this application, it is considered that any potential adverse effects on Tangata Whenua values should also be less than minor. The activities are considered to be consistent with the objectives of the Freshwater Policy Statement.

The proposal has been assessed against the Te Rūnanga O Ngāi Tahu Freshwater Policy Statement and is considered consistent with the objectives and policies in this document.

Kati Huirapa Iwi Management Plan

The land area is located in the area of Te Runanga o Arowhenua, and is in the area covered by the Iwi Management Plan of Kati Huirapa.

The policy of Mahika Kai requires that all rivers, lakes, waterways and coastal waters are cleaned up by not permitting discharges of contaminants from sewage and all wastes into rivers, lakes, sea and all natural waters.

This proposal is to discharge contaminants into the ground, where there is no discharge into the waters described.

The Rūnanga was not advised of this application as the effects on water were assessed as being no greater than minor. Additionally the activity is not within one kilometre of a Silent File or Treaty of Waitangi Settlement Area.

The effects on Tangata Whenua are unlikely to be any more than minor because:

- The proposed activity does not interfere with cultural values, the relationship of Maori to land and water, kaitiakitanga and the Treaty of Waitangi as stated under Part 2 of the RMA;
- The proposed activity is consistent with the policies described in the Kati Huirapa Iwi Management Plan;
- The location of the proposed activity is unlikely to have any adverse effects on sensitive areas such as lakes, rivers and streams that are any more than minor; and
- The proposed activity is not within, adjacent to, or likely to affect a Statutory Acknowledgement Area or a Silent File Area.

Therefore, the effects from the proposed activity on Tangata Whenua are considered to be no more than minor.

6.7 Overall Assessment of Effects

In summary, based on the above assessments, the overall potential adverse effects will be no more than minor.

7 POLICIES AND OBJECTIVES

7.1 National Policy Statement for Freshwater Management

Under Section 104(l)(b)(iii) of the RMA, the consent authority shall have regard to the relevant provisions of a National Policy Statement. The National Policy Statement for Freshwater Management (NPS-FM) came into effect on 01 August 2014.

Several objectives and policies of the National Policy Statement relate to safeguarding the life-supporting capacity of ecosystem processes and indigenous species in managing the use of water, to avoid further over allocation and phase out existing over-allocation, improve efficient allocation and use of water and protect significant wetlands.

Relevant objectives in the NPS-FM are:

Objective A1

To safeguard:

- a) the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, of fresh water; and
- b) the health of people and communities, at least as affected by secondary contact with fresh water; in sustainably managing the use and development of land, and of discharges of contaminants.

Objective A2

The overall quality of fresh water within a region is maintained or improved while:

- a) protecting the significant values of outstanding freshwater bodies;
- b) protecting the significant values of wetlands; and

c) improving the quality of fresh water in water bodies that have been degraded by human activities to the point of being over-allocated.

Policy A1

By every regional council making or changing regional plans to the extent needed to ensure the plans:

a) establish freshwater objectives in accordance with Policies CA1-CA4 and set freshwater quality limits for all freshwater management units in their regions to give effect to the objectives in this national policy statement, having regard to at least the following:

- i. the reasonably foreseeable impacts of climate change;
- ii. the connection between water bodies; and
- iii. the connections between freshwater bodies and coastal water; and

b) establish methods (including rules) to avoid over-allocation.

Objective B1

To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of fresh water, in sustainably managing the taking, using, damming, or diverting of fresh water.

The applicant considers that the granting of this application, subject to the mitigation discussed above will not prevent the relevant freshwater objectives in the NPS-FM from being met. The stormwater discharge is within a commercial zone into an environment that is not highly sensitive. Testing of soil and water over the term of the current consent has not identified any significant environmental problems arising as a result of this activity.

The size and scale of this proposed take results in any effect being less than minor, and meets the objectives and policies of the National Policy Statement for Freshwater Management.

7.2 National Environmental Standard – Sources of Human Drinking Water

The purpose of the National Environmental Standard for Sources of Human Drinking Water (NES) is to reduce the risk of human drinking water sources becoming contaminated. For this purpose, a human drinking water source is a natural water body such as a lake, river or groundwater, used to supply a community with drinking water. The standard applies to source water before it is treated and only sources used to supply human drinking water i.e., not stock or other animals.

