

Conditions for water permit CRC041542 (AN Hope) Status of Consent: New					
Catchment: Haldon Arm					
Expiry date sought - 30 th of April 2025					
No.	Proposed Condition	ECan Comments	Meridian comments	Applicant comments	Applicant final proposed conditions
		<p><i>The new proposed conditions, developed subsequent to the presentation of section 42A reports, do not currently contain all the necessary conditions to satisfactorily address cumulative water quality issues. For other issues refer to S42A reports and responses to commissioner questions.</i></p>			
		No conditions proposed that specify minimum setback distances of irrigation areas from surface water bodies. These should be specified in a condition e.g., minimum of 20 metres.		<u>The irrigation area here is defined and without surface water bodies within the defined area – so no need for this condition in this case – the applicant could comply with this condition – but imposition of this condition is not justified</u>	
1	<p>Water shall only be taken from gallery I38/0073, 1 metre deep, 3 metres wide and extending 10 metres from map reference NZMS 260 I38: 0930-6440; at a rate not exceeding 166 litres per second <u>and an annual volume not exceeding 1,677,547 cubic metres.</u></p> <p>There shall be a 5 metre setback from any permanently flowing waterways within the irrigation area marked on Plan CRC 041542</p>	<p>Annual volume for the take needed as per volume given under derogation approval of 1,677,547 cubic metres. This equates to 117 days of take. Without the annual volume then could take more.</p> <p>The notification wording for this application states an annual volume of 1,642,200 cubic metres. Refer to paragraphs 41-42 of s42A officer report 20A (S.Vesey) for further details. As such I consider the increase in annual volume to be an increase in scope from that which was notified.</p>		<p>Derogation approval has been forwarded directly to Anita Warnock at Ecan by Meridian dated 19 July 2010</p> <p><u>Disagree – notification only specified what water was to be used for irrigation. Volumes used for irrigation are entirely within scope</u></p>	
2	<p>(a) Water <u>taken</u> for irrigation shall only be used between 1 September and the following 30 April and only in accordance with the maximum rate, daily volume (being from 12.00am to 12.00pm) and annual volume (measured between 1 September and the following 30 April) set out in Table A.</p> <p>(b) Water taken in accordance with allocated in Table A of Condition (3) shall be used only for the spray irrigation of 238 hectares on the area of land shown on attached Plan CRC041542/3.</p> <p>(c) Water for irrigation shall only be used on or applied to land that is subject to a memorandum of encumbrance that complies with the requirements of the agreement entitled "Agreement in Relation to the Allocation of Water for</p>	<p>Suggest including 'water taken for irrigation' in (a) to make this clear.</p> <p>Don't see need for table as no increase in volume. If this removed, need to include rate of take for irrigation of 137 litres per second.</p> <p>Suggest parts c and d included as separate conditions. - refer to</p>		<p><u>See tracked changes</u></p> <p><u>The table is consistent with the tranching associated with terms of derogation approval. Applicant is not concerned if table A is deleted and the detail of table A is inserted in this condition.</u></p>	

Deleted: ¶

	<p><i>Irrigation</i>” between Meridian Energy Limited and the Mackenzie Irrigation Company Limited dated the 31st of October 2006.</p> <p>(d) The consent holder shall, six months prior to this consent being exercised, provide to the Canterbury Regional Council a certificate from the Consent Holder’s solicitor certifying that the memorandum of encumbrance provided for in Condition 2(d) is registered on the computer registers for the land shown on Plan “AN Hope” and any other evidence of registration as the Canterbury Regional Council may require (if any).</p>	<p>Paragraph 152 (c) of the addendum s42A report of Susannah Vesey about concern in terms of expectations of Environment Canterbury enforcing this.</p>		<p>Applicant suggests Table A is retained to show distinction between the take from the river at 166l/s and the take from the race at 137l/s</p> <p>We have no concerns if this clause is split up</p> <p>Awaiting confirmation from Meridian Energy that this clause can be registered on this title and that Commissioner of Crown lands has consented to the registration.</p>	
3	<p>Gallery I38/0073 shall be no closer than two metres to the bed of the Grays River.</p>	<p>Given accuracy of grid reference, this is to ensure no adverse effects on fish.</p>		<p><u>If that is the purpose, then this control should be a condition of the land use consent.</u></p> <p><u>Understand that either separation distance or a fish screen will mitigate the effects on fish. Hope has satisfied separation distance</u></p> <p>Gallery covered by land use consent.</p> <p>Location of gallery also specified in condition 1 – suggest this condition is repetitious and should be deleted</p>	
4	<p>The consent holder shall take all practicable steps to:</p> <p>(a) Ensure that the volume of water used for irrigation does not exceed that required for the soil to reach field capacity; and</p> <p>(b) Avoid leakage from pipes and structures; and</p> <p>(c) Avoid the use of water onto non-productive land such as impermeable surfaces and river or stream riparian strips.</p>				
5	<p>Whenever the flow (expressed in litres per second) in Grays River, as estimated by the Canterbury Regional Council based on the mean flow for the previous day (midnight to midnight) at the recorder located at Days Bridge (map reference NZMS 260 I38:037-601):</p> <p>(a) is equal or greater than 1,850 litres per second the maximum rate at which water is taken, shall not exceed 166 litres per second.</p> <p>(b) falls below the flow shown on the horizontal axis of the annexed graph, then the rates of abstraction permitted in terms of this permit shall not exceed those shown as corresponding on the vertical axis of the annexed graph.</p> <p>(c) falls below 1,500 litres per second, the taking of water in</p>	<p>Recommend that the flow graph and this condition adjust rate between the full allocation block of 1500 l/s to 2000l/s. Refer to s42a report 2A for further details.</p>		<p><u>The maximum allocation from the Grays is 500l/s. This take and Grays Hills are the only two applicants in this consent hearing who have applied for water from the Grays and the combined total of their take is 350l/s which when added to the minimum flow of 1,500l/s sets the upper threshold for this condition.</u></p> <p><u>For other potential applicants/consent holders who apply take the allocation up to the threshold of 500l/s then the Ecan comment to fix the flow at which takes will abate will be correct for those applicants</u></p>	

	<p>terms of this permit shall cease.</p> <p>OR provided that the Canterbury Regional Council, in consultation with a Water Users Committee representing, but not limited to, surface water and hydraulically connected groundwater users, who are subject to the above minimum flow, has determined upon a water sharing regime which limits the total daily abstraction from the resource as referred to in (a) and (b) above then the taking of water in accordance with that determination shall be deemed to be in compliance with condition 2 of this consent.</p>				
6	<p>The consent holder shall ensure water races used to convey water diverted in terms of this permit are well maintained to minimise losses.</p>	<p>Suggested minor changes:</p> <p>The consent holder shall ensure water races used to convey water taken in terms of this permit are maintained to minimise losses.</p>		<p>The applicant does not propose to alter this clause</p>	
7	<p>(a) The irrigator(s) used under this consent shall be parked perpendicular to Haldon Road for the irrigation off-season (1 June to 31 August).</p>	<p>Note no landscape mitigation recommended as Chris Glasson considers effects cannot be mitigated. See s42A officers report 5</p>		<p>Mr Craig disagreed with Mr Glasson's assessment with respect to Haldon Road properties given the direction of travel to and from the Haldon Road access to Lake Benmore and the traffic using that road. Nevertheless the applicant has proffered the following conditions</p>	
8	<p>The consent holder shall, before the first exercise of this consent at the point of take:</p> <p>a.</p> <p>(i) install a water meter(s) that has an international accreditation or an equivalent New Zealand calibration endorsement suitable for use with an electronic recording device, from which the rate and the volume of water taken can be determined to within an accuracy of plus or minus five percent at a location(s) that will ensure the total take of water from [specify] is measured; and</p> <p>(ii) install a tamper-proof electronic recording device such as a data logger that shall record (or log) the flow totals every 15 minutes and have the capacity to hold at least one season's (as specified in conditions (3) and (4(a))) data of water taken as specified in clause (b) (i), or which is telemetered, as specified in clause (b)(ii).</p> <p>b. The water meter and recording device(s) shall be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and shall:</p> <p>(i) store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which shall be downloaded and stored in a commonly used format and provided to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or</p> <p>(ii) be connected to a telemetry system which collects and stores all of the data continuously with an independent</p>	<p>Take (166l/s) and use (137l/s) both needs to be metered also given annual volume for each.</p> <p>Refer to addendum s42A report of Susannah Vesey, paragraphs 135-142 and response to questions report for discussion about metering</p> <p>I understand that the MEL/MIC agreement may have had a metering condition included, but I had understood that MEL were happy with this being amended as long as it still had the same intent.</p> <p>The take from the gallery will be conveyed in open channel therefore open channel condition with accuracy of 10% may be required. Unless the applicant can meter the water being pumped from the gallery into the race?</p>		<p><u>Applicant only proposes to monitor the use of water pursuant to this take</u></p> <p><u>Water diverted that is not taken (consumed) is discharged back into the same Grays River catchment, therefore, the effect is associated with the take.</u></p> <p><u>For the purposes of calculation of Table 5 volumes the quantum of the divert is set out in condition 1- there is no need to meter to determine that volume – it is the consented rather than the metered volume that will be critical.</u></p> <p><u>The costs associated with duplication of metering are also relevant</u></p>	

	<p>network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device(s) shall be deliberately changed or deleted.</p> <p>c. The measuring device shall be installed at a site likely to retain a stable rating (i.e. a man-made channel, concrete, steel or fibreglass pipe). Installation shall be in accordance with ISO 1100/1-1981 or equivalent and be undertaken by a suitably qualified person.</p> <p>d. The water meter and recording device(s) shall be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.</p> <p>e. The water meter and recording device(s) shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.</p> <p>f. All practicable measures shall be taken to ensure that the water meter and recording device(s) are at all times fully functional and have an accuracy standard of 10%.</p>				
9	<p>(a) The water meter installed in accordance with Condition <8> shall be an electromagnetic or ultrasonic meter; or</p> <p>(b) The consent holder shall, before first exercise of this consent install or make available an easily accessible straight pipe(s) at a location where the total water take is passing through, with no fittings or obstructions that may create turbulent flow conditions, of a length at least 15 times the diameter of the pipe, as part of the pump outlet plumbing or within the mainline distribution system, to allow the Canterbury Regional Council to conduct independent measurements.</p>				
10	<p>Within one month of the installation of the measuring or recording device(s), specified in conditions <8> or any subsequent replacement measuring or recording device(s), or at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:</p>				

	(a) the measuring and recording device(s) is installed in accordance with the manufacturers specifications; and (b) data from the recording device(s) can be readily accessed and/or retrieved in accordance with clauses (b) of condition <8>.				
11	At five yearly intervals or at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, signed by a suitably qualified person certifying that: (a) the water meter(s) is measuring the rate of water taken as specified in condition <8> and the tamper-proof electronic recording device is operating as specified in condition <8>				
FISH EXCLUSION DEVICE					
	(a) _____	Subject to condition 3 and the scoping condition 1 defining the location and depth of the gallery, then the fish exclusion conditions are not required.		<u>Reference condition (3) above – either distance condition OR fish screen condition – no need for both</u> <u>See tracked changes.</u>	
NUTRIENT LOADING:					
	<u>For the purposes of interpretation of the following conditions the Grampians Station shall be defined as the areas in certificates of title and Pastoral Lease numbers CB22F/770,CB22F/772-784,CB529/50 which total 18,158 hectares</u>			Note title numbers and areas have been done by computer search and will be verified by applicant	
12	The consent holder shall prepare once per year <u>and not less than one month prior to the commencement of the irrigation season</u> , an Overseer® nutrient budgeting model report, and shall prepare, at least once per year, a report of the annual farm nutrient loading for the Grampians Station using the model Overseer® (AgResearch model version number 5.4.3 or later	When exactly do these have to be done? Need to specify dates.			
	A copy of the report prepared in accordance with condition xx shall be given to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, upon request.	Condition number? Condition xx = 12?		<u>Agreed – but preference to leave final conditions numbering to be determined on grant</u>	
	The consent holder shall not commence annually irrigation under this consent unless the annual (1 July to 30 June) nutrient loading (the nutrient discharge allowances (NDAs))as estimated in accordance with condition 12 from Grampians Station shall not exceed 58120 kg of nitrogen and 1240 kg of phosphorus. The NDAs shall be complied <u>with</u> following the first full year (1 July to 30 June) of irrigation development.	Condition number? Essential to define “Grampian Station” by reference to an area (22,000 ha), legal description and/or a map, otherwise there is a risk that authorised nutrient load would be double. The first clause of the proposed condition only requires compliance for commencement to occur, i.e., subsequent compliance would not be		<u>Agreed see wording above condition 12</u> This applicant has two consents giving a total irrigation area of 385 ha. The NDA’s are whole of property thresholds – including the dryland parts of the property not included in this application.	