There are few bores providing human drinking water shown on Environment Canterbury GIS within 500 metres of the site, and testing on the applicants bore has shown only very low concentrations of potential contaminants over the years of testing.

Therefore, the effects of the proposed take on Sources of Human Drinking Water have been considered less than minor.

7.3 Canterbury Regional Policy Statement (CRPS)

Under Section 104(l)(b)(v) of the RMA, the consent authority shall have regard to the relevant provisions of a regional policy statement. The Canterbury Regional Policy Statement became operative on 15 January 2013.

Chapter 4 – Provision for Ngāi Tahu and their relationship with resources

Chapter 4 highlights the Canterbury Regional Council and their relationship with Ngāi Tahu within the resource management process. It deals with the tools and processes required to sustain good working relationships between Ngāi Tahu and natural resources. This application supports the relationship, tools and processes outlined in Chapter 4.

The proposed activity aims to ensure that there are no adverse effects on water quality and therefore, are consistent with Chapter 7 of the RPS. This application is consistent with this issue and the objectives.

All other Chapters of the RPS have been reviewed and are deemed as having no direct relevance to this application.

7.4 Te Runanga O Ngai Tahu Freshwater Policy Statement

This document contains the following Objectives and Policies, considered relevant to this application:

1. Objective Wahi Tapu: To afford total protection to waters that have particular spiritual significance to Ngāi Tahu

Policy1: Identify sites for immediate protection because of their significance as wahi tapu.

Policy 2: Agree with resource management agencies objectives, policies and methods that protect the sites identified by Papatipu Runanga.

2. Objective Mauri: Restore, maintain and protect the mauri of freshwater resources.

Policy 1: Identify freshwater resources where:

- Mauri is unaffected by modification and human activity so that these water bodies can be afforded total protection
- Mauri is adversely affected, and the activities that cause such affects

Policy 2: Accord priority to ensuring that availability of sufficient quantities of water of appropriate water quality to maintain and protect the mauri of a water body, in particular, priority is to be accorded when developing water allocation regimes.

Policy 3: Adopt catchment management planning as the means of achieving integrated management.

Policy 4: Protect the opportunities for Ngāi Tahu's uses of freshwater resources in the future.

3. Objective Mahinga Kai: To maintain vital, healthy mahinga kai populations and habitats capable of sustaining harvesting activity.

Policy 1: Protect critical mahinga kai habitats and identified representative areas

Policy 2: Restore and enhance the mahinga kai values of rivers, streams, wetlands and riparian margins.

Policy 3: Ensure that activities in the upper catchments have no adverse effect on mahinga kai resources in the lower catchments.

Policy 4: Restore access to freshwater resources for cultural activities, including the harvest of mahinga kai.

4. Objective Kaitiakitanga: To promote collaborative management initiatives that enables the participation of Ngāi Tahu in freshwater management.

Policy 1: Ensure Ngāi Tahu has access to information about the status of resources and the activities of resource users so that it is able to anticipate the effects of activities on customary values and uses.

Policy 2: Assist with the development of Ngāi Tahu's capacity to conduct formal cultural impact assessments and require such assessments as part of an assessment of environmental effects.

Policy 3: Facilitate effective Ngāi Tahu participation in:

- *Policy formulation*
- *Decision making*
- *Operation management activities; and*
- *Monitoring activities*

Policy 4: Improve the integration of western science and traditional local knowledge in order to develop a better understanding of all water use planning related matters.

Policy 5: Increase the ability of Papatipu Runanga to understand and participate in all aspects of research and to have influence in setting research priorities.

The land area is not of special interest to Te Runanga o Ngai Tahu in terms of Wahi Tapu, Mauri and Kahinga Kai. The impact of this take and use will not be measurable on areas of significance.

This application is considered to be consistent with the policies and objectives of the Te Runanga O Ngai Tahu Freshwater Policy Statement.

7.5 Canterbury Land and Water Regional Plan (LWRP)

The Land and Water Regional Plan was publicly notified on the 11 August 2012 and amended by decisions of 18 January 2014. It became partly operative on 13 August 2015. As such the plan is considered relevant to the proposal.

The Objectives of the LWRP have been considered in their entirety and can be met. Although no single objective is more important than another, the following objectives are deemed the most relevant to this application.