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 <#>A fish exclusion device shall be installed, operated and maintained on the intake to ensure that fish are prevented from passing into the intake. The fish exclusion device shall be positioned to avoid the entrapment of fish at the point of abstraction, and to minimise the risk of fish being damaged by contact with the fish screening device;¶
 <#>The fish exclusion device shall be designed or supplied by a person with experience in freshwater ecology and fish screening techniques, who shall ensure that the performance criteria specified in clauses (a) and (b) of this condition are achieved, and that the device is designed in accordance with best practice, as outlined in the document Fish Screening: Good Practice Guidelines for Canterbury, NIWA Client Report 2007-092, October 2007.¶
 <#>Prior to the installation of the fish screen, a report, prepared by a person with experience in freshwater ecology and fish screening techniques, containing final design plans that demonstrate that the fish screen will meet the performance criteria specified in clauses (a) and (b) of this condition, and an operation and maintenance plan for the fish screen, shall be provided to Environment Canterbury, Attention: RMA Compliance and Enforcement Manager.¶
 The fish exclusion device shall be maintained in good working order. Records shall be kept of all inspections and maintenance, and those records shall be provided to the CRC upon request

		<p>required. This is not appropriate. The condition should require ongoing compliance with the NDA.</p> <p>Needs to be "The annual (01 July to 30 June) nutrient loading (NDA) estimated in accordance with condition X, shall be less than..."</p> <p>The final clause appears to be an attempt to broaden the compliance requirement but is missing some words and is not clear.</p>		<p><u>The condition requires compliance and verification annually</u></p> <p><u>Not opposed to this wording</u></p> <p><u>Do not understand. There is no attempt to broaden wording.</u></p>	
OVERSEER MODELLING:					
13	Where Overseer, or Overseer modelling, is referred for the purposes of determining compliance with the NDA limits associated with activities on the property it shall undertaken by an independent person with an Intermediate or Advanced Sustainable Nutrient Management Certificate issued by Massey University or an equivalent qualification.	Don't consider that the three day intermediate course is adequate. Should require the more intensive Advanced Certificate. Majority of fertiliser representatives have this qualification and an increasing number of agricultural consultants.		Leave for commissioners to decide	
FARM ENVIRONMENTAL MANAGEMENT PLAN					
14	<p>1. The Farm Environmental Management Plan prepared for the Grampians Station and supplied to Environment Canterbury on an annual basis within two months of commencement of the current irrigation season</p> <p>2. The consent holder shall implement, and update annually the Farm Environmental Management Plan (FEMP) for Grampians Station. The FEMP shall include</p> <p>(a) Verification of compliance with NDA's by farm nutrient modelling using the model Overseer® (AgResearch model version number 5.4.3 or later).</p> <p>(b) When undertaking the modelling outlined in clause (b), the consent holder shall use either weather records collected on-farm or from constructed data from the nearest weather station.</p> <p>(c) Implementation of Mandatory Good Agricultural Practices ("MGAPS") and requirements to manage in accordance with the Grampians Station Overseer® model inputs specified in the attached Appendix A <u>of the FEMP</u> – Grampians Station Overseer® parameter report. Appendix A forms part of this consent.</p> <p>(d) A property specific environmental risk assessment (including a description of the risks to water quality arising from the physical layout of the property and its operation which are not factored in as an Overseer parameter) prepared by a suitably qualified person which identifies any farm specific environmental risks along with measures to mitigate the farm specific environmental risks.</p> <p>(e) A requirement to review the risk assessment if there</p>	<p>Condition is missing some wording. It appears to be some form of statement rather than a requirement. A final FEMP should be submitted prior to making a decision.</p> <p>A FEMP including verification of NDA compliance is not the same as an actual requirement to comply with the NDA.</p> <p>As above.</p> <p>No Appendix A provided.</p>		<p>FEMP has been supplied dated 1 April 2010. Draft watermark to be removed</p> <p><u>Final FEMPS have been sent to Ecan: Com: Phillips -Warnock</u></p> <p>Clause C to be deleted</p> <p>Overseer parameter report attached</p>	Deleted:

	<p>are any significant changes in land use practice</p> <p>3. Detailed records shall be maintained of fertilizer application rates, types of crops (including winter feed/forage crops), cultivation methods, stock units by type, breed and age, prediction of realistic crop yields that are used to determine crop requirements and all other inputs to the Overseer nutrient budgeting model.</p> <p>4. A report based on Overseer® modelling shall be provided within one month of completion of the Overseer modelling by the <u>person with the qualifications</u> described in condition 13 and no later than two months prior to the start of the next irrigation season to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager. The consent holder shall supply to the Canterbury Regional Council all model inputs relied upon for the annual Overseer® modelling.</p> <p>5. Changes may be made to Grampians Station Overseer® model inputs, provided that written certification is provided that the change is modelled using Overseer®, and that the result of that modelling demonstrates that the NDAs are not exceeded.</p> <p>6. A copy of that certification plus a copy of the resultant Overseer parameter report shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, prior to the implementation of that change.</p>	<p>Should be a person “with the qualifications described...”.</p> <p>The full Overseer output and input reports should be provided not a report “based on Overseer modelling”. These should include the “Current farm” calculated total N and total P leaching/runoff.</p> <p>Not clear who can undertake this certification. Condition 13 may not apply.</p> <p>Advisory note condition references appear to be incorrect.</p> <p>Not clear why this is needed. Conditions should allow for any change provided that the NDA is complied with and annual Overseer modelling is carried out.</p>		<p><u>Applicant thought that with difficulties in opening and reading Overseer that Ecan wanted a report from the person in 13. We're happy to provide whatever form Ecan wants</u></p> <p><u>Do not see issue – 13 applies to all references to Overseer</u></p> <p><u>Agreed and delete</u></p>	<p>Deleted: person</p> <p>Deleted: Advisory notes (Conditions 8 and 9)¶ # for the purposes of this consent “Significant changes” constitutes a major change in the stock ratios between sheep, cattle, and deer or a major change in the farming systems for the property. . For example going from extensive sheep and beef farming to dairy farming or cropping. It does not include changes in stock numbers as would be expected to deal with inter seasonal variations arising from climatic conditions or changes in stocking rates due to market demand</p>
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FERTILISER

<p>15</p>	<p>1. Fertiliser shall be managed and applied in accordance with 'The Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use) NZFMRA 07' or any subsequent updates.</p> <p>2. The consent holder shall keep a record of all fertiliser applications applied to the property, including fertiliser type, concentration, date and location of application, climatic conditions, mode of application and any report of the fertiliser contractor regarding the calibration of the spreader.</p> <p>3. For land based spreading of fertiliser an independent fertiliser spreading contractor shall be used to spread any fertiliser on the property except as provided for by clause (b) below.</p> <p>(a) Where an independent fertiliser spreading contractor is used the consent holder shall keep a record of the contractor used which can be supplied to the Canterbury Regional Council upon request.</p> <p>(b) Where the applicant's own fertiliser spreaders are</p>	<p>This code of practice is generally not written as an enforceable document, which means that this condition could not be enforced, doesn't provide any assurance about effects and is therefore not necessary. Retention may give an impression that many aspects of fertiliser use can be controlled via a consent condition and enforced when they cannot. Therefore recommend deletion unless specific and enforceable components could be separated out and applied.</p> <p>Not clear what use could be made of “a record of the contractor”.</p>		<p><u>Fertiliser clause to be read as a whole. It has specific controls but in addition this overarching Code control provides for best overall practices to be adopted – as they may be developed from time to time.</u></p> <p><u>The issue was to avoid requirement for calibration to occur for every separate spreading operation – where it is not within applicant's</u></p>	
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	<p>used, the consent holder shall test and calibrate the fertiliser spreaders at least annually, and every 5 years the fertiliser spreader will be certified by a suitably qualified person in accordance with 'The Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use) NZFMRA 07' or any subsequent updates and the results of testing shall be provided to the Canterbury Regional Council upon request.</p> <p>4. Nitrogen fertiliser shall not be applied to land between 31st May and 1st September in any year except for the use of nitrification inhibitors</p> <p>5. All fertiliser brought onto the property which is not immediately applied to the land is stored in a covered area that incorporates all practicable measures to prevent the fertiliser entering waterways.</p> <p>6. Applications of nitrogen fertiliser shall not exceed 50 kg nitrogen / hectare per application.</p> <p>7. If liquid fertilisers, excluding liquid effluent, are stored on-site for more than three working days, the consent holder shall ensure that the fertiliser is stored in a bunded tank, at least 110% of the volume of the tank to avoid any discharge to surface or groundwater and such that it is also protected from vehicle movements.</p> <p>Fertiliser filling areas shall not occur within 50 metres from a water course, spring or bore.</p>	Last clause needs numbering.		<p><u>control to request calibration.</u></p> <p><u>Subclause 2 requirements for record keeping and calibration record the information. Ecan may wish this information to be supplied upon request</u></p>	
IRRIGATION INFRASTRUCTURE					
16	<p>1. The consent holder shall ensure that all new (not on the property at the time of commencement of this consent) irrigation infrastructure is designed and certified by a suitably qualified independent expert holding National Certificate in Irrigation Evaluation Level 4, and installed in accordance with the certified design.</p> <p>(a) Copies of certified design documents shall be provided to the Canterbury Regional Council upon request.</p> <p>(b) All irrigation infrastructure shall be tested within 12 months of the first exercise of this consent and afterwards every five years in accordance with the 'Irrigation Code of Practice and Irrigation Design Standards, Irrigation NZ, March 2007' (code of practice) by a suitably qualified independent expert.</p> <p>(c) The expert shall prepare a report within two months of the testing, outlining their findings and shall identify any changes needed to comply with the code of practice.</p> <p>(d) Any changes needed to comply with this code of practice shall be implemented within five years from the date of the report. A copy of the report shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager, within three months of the report being completed.</p>	<p>Issued by who? NZWETA?</p> <p>What certified design? Certified by who?</p> <p>This code of practice is not written as an enforceable document, which means that this condition could not be enforced, doesn't provide any assurance about effects and is therefore not necessary. Retention may give an impression that aspects of irrigation design can be controlled via conditions and enforced when they cannot. Therefore recommend deletion unless specific and enforceable components could be separated out and applied.</p>		<p><u>NZQA</u></p> <p><u>This clause provides a cross check on water efficiency requirements in that the certification parameters of the design could not be signed off unless the irrigation "as built" structures meet the efficiency parameters – Applicants consider it appropriate that a check within first 12 months should be a condition</u></p>	

	<p>2. If existing irrigation infrastructure is being used, the consent holder shall obtain an evaluation report prepared by a suitably qualified person, on the following terms:</p> <p>(a) The evaluation shall determine the system's current performance in accordance with the Code of Practice for Irrigation Evaluation.</p> <p>(b) This report shall be obtained within three months of the first exercise of the consent.</p> <p>(c) Any recommendations identified in the report shall be implemented within five years from the date of receipt of the report.</p> <p>A copy of the report shall be forwarded to the Canterbury Regional Council within 3 months of the report being completed.</p>	<p>Why not the person referred to above?</p>			
<p>FERTIGATION</p>					
<p>17</p>	<p>1. If the irrigation system used in association with taking water in terms of this permit is to be used to distribute effluent, fertiliser or any other added contaminant, then one of the following shall be installed upstream of the point of addition of the effluent, fertiliser or other added contaminant:</p> <p>i. a reduced pressure zone device (RPZD), or</p> <p>ii. a pressure vacuum breaker (PVB), or</p> <p>iii. an air gap backflow prevention system.</p> <p>2. Installation of a RPZD or a PVB shall be in accordance with section 9 (PVB) or section 12 (RPZD) of Australian/New Zealand Standard AS/NZS 2845.1 Water supply - Backflow prevention devices, Part 1: Materials, design and performance requirements, or an equivalent standard.</p> <p>3. An air gap backflow prevention system shall have an unobstructed vertical air gap separation of at least twice the diameter of the inlet pipe, from the lowest point of the inlet pipe to the flood level rim of the receptacle into which it discharges.</p> <p>4. Field testing and maintenance shall be carried out of an RPZD or a PVB at commissioning of the use of the system for application of effluent or fertiliser and annually afterwards, in accordance with AS 2845.3 Water supply— Backflow prevention devices, Part 3: Field testing and maintenance, or an equivalent standard.</p> <p>5. An air gap backflow prevention system shall be tested at commissioning and annually afterwards. Maintenance shall be undertaken as necessary to ensure that backflow prevention is effective.</p> <p>6. Installation, testing and maintenance shall be undertaken by a certified irrigation evaluator. A report on the annual testing shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within two weeks of initial commissioning and within two weeks of each annual testing. Each report shall be accompanied with the name, qualifications and experience of the person who undertook the installation, testing or</p>				

	<p>maintenance.</p> <p><i>Advice note</i></p> <p><i>The discharge of effluent, fertiliser or any contaminant would require authorisation as a permitted activity or via a discharge permit. Contact the Canterbury Regional Council for advice on the relevant regional rules.</i></p>				
SUBDIVISION					
18	<p>The NDAs shall be recalculated if there is a sale or transfer of any part, but not the whole, of the total farm area specified in Appendix [should be Appendix A]*. The recalculated NDAs shall replace the NDAs specified in condition 12. The recalculation of the NDAs shall be undertaken and certified using Overseer, completed and provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager together with a copy of the full Parameter report, within one month of the sale or transfer.</p>	<p>No Appendix A provided.</p> <p>Condition 12 does not specify the NDA.</p> <p>Suggest add after “The recalculated NDAs...” “...shall be undertaken to accurately redistribute the NDA between the resultant properties and...”. Also need to add: “The new NDAs may be recalculated on any <u>apportionment</u>, as long as the total of all the NDAs does not exceed the NDAs of the parent title as set out in condition 19.</p>		<p><u>Agreed new condition defining Grampians see above</u></p> <p><u>Agreed to altered wording</u></p>	
SOIL MANAGEMENT					
19	<p>(a) The consent holder shall use, where practicable, direct drilling as the principal method for establishing pastures; and</p> <p>(b) On the irrigation area the consent holder shall, where practicable, sow and irrigate all cultivated areas as soon as possible following ground disturbance.</p>	<p>Agree</p>			
SUB-CATCHMENT SURFACEWATER MONITORING AND MITIGATION					
20	<p>The water quality of the Grays River shall be monitored <u>within 6 months of first exercise of consent</u> as follows:</p> <p>(a) Location:</p> <p>Map reference: NZMS 260 I38: 960-668 immediately upstream of all irrigation takes on Grays River</p> <p>Map reference: NZMS 260 I38: 033-602 downstream of the discharge</p> <p>Map reference : NZMS 260 I38: 047-582 for the Grays Swamp</p> <p>Note: Unless otherwise agreed the coordinates for Grays River monitoring shall be as specified – but provided the three characteristics of the monitoring points are adhered to (being upstream of all intakes; downstream of all intakes; and the Swamp receiving environment) then within those parameters the consent holder may vary the actual coordinates with the prior agreement of Ecan so as to more appropriately monitor the localised river effects arising from</p>	<p>Needs to clearly state when this should start.</p> <p>A map should be provided to show locations. Ideally map reference s should also include current NZTopo map references.</p> <p>Don't consider that a secondary approval is appropriate, but an alternative approach would be to state “at or about” to give some flexibility. Locations should be specific to the irrigation areas.</p>		<p><u>Map is in the FEMP and has been supplied</u></p>	