Policy 4.8A

When considering any applications for a discharge the consent authority must have regard to the matters specified.

Policy 4.12

There are no direct discharges to surface water bodies or groundwater of:

- (a) untreated sewage, wastewater (except as a result of extreme weather related overflows or system failures) or bio-solids;
- (b) solid or hazardous waste or solid animal waste;
- (c) animal effluent from an effluent storage facility or a stock holding area;
- (d) organic waste or leachate from storage of organic material; and
- (e) untreated industrial or trade waste.

Policy 4.13

For other discharges of contaminants into or onto land where it may enter water or to surface water bodies or groundwater (excluding those passive discharges to which Policy 4.26 applies), the effects of any discharge are minimised by the use of measures that:

- (a) first, avoid the production of the contaminant;
- (b) secondly, reuse, recovers or recycles the contaminant;
- (c) thirdly, minimise the volume or amount of the discharge; or
- (d) finally, wherever practical utilise land-based treatment, a wetland constructed to treat
- (e) contaminants or a designed treatment system prior to discharge; and
- (f) in the case of surface water, results in a discharge that after reasonable mixing meets the receiving water standards in Schedule 5.

Policy 4.14

Any discharge of a contaminant into or onto land where it may enter groundwater (excluding those passive discharges to which Policy 4.26 applies):

- (a) will not exceed the natural capacity of the soil to treat or remove the contaminant; and
- (b) will not exceed available water storage capacity of the soil; and
- (c) where meeting (a) and (b) is not practicable, the discharge will:
 - (i) meet any nutrient limits in Schedule 8 or Sections 6 to 15 of this Plan; and
 - (ii) utilise the best practicable option to ensure the size of any contaminant plume is as small as is reasonably practicable; and
 - (iia) ensure there is sufficient distance between the point of discharge, any other discharge and drinking-water supplies to allow for the natural decay or attenuation of pathogenic micro-organisms in the contaminant plume; and
 - (iii) not result in the accumulation of pathogens, or a persistent or toxic contaminant that would render the land unsuitable for agriculture, commercial, domestic, cultural or recreational use or water unsuitable as a source of potable water or for agriculture; and
 - (iv) not raise groundwater levels so that land drainage is impeded.

Policy 4.15

In urban areas, the adverse effects on water quality, aquatic ecosystems, existing uses and values of water and public health from the cumulative effects of sewage, wastewater, industrial or trade waste or stormwater discharges are avoided by:

- (a) all sewage, industrial or trade waste being discharged into a reticulated system, where available;
- (b) all stormwater being discharged in accordance with a stormwater management plan, where one has been consented;
- (c) the implementation of contingency measures to minimise the risk of a discharge from a wastewater reticulation system to surface water in the event of a system failure or overloading of the system beyond its design capacity; and
- (d) any reticulated stormwater or wastewater system installed after 11 August 2012 is designed and managed to avoid sewage discharge into surface water.

Policy 4.23

Any water source used for drinking-water supply is protected from any discharge of contaminants that may have any actual or potential adverse effect on the quality of the drinking-water supply including its taste, clarity and smell and group and community drinking water supplies are protected so that they align with the CWMS drinking-water targets and meet the drinking-water standards for New Zealand.

Policy 4.26

Any discharges of hazardous substances from contaminated land, including existing and closed landfills, are managed to ensure that adverse effects beyond the site boundary on people's health or safety, on human or stock water supplies, or on surface water are avoided.

This application has given regard to the relevant provisions of the LWRP. Given the nature of the proposed activity, and the proposed mitigation measures, it is considered that the proposed activity is consistent with the policies and objectives of the LWRP.

8 RESOURCE MANAGEMENT ACT 1991 - PART II PURPOSE AND PRINCIPLES

Under section 104(1) of the RMA, the consent authority must consider applications *"subject to Part II"* of the RMA.

8.1 Purpose of the RMA

The purpose of the RMA is to *"promote the sustainable management of natural and physical resources"*.

Based on the assessment of environmental effects and the proposed mitigation measures, it is considered that granting this application as applied for will be consistent with the purpose and principles of the RMA, given the conclusion of the assessment that adverse effects will be less than minor.

8.2 Matters of National Importance

The consent authority is directed to recognise and provide for a number of matters set out in Section 6 of the RMA. These matters include, but are not restricted to, the preservation of the natural character of rivers and their margins. Section 6(e) requires the relationship of Maori, their culture and traditions to the environment to be provided for. Leaving aside section 6(e) for the moment (discussed below), it is considered that the proposed discharge will not affect any of the matters set out in Section 6

8.3 Other Matters

Section 7 of the RMA requires that the consent authority shall have particular regard to certain other matters. Of particular relevance to this application are:

- (a) Kaitiakitanga:*
- (b) The efficient use and development of natural and physical resources:*
- (c) The maintenance and enhancement of amenity values:*
- (d) Intrinsic values of ecosystems:*
- (f) Maintenance and enhancement of the quality of the environment:*
- (g) Any finite characteristics of natural and physical resources:*
- (h) The protection of the habitat of trout and salmon.*

8.4 Principles of the Treaty of Waitangi

Section 8 of the RMA requires the consent authority to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

The Principles of the Treaty of Waitangi form the basis of developing a relationship of partnership and communications. Accordingly, the appropriate Runanga will be advised of this application by Environment Canterbury.

The proposal is consistent with the purpose of the act in that it enable the applicant to increase the economic efficiency of the site and hence the social and economic wellbeing of the wider community, while avoiding or mitigating any adverse effects on the environment in accordance with the Act.

9 Consideration of alternatives

There is no reticulated stormwater system available to use that provides any treatment of the stormwater. The kerb system on Malcolm McDowell Road outside the land area discharges directly into land beside the applicants land area.

10 CONCLUSION

The granting of this consent is consistent with all relevant rules, objective and policies, and will allow the applicant to discharge stormwater to land to be able to continue the valuable timber processing business. Therefore, the economic and social impact of the granting of this consent is positive, and due to the small size of the discharge, it is highly unlikely that the take will have any adverse effects on the environment.

Therefore, the granting of this consent is positive for both the applicant and the region.

The effects of the activities sought are considered to be less than minor. Water quality (surface and groundwater) is not likely to change as a result of allowing this activity to occur, and the proposed mitigation, should avoid or mitigate any effects.

No persons in the local or wider community are considered adversely affected by this application.

Accordingly, this application can be granted non-notified.

11 APPENDICES

Appendix One : Location



Appendix Two : Aerial Map of Site



Appendix Three : Location of Bores & Dwellings Within 500 Metres



Appendix Four : Soakagehole Calculation

Stormwater Soak Pit Calculations

Adams Sawmilling

Base data for required soak pit storage calculation

Rainfall intensity	17.8 mm/hr	(Source NIWA High Intensity Rainfall System - 1 hour 10% AEP)
Length of storm	1 hrs	
Run-off Co-efficient	various	E1 - Table 1
Soak pit volume ratio	0.38	E1
Soak pit drainage	300 mm/hr	

Calculation of Required Storage Volume (based upon NZ Building Code Clause E1)

Zone	Description	Zone Area (m ²)	Run-off Coefficient	Runoff Volume - R _c (m ³)	Soak-pit Gross Volume (m ³)	Soak-pit Net Volume (m ³)	Soak Pit base area · A _{sp} (m ²)	Soak-pit Soakage rate - S _r (mm/hr)	Soak pit Soakage volume - V _{soak} (m ³)	Stormwater Volume - V _{stor} (m ³)	Storage balance (m ³)
1								300			
2								300			
3								300			
4								300			
5	Soakpits 1 & 2	10,727	0.38	72.6	24.0	9.1	8.0	300	2.4	70.2	-61.0
6								300			
7								300			
Total		10,727		72.6	24.0	9.1			2.4	70.2	-61.0