Deleted: proportionment

	<p>the exercise of this take consent</p> <p>(b) Water quality variables to include: (a) Dissolved inorganic nitrogen (b) dissolved reactive phosphorus; (c) dissolved oxygen (d) conductivity (e)turbidity (f)Water Temperature (g) periphyton biomass as chlorophyll a per square metre;(h) ecoli</p> <p>(c) This monitoring may be carried out on an individual basis, or may be prepared in collaboration with other consent holders, or on a collective basis by a suitable independent body appointed by all relevant consent holders in the sub catchment.</p> <p>(d) Frequency of monitoring: Quarterly during the months of November, February, May and August in each year.</p> <p>(e) Methods: The methods of sampling and analysis shall be those that are generally accepted by the scientific community as appropriate for monitoring river water quality and periphyton biomass. The methods of sampling shall be documented and made available to the Canterbury Regional Council on request.</p> <p>(f) The water quality monitoring shall be undertaken by a suitably qualified and/or experienced person who demonstrates that they understand the appropriate methods to use for surface water quality sampling, including preservation of samples. That person shall certify in writing that each batch of samples has been sampled and preserved in accordance with generally accepted scientific methods. A copy of those certifications and the person's qualifications shall be provided to the Canterbury Regional Council on request.</p> <p>(g) The laboratory undertaking analyses shall be accredited for those analyses by International Accreditation New Zealand (IANZ) or an equivalent accreditation organisation that has Mutual Recognition Agreement with IANZ.</p> <p>The results of all sampling shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager by 30 May each year. This shall include copies of reports from the laboratory that undertook the analyses.</p>	<p>Monitoring should be undertaken monthly between 1 December and 30 April with a minimum of three weeks between sampling. Monitoring during November and August is unlikely to be the appropriate time to identify possible adverse effects on water quality. Averaging results over a 12 month period would mask summer adverse effects.</p>		<p><u>This condition is not intended to mask effects – but is designed to record and monitor long term trends in surface water quality.</u></p> <p><u>The monitoring is not designed to record and monitor a particular spike generated following a long drought or significant rainfall but is to safeguard against any long term reduction in acceptable water quality.</u></p>	
	<p>pre – irrigation monitoring shall be carried out in the full year prior to commencement of irrigation using the methodology set out above to determine the environmental trigger levels for condtion 21 which shall either be the trigger levels set out below or the pre-irrigation DIN/DRP levels whichever is the higher.</p>	<p>What pre-irrigation monitoring? Where is this specified? Are some proposed conditions missing or is this left over from an earlier conceptual approach?</p>		<p><u>... sets out the methodology and what is to be monitored . Want to avoid repetition of all of the parameters above</u></p>	<p>Deleted: The</p>
<p>TRIGGER RESPONSE CONDITION: EXCEEDANCE OF SURFACE WATER EARLY WARNING TRIGGER – GRAYS RIVER</p>					
<p>21</p>	<p>(a) If the monitoring undertaken in accordance with condition 20 shows that the average sample result for any of the two Grays River monitoring sites identified in condition 20 over the annual period (November to August test results as</p>	<p>See above comments re the need for summer rather than annual average.</p>			<p>51</p>

	<p>under this resource consent divided by the total farm area (being 385 irrigated hectares on a total farm area of 22,000 hectares.</p> <p>(e) Unless the experts conclude that the exceedance was caused by an event or activity other than nutrient loss associated with the irrigation authorised by this consent or if the experts conclude that it is unlikely that there is a trend towards exceedance of the environmental standard trigger pertaining to the Grays River monitoring sites, then the consent holder shall prepare a Remedial Action Plan.</p> <p>(f) The Remedial Action Plan shall set out the methods and timeframes for altering and/or adapting farm land use practices to ensure that the exceedance in the early warning trigger pertaining to the Grays River monitoring site, is returned <u>as soon as practicable</u> to and maintained below the average sample results of 0.14 mg/l of DIN; or 0.006 mg/l of DRP; or 90 mg chl a/ m² (early warning trigger) for the Grays River monitoring site, over the period December to April.</p> <p>(g) The Remedial Action Plan shall be prepared by a suitably qualified and experienced person using <u>Overseer or an equivalent method to demonstrate</u> that the actions to be undertaken will achieve the necessary nutrient reductions <u>as soon as practicable</u>:</p> <ul style="list-style-type: none"> i. If the Remedial Action Plan outlined in clauses (e) and (f) is prepared in collaboration with other consent holders who are required to prepare a Remedial Action Plan for this sub catchment the Remedial Action Plan shall be deemed to comply with this condition ii. Any actions required by the Remedial Action Plan shall be incorporated into the consent holders FEMP. The amended FEMP shall be immediately implemented. iii. The consent holder shall provide the Canterbury Regional Council with the Remedial Action Plan and an amended FEMP upon request. <p>If a required reduction in nutrient load is in effect under clause (d) and monitoring for that period shows that the average sample results for the Grays River monitoring site over the period December to April is less than 0.14 mg/l of DIN; or 0.006 mg/l of DRP; or 90 mg chl a/ m² (early warning trigger), then for the subsequent season no property NDA reduction shall be required under this condition.</p>	<p>currently reduced NDA.”</p> <p>Should be ...<u>both</u> conclude...”</p> <p>Need to add “as soon as practicable” after “... is returned...”.</p> <p>Correct period - December to April, but doesn't match earlier proposed period.</p> <p>“approved” should be deleted and the sentence changed to “...using Overseer or an equivalent method...” Change “show” to “demonstrate”. Add “as soon as practicable” after “...reductions...”</p> <p>Needs a condition number.</p>		<p>Comment as above</p> <p>Agreed see tracked changes</p> <p>Should record full year period</p> <p>See tracked changes</p>	
		<p>Condition missing for “Trigger response condition: exceedance of surface water environmental standard trigger” Refer to Simons Hill/Simons Pass proposed conditions for possible wording</p>		<p>Do not understand requirements here</p>	
20	Monitoring of Haldon (Northern)Arm of Lake Benmore and	Previous condition was 21.			