Storage Volume

$V_{stor} = R_c - V_{soak}$

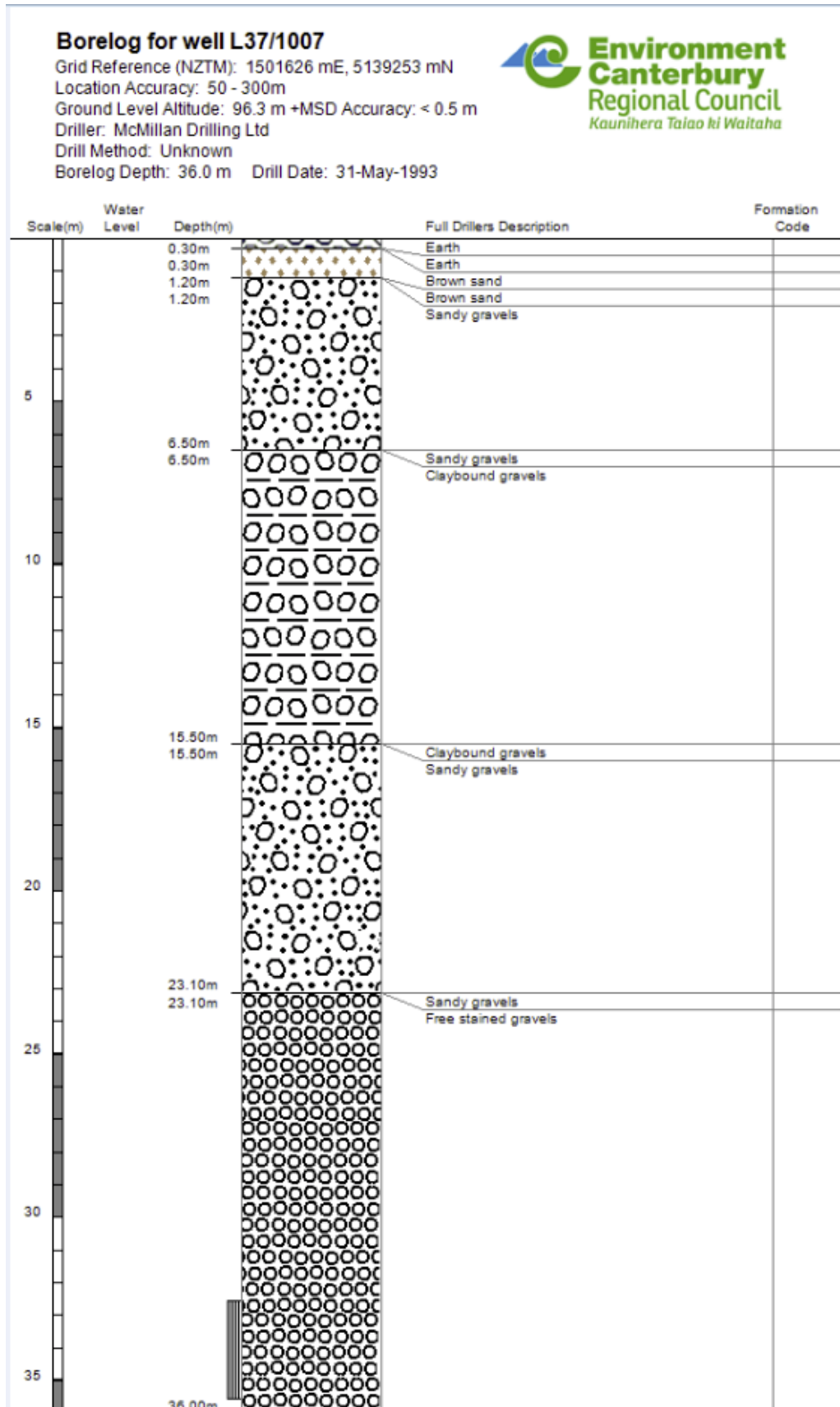
Soak Pit Dimensions

Soak Pit Description	Length (m)	Width (m)	Depth (m)	Volume (m ³)	Base Area (m ²)
1					
2					
3					
4					
5	Soakpits 1 & 2	4.0	2.0	24.0	8.0
6					
7					

Note Sealed area included in unsealed area as the stormwater moves off the sealed area onto the unsealed on the way to the soak holes and infiltration area

Appendix Five : Stormwater Calculation

Appendix Six : Borelog L36/1007



Appendix Seven : LLUR Report

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Christchurch 8140

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Dear Sir/Madam

Thank you for submitting your property enquiry in regards to our Listed Land Use Register (LLUR) which holds information about sites that have been used, or are currently used for activities which have the potential to have caused contamination.

The LLUR statement provided indicates the location of the land parcel(s) you enquired about and provides information regarding any LLUR sites within a radius specified in the statement of this land.

Please note that if a property is not currently entered on the LLUR, it does not mean that an activity with the potential to cause contamination has never occurred, or is not currently occurring there. The LLUR is not complete, and new sites are regularly being added as we receive information and conduct our own investigations into current and historic land uses.

The LLUR only contains information held by Environment Canterbury in relation to contaminated or potentially contaminated land; other information relevant to potential contamination may be held in other files (for example consent and enforcement files).

If your enquiry relates to a farm property, please note that many current and past activities undertaken on farms may not be listed on the LLUR. Activities such as the storage, formulation and disposal of pesticides, offal pits, foot rot troughs, animal dips and underground or above ground fuel tanks have the potential to cause contamination.

Please contact and Environment Canterbury Contaminated Sites Officer if you wish to discuss the contents of the LLUR statement, or if you require additional information. For any other information regarding this land please contact Environment Canterbury Customer Services.

Yours sincerely

Contaminated Sites Team

Property Statement from the Listed Land Use Register

Visit www.ecan.govt.nz/HAIL for more information about land uses.



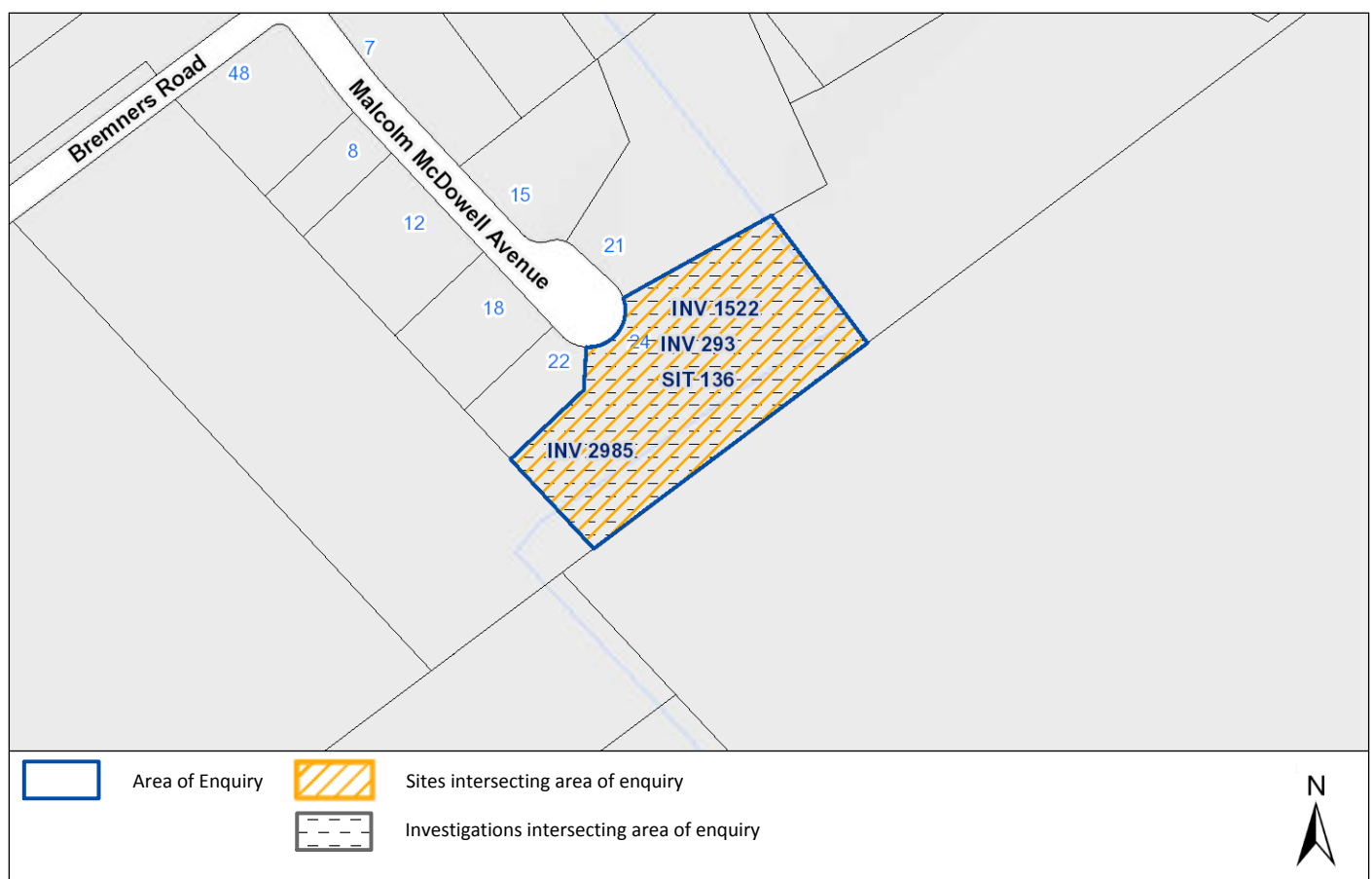
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Date:	11 July 2016	
Land Parcels:	RS 40696	Valuation No(s): 2443040607