Deleted: approved methods, such as Overseer® to show

21	<p><i>Advice Note: It is anticipated that all consent holders subject to this condition would coordinate and cooperate together to ensure that the lake water quality monitoring is undertaken and the costs of that monitoring is shared between those consent holders. The Canterbury Regional Council will provide resources to facilitate that coordination and the costs of that facilitation will be recoverable from the relevant resource consent holders as a cost of supervising and administering the resource consents.</i></p> <p><i>Any non-compliance with water quality monitoring requirements would be a matter for all relevant consent holders.</i></p>	<p>This should be an advice note to the previous condition and not have a condition number.</p> <p>Advice note needs clarifying: "...matter for all relevant consent holders, jointly and severally."</p>			
TRIGGER RESPONSE CONDITIONS					
	<p>(a) If the monitoring undertaken in accordance with condition (xx) shows that the average TLI for the 1 - 10 m depth integrated samples for the Haldon (Northern) Arm site over the period December to April is greater than 2.75 (early warning trigger) but does not exceed 3.0 (environmental standard trigger), then the property nutrient loads, as specified in condition (xx), shall be reduced temporarily by 5% x the Irrigation Proportion Factor (IPF) for the irrigation season subsequent to the monitoring period. The IPF shall be the proportion of the area developed for irrigation under this resource consent divided by the total farm area being 385 hectares on a total farm area of 22,000 ha</p> <p>(b) If the monitoring undertaken in accordance with condition (28) shows that the average TLI for the 1 - 10 m depth integrated samples over the period December to April is greater than 2.75 but does not exceed 3.0, then a report into the cause of the breach of the early warning trigger shall be prepared by a person with an appropriate post-graduate science qualification, by 30 July following the sampling. A copy of this report shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager, by 30 August following the sampling.</p> <p>(c) If a reduction in nutrient loading is required under any part of this condition and monitoring in the period that that reduction applies shows that the average TLI for the 1 – 10 m depth integrated samples for the monitoring site over the period December to April continues to be greater than 2.75 but does not exceed 3.0 then there shall be a further property nutrient load reduction of 5% x IPF for the subsequent irrigation season.</p> <p>(d) The above nutrient load reductions and investigation (condition 29 (a)-(c)) shall not be required if a two person expert panel with one expert nominated by the Canterbury Regional Council both conclude after considering all the relevant available information including catchment resource consent compliance, FEMP compliance monitoring pertaining to this consent and audit reports made available by the Canterbury Regional Council, that the cause of the breach of the early warning trigger was unlikely to have been caused in whole or in part by nutrient loss associated with the irrigation</p>	<p>Condition number?</p> <p>Reporting officer recommendation was for an early warning trigger of 2.5 on the basis that existing data indicates current TLI could be 2.4. An early warning TLI of 2.75 for the Haldon Arm would provide for a significant WQ deterioration. Refer to Second Addendum S42A of Dr Freeman.</p> <p>There is no condition 28. Condition 20?</p> <p>Needs to refer to both monitoring sites.</p> <p>Condition number reference incorrect.</p>		<p>Remediation Action Plans and Trigger levels</p> <p>Other Applicants, separately represented have suggested that there be no reduction in the NDA pending the preparation of a Remediation Action Plan to establish whether the cause of the rise in TLI's is a result of natural influences, one off events, or land use practices.</p> <p>The test in the remediation plans is for the applicant to establish that that its practices are highly unlikely to have contributed to the rise in TLI levels in Lake Benmore.</p> <p>While UWAG is not opposed to the concept of remediation plans, it is of the view that the need to provide certainty of conditions, that are legally enforceable, militate against the use of Remediation planning where factors such as:</p> <ul style="list-style-type: none"> • The time lag associated with groundwater movement into the Lake Benmore receiving environment • The identification and quantification of the role played by natural influences • The verification of data from recreational use; and dryland property operations; • The uncertainty associated with whether the movement in the TLI is part of a trend and whether that trend will likely continue. 	

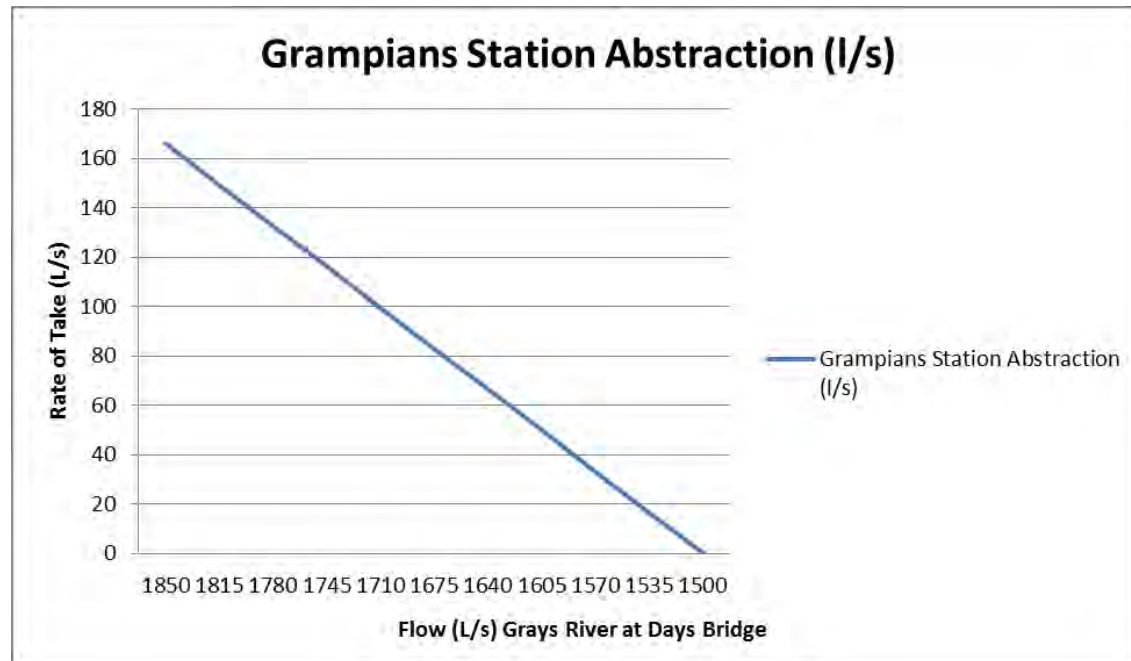
	<p>authorised by this consent.</p> <p>(e) If a required reduction in nutrient load is in effect under this condition and monitoring for that period shows that the average TLI for the 1 – 10 m depth integrated samples for the monitoring site over the period December to April is less than 2.75, then for the subsequent season the full NDA for the property, as specified in condition (17) shall be restored.</p> <p>(f) If the monitoring undertaken in accordance with condition (28) shows that the average TLI for the 1 - 10 m depth integrated samples for the Haldon (Northern) Arm monitoring site over the period December to April is greater than 3.0 (environmental standard trigger), then the property nutrient load, as specified in condition (17), shall be reduced by 10% x Irrigation Proportion Factor (IPF) for the irrigation season subsequent to the monitoring period. The IPF shall be the proportion of the area authorised for irrigation under this resource consent divided by the total farm area, as specified in Appendix C.</p> <p>(g) If the monitoring undertaken in accordance with condition (28) shows that the average TLI for the 1 - 10 m depth integrated samples over the period December to April is greater than 3.0 for either the Haldon (Northern) Arm or the Lower Benmore monitoring sites, then a report into the cause of the breach of the environmental standard trigger shall be prepared by a person with an appropriate post-graduate science qualification, by 30 July following the sampling. A copy of this report shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager, by 30 August following the sampling.</p> <p>(h) If a reduction in nutrient loading is required under any part of this condition and monitoring in the period that that reduction applies shows that the average TLI for the 1 – 10 m depth integrated samples for the Haldon (Northern) Arm monitoring site over the period December to April continues to be greater than 3.0 then there shall be a further property nutrient load reduction of 15% x IPF for the subsequent irrigation season and rising to 20% for any further irrigation season</p> <p>(a) The above nutrient load reductions and investigation (condition 30 (a)-(c)) shall not be required if a two person expert panel with one expert nominated by the Canterbury Regional Council both agree that the cause of the breach of the environmental standard was unlikely to have been caused in whole or in part by nutrient loss associated with the irrigation authorised by this consent.</p> <p>If a required reduction in nutrient load is in effect under this condition and monitoring for that period shows that the average TLI for the 1 – 10 m depth integrated samples for the Haldon (Northern) Arm monitoring site over the period December to April is less than 3.0, then for the subsequent season no property nutrient load reduction shall be required under this condition.</p>	<p>Condition number reference incorrect.</p> <p>Condition number reference incorrect.</p> <p>Needs to refer to both monitoring sites.</p> <p>Reference to condition 17 is incorrect. Should refer to a re-written condition currently unnumbered between conditions 12 and 13.</p> <p>Condition number reference incorrect.</p> <p>Some important conditions are missing from this suite e.g., there is no primary reduction requirement if the TLI exceeds 3.0. Refer to the Simons Hill/Simons Pass condition suites for a full list of conditions. <u>See (f) in the conditions</u></p> <p>Condition number reference incorrect.</p>		<p>As a result UWAG have adopted the higher threshold recommended by Romanos but in that context where there is an exceedence to that limit have opted for the certainty of an immediate (and certain) reduction in the NDA's by 5% with the opt out provisions that if an applicant can show that it is not the cause of the increase then two independent experts can confirm on the evidence pertaining to that property that it has not influenced the rise in TLI's</p> <p>Where an applicant requests exemption from the 5% rise, the two experts are likely to request information relating the all of the matters specified in the FEMPS, the independent verification of Overseer monitoring, the history of change in farm management practices pertaining to the property and any other property specific information.</p> <p>UWAG has taken the view that, given the small number (by hectares) of irrigators it represents that it would impossible to conceive a Remediation Plan which binds all catchment users and therefore has opted for the certainty of a set reduction where the rise in TLI's evinces a trend towards the 3.0 TLI standard</p>	
22	The Canterbury Regional Council may, once per year, on any of the last 5 working days of March or July serve notice of its				

	<p>intention to review the conditions of this resource consent for the purposes of dealing with any adverse effect on the environment which may arise from the exercise of the resource consent and which it is appropriate to deal with at a later stage, including</p> <p>(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; and</p> <p>(b) amending the flow in the Grays River and tributaries at which abstraction is required to be reduced or discontinued as set out in condition 6.</p>	Condition number reference incorrect.			
23	The lapsing date for the purposes of section 125 shall be 5 years.	Shall be [between 5 years and 5 years three months, date set for each quarter]. Cannot specify a lapse date of 5 years as this is the automatic default under the RMA		<u>agreed</u>	

Table A for Condition <2> above – Maximum rates of volumes

Year	Maximum rate of abstraction from irrigation race (litres / second)	Maximum Daily Volume (cubic metres / day)	Maximum Annual Volume (cubic metres / year)
1 September 2010 to 30 April 2011	137	11,837	1,428,000
1 September 2011 to 30 April 2012	137	11,837	1,428,000
1 September 2012 to 30 April 2013	137	11,837	1,428,000
1 September 2013 to 30 April 2014 and every year thereafter	137	11,837	1,428,000

Minimum flow graph



Conditions for water permit CRC041543 (AN Hope)					
Expiry date sought - 30 th of April 2025					
No.	Proposed Condition	ECan Comments	Meridian comments	Applicant comments	Applicant final proposed conditions
		<i>The new proposed conditions, developed subsequent to the presentation of section 42A reports, do not currently contain all the necessary conditions to satisfactorily address cumulative water quality issues. For other issues refer to S42A reports and responses to commissioner questions.</i>			
		No conditions proposed that specify minimum setback distances of irrigation areas from surface water bodies. These should be specified in a condition e.g., minimum of 20 metres.			

1	Water shall only be taken from gallery I38/0059, 1 metre deep, 3 metres wide and extending 10 metres from map reference NZMS 260 I38: 1230-6130.	Gallery dimensions wrong. 300 metres long and 4 metres deep. See s42a report 20b.			
2	<p>(a) Water for irrigation shall only be used between 1 September and the following 30 April and only in accordance with the maximum rate, daily volume (being from 12.00am to 12.00pm) and annual volume (measured between 1 September and the following 30 April) set out in Table A.</p> <p>(b) Water taken in accordance with allocated in Table A shall be used only for the spray irrigation of 147 hectares on the area of land shown on attached Plan CRC041542/3.</p> <p>(c) Water for irrigation shall only be used on or applied to land that is subject to a memorandum of encumbrance that complies with the requirements of the agreement entitled "Agreement in Relation to the Allocation of Water for Irrigation" between Meridian Energy Limited and the Mackenzie Irrigation Company Limited dated the 31st of October 2006.</p> <p>(d) The consent holder shall, six months prior to this consent being exercised, provide to the Canterbury Regional Council a certificate from the Consent Holder's solicitor certifying that the memorandum of encumbrance provided for in Condition 2(d) is registered on the computer registers for the land shown on Plan "AN Hope" and any other evidence of registration as the Canterbury Regional Council may require (if any).</p>	<p>Need to include rate of take for irrigation of 84 litres per second and AV. This condition only refers to water being used.</p> <p>Suggest parts c and d included as separate conditions. - refer to Paragraph 152 (c) of the addendum s42A report of Susannah Vesey about concern in terms of expectations of Environment Canterbury enforcing this.</p>		<p>Applicant suggests Table A is retained in accordance with MIC agreement.</p> <p>We have no concerns if this clause is split up</p> <p>Awaiting confirmation from Meridian Energy that this clause can be registered on this title and that Commissioner of Crown lands has consented to the registration.</p>	
3	Gallery I38/0059 shall be no closer than two metres to the bed of the Grays River.	Remove condition- not applicable to this consent		<p>Gallery covered by land use consent.</p> <p>Location of gallery also specified in condition 1 – suggest this condition is repetitious and should be deleted</p>	
4	<p>The consent holder shall take all practicable steps to:</p> <p>(d) Ensure that the volume of water used for irrigation does not exceed that required for the soil to reach field capacity; and</p> <p>(e) Avoid leakage from pipes and structures; and</p> <p>(f) Avoid the use of water onto non-productive land such as impermeable surfaces and river or stream riparian strips.</p>	Formatting - numbering			
5	<p>Whenever the flow (expressed in litres per second) in Grays River, as estimated by the Canterbury Regional Council based on the mean flow for the previous day (midnight to midnight) at the recorder located at Days Bridge (map reference NZMS 260 I38:037-601):</p> <p>(d) is equal or greater than 1,850 litres per second the maximum rate at which water is taken, shall not exceed 84 litres per second.</p> <p>(e) falls below the flow shown on the horizontal axis of the annexed graph, then the rates of abstraction permitted in terms of this permit shall not exceed those shown as corresponding on the vertical axis of the annexed graph.</p> <p>(f) falls below 1,500 litres per second, the taking of water in</p>	<p>Graph A needs correcting to refer to Snowy River abstraction not Grays River.</p> <p>Recommend that the flow graph and this condition adjust rate between the full allocation block of 1500 l/s to 2000l/s. Refer to s42a report 2A for further details.</p>			