The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Summary of sites:

Site ID	Site Name	Location	HAIL Activity(s)	Category
136	Adams Sawmilling Co Ltd	24 Malcolm McDowell Avenue, Ashburton	A18 - Wood treatment or preservation and bulk storage of treated timber; A17 - Storage tanks or drums for fuel, chemicals or liquid waste;	Managed - Industrial/Commercial

Please note that the above table represents a summary of sites and HAILS intersecting the area of enquiry only.

Information held about the sites on the Listed Land Use Register

Site 136: Adams Sawmilling Co Ltd (Intersects enquiry area.)

Site Address:	24 Malcolm McDowell Avenue, Ashburton
Legal Description(s):	RS 40696

Site Category:	Managed - Industrial/Commercial
Definition:	Site investigations demonstrate that hazardous substances present above applicable guidelines are adequately managed for land use. - Industrial/Commercial

Land Uses (from HAIL):	Period From	Period To	HAIL land use
	1983	Current	Wood treatment or preservation including the commercial use of anti-sapstain chemicals during milling, or bulk storage of treated timber outside
	?	?	Storage tanks or drums for fuel, chemicals or liquid waste

Notes:

26 Apr 1999	Pattle Delamore & Partners report (February 1994) (site no. 16): PCP used in 1990, total consumption 20 kg. CCA used from 1983-94, boron used from 1984-89. CCA disposed of in a pit on the property. Site also identified in Loe Pearce & Associates report 1993 (site no. 32). This site is currently going through the consents process (24/6/99).
23 Oct 2001	Telephone call from owner 23/10/01 in response to letter the received Re: PCP use for OSH. Stated that has never used PCP.
23 Aug 2004	Consent CRC980561 issued 5/04/02. (Discharge contaminants into the ground from the treatment of timber).
12 Nov 2008	In August 2008 the Ministry for the Environment carried out an investigation into all former and currently operating timber treatment sites in New Zealand. The investigation identified the potential for an undetermined level of contamination to be present in the soil of this property due to its former use as a sawmill at a time when it was common practice to use pentachlorophenol (PCP). Dioxins may be present in soil on the site, especially in areas where PCP was applied to timber. As a precaution, and in the absence of soil test information, the following measures would minimise exposure to contamination: 1 - avoid consuming animal produce (eg chickens, eggs, other livestock) grown on the property 2 - Vegetables can be grown safely in a raised bed using clean imported soil.

Investigations:

30 Apr 1993	INV 1522: Preliminary Survey of Pentachlorophenol use in the timber industry in canterbury (Detailed Site Investigation) Loe Pearce & Associates
1 Feb 1994	INV 293: Interim Report on Pentachlorophenol Contaminated Site Investigations - Preliminary Assessment of Schedule 2 Sites. (Detailed Site Investigation) Pattle Delamore Partners Ltd
1 Feb 2000	INV 2985: Soil, groundwater and leachate results as required by CRC980561 from February 2000 to January 2009 (Detailed Site Investigation) Environmental Consultancy Services Ltd

Exceedences of environmental guideline values				
Document	Contaminant	Pathway	Media	Land Use
NZ TTG	Arsenic	Adopted value, combined pathways	Soil	Industrial
NZ TTG	Chromium VI	Combined pathways	Soil	Industrial

Summary of investigation(s):

Adams Sawmilling Co Ltd is located on Malcolm McDowall Road in Ashburton. It has been a sawmill since 1983. A portable sawmill was located on the site prior to 1983. The site was identified in the 1993 Loe Pearce & Associates report for Canterbury timber processing sites that used PCP chemical compounds. Pattle Delamore & Partners (PDP 1994) reported that 20 kg of PCP was used at the site in 1990 and the area of the usage was the timber yard although the owner has stated in 2001 that PCP was never used at the site. Boron was reported to have been used from 1984 to 1989. A site visit by ECan staff in 1991 confirmed the existence of a disused ~ 3,850 L unbanded boron bath. CCA is reported to have been used at the site since 1983. A 2,000 L diesel AST is located at the site. Oil, grease, petrol (up to 1,000 L) and some solvents are stored in a covered container.

The majority of the site is not sealed. A water race borders the south-east boundary of the site. Treated timber is stored in the north-east corner. Two soakholes are located on the site although one was reported to not be in use. In 1991, sludge from the timber treatment plant was reported to have been disposed of to a pit located at the site. In addition, wastes were also reported to have been disposed of to a pit located adjacent to the property and which the Ashburton Timber company also used (neighbouring site).

This site was granted a discharge consent CRC980561 (discharge contaminants into the ground from the treatment of timber) in April 2002. As part of the resource consent application, limited soil and groundwater sampling was undertaken in February 2000 and July 2001. As part of the resource consent conditions, a bore was installed and soil and groundwater sampling has been undertaken on a regular basis.

Initial soil samples collected in 2000 showed arsenic and chromium concentrations above relevant commercial/industrial guideline values for two areas near the timber treatment shed. One area was near the chemical delivery point and the other area was adjacent to the concrete drip pad to the north. The area near the chemical delivery point (Sample #1) was excavated to a depth of 0.6 m and 2.4 cubic metres of soil was removed from the site. Two samples were collected from within the excavation and one 2 m north-east of the excavation. All were below relevant industrial guidelines. The soil to the north of the concrete drip pad (Sample #2) was left in place and the concrete drip pad was reported to have been extended 6 m to the north. Both areas were not delineated.

Subsequent sampling of total soil arsenic, chromium, copper, boron, total petroleum hydrocarbons (TPH) and analysis of SPLP extract (arsenic, chromium, copper and boron) from July 2001 to January 2009 were below relevant industrial/commercial guideline values for soil, groundwater and leachate. However, the sampling locations (5 to 7 locations) targeted areas of the site perceived to be the most at risk from contamination from current treatment and chemical storage practices.

Initial soil samples have shown that on-site soils have been contaminated by timber treatment chemicals. However due to the limited sampling, contamination has not been adequately characterised across the site and other practices may have occurred (i.e., dumping of CCA sludge into a pit or historic treatment and chemical storage practices), and are continuing to occur (AST), that have not been adequately investigated. A site management plan detailing the operation and maintenance of the treatment system, including sumps and the stormwater infiltration basin, as well as emergency response and chemical delivery and handling procedures is in place for the site. A sampling programme for soil, groundwater and leachate is also included in the Site Management Plan. If sample concentrations exceed the trigger values specified in the consent conditions, remediation measures are to be implemented. An addendum to the Site Management Plan has been prepared by Environment Canterbury that includes guidance for the excavation and handling of site soils through excavation/construction work, redevelopment, or change in land use. The amendment has been adopted by the owner. It is proposed that the site's category be "Managed (for industrial/commercial land use)".

Information held about other investigations on the Listed Land Use Register

For further information from Environment Canterbury, contact Customer Services and refer to enquiry number ENQ136159.

Disclaimer: *The enclosed information is derived from Environment Canterbury's Listed Land Use Register and is made available to you under the Local Government Official Information and Meetings Act 1987 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).*

The information contained in this report reflects the current records held by Environment Canterbury regarding the activities undertaken on the site, its possible contamination and based on that information, the categorisation of the site. Environment Canterbury has not verified the accuracy or completeness of this information. It is released only as a copy of Environment Canterbury's records and is not intended to provide a full, complete or totally accurate assessment of the site. It is provided on the basis that Environment Canterbury makes no warranty or representation regarding the reliability, accuracy or completeness of the information provided or the level of contamination (if any) at the relevant site or that the site is suitable or otherwise for any particular purpose. Environment Canterbury accepts no responsibility for any loss, cost, damage or expense any person may incur as a result of the use, reference to or reliance on the information contained in this report.

Any person receiving and using this information is bound by the provisions of the Privacy Act 1993.