	<p>terms of this permit shall cease.</p> <p>OR provided that the Canterbury Regional Council, in consultation with a Water Users Committee representing, but not limited to, surface water and hydraulically connected groundwater users, who are subject to the above minimum flow, has determined upon a water sharing regime which limits the total daily abstraction from the resource as referred to in (a) and (b) above then the taking of water in accordance with that determination shall be deemed to be in compliance with condition 2 of this consent.</p>				
6	The consent holder shall ensure water races used to convey water diverted in terms of this permit are well maintained to minimise losses.	Condition not needed given water to be piped from gallery to irrigators		The applicant does not propose to alter this clause	
7	The irrigator(s) used under this consent shall be parked perpendicular to Haldon Road for the irrigation off-season (1 June to 31 August).	Note no landscape mitigation recommended as Chris Glasson considers effects cannot be mitigated. See s42A officers report 5		Mr Craig disagreed with Mr Glasson's assessment with respect to Haldon Road properties given the direction of travel to and from the Haldon Road access to Lake Benmore and the traffic using that road. Nevertheless the applicant has proffered the following conditions	
8	<p>The consent holder shall, before the first exercise of this consent at the point of take:</p> <p>a.</p> <p>(i) install a water meter(s) that has an international accreditation or an equivalent New Zealand calibration endorsement suitable for use with an electronic recording device, from which the rate and the volume of water taken can be determined to within an accuracy of plus or minus five percent at a location(s) that will ensure the total take of water from [specify] is measured; and</p> <p>(ii) install a tamper-proof electronic recording device such as a data logger that shall record (or log) the flow totals every 15 minutes and have the capacity to hold at least one season's (as specified in conditions (3) and (4(a))) data of water taken as specified in clause (b) (i), or which is telemetered, as specified in clause (b)(ii).</p> <p>b. The water meter and recording device(s) shall be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and shall:</p> <p>(i) store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which shall be downloaded and stored in a commonly used format and provided to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or</p> <p>(ii) be connected to a telemetry system which collects and stores all of the data continuously with an independent network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device(s) shall be deliberately changed or deleted.</p>	<p>Refer to addendum s42A report of Susannah Vesey, paragraphs 135-142 and response to questions report for discussion about metering</p> <p>I understand that the MEL/MIC agreement may have had a metering condition included, but I had understood that MEL were happy with this being amended as long as it still had the same intent.</p> <p>5%accuracy for piped take.</p>			

	<p>c. The measuring device shall be installed at a site likely to retain a stable rating (i.e. a man-made channel, concrete, steel or fibreglass pipe). Installation shall be in accordance with ISO 1100/1-1981 or equivalent and be undertaken by a suitably qualified person.</p> <p>d. The water meter and recording device(s) shall be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.</p> <p>e. The water meter and recording device(s) shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.</p> <p>f. All practicable measures shall be taken to ensure that the water meter and recording device(s) are at all times fully functional and have an accuracy standard of 10%.</p>				
9	<p>(c) The water meter installed in accordance with Condition <8> shall be an electromagnetic or ultrasonic meter; or</p> <p>(d) The consent holder shall, before first exercise of this consent install or make available an easily accessible straight pipe(s) at a location where the total water take is passing through, with no fittings or obstructions that may create turbulent flow conditions, of a length at least 15 times the diameter of the pipe, as part of the pump outlet plumbing or within the mainline distribution system, to allow the Canterbury Regional Council to conduct independent measurements.</p>				
10	<p>Within one month of the installation of the measuring or recording device(s), specified in conditions <8> or any subsequent replacement measuring or recording device(s), or at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:</p> <p>(c) the measuring and recording device(s) is installed in accordance with the manufacturers specifications; and</p> <p>(d) data from the recording device(s) can be readily accessed and/or retrieved in accordance with clauses (b) of condition <8>.</p>				
11	<p>At five yearly intervals or at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, signed by a suitably qualified person certifying that:</p> <p>(b) the water meter(s) is measuring the rate of water taken as specified in condition <8> and</p> <p>the tamper-proof electronic recording device is operating as specified in condition <8></p>				
FISH EXCLUSION DEVICE					

	<p>Prior to the exercise of this consent:</p> <p>(b) A fish exclusion device shall be installed, operated and maintained on the intake to ensure that fish are prevented from passing into the intake. The fish exclusion device shall be positioned to avoid the entrapment of fish at the point of abstraction, and to minimise the risk of fish being damaged by contact with the fish screening device;</p> <p>(c) The fish exclusion device shall be designed or supplied by a person with experience in freshwater ecology and fish screening techniques, who shall ensure that the performance criteria specified in clauses (a) and (b) of this condition are achieved, and that the device is designed in accordance with best practice, as outlined in the document Fish Screening: Good Practice Guidelines for Canterbury, NIWA Client Report 2007-092, October 2007.</p> <p>(d) Prior to the installation of the fish screen, a report, prepared by a person with experience in freshwater ecology and fish screening techniques, containing final design plans that demonstrate that the fish screen will meet the performance criteria specified in clauses (a) and (b) of this condition, and an operation and maintenance plan for the fish screen, shall be provided to Environment Canterbury, Attention: RMA Compliance and Enforcement Manager.</p> <p>(e) The fish exclusion device shall be maintained in good working order. Records shall be kept of all inspections and maintenance, and those records shall be provided to the CRC upon request</p>	<p>Given depth of gallery in condition 1 of 4 metres then fish exclusion device conditions not required.</p>			
NUTRIENT LOADING:					
12	<p>The consent holder shall prepare once per year, an Overseer[®] nutrient budgeting model report, and shall prepare, at least once per year, a report of the annual farm nutrient loading for the Grampians Station using the model Overseer[®] (AgResearch model version number 5.4.3 or later</p>	<p>When exactly do these have to be done? Need to specify dates.</p>			
	<p>A copy of the report prepared in accordance with condition xx shall be given to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, upon request.</p>	<p>Condition number? Condition xx = 12?</p>			
	<p>The consent holder shall not commence annually irrigation under this consent unless the annual (1 July to 30 June) nutrient loading (the nutrient discharge allowances (NDAs)) as estimated in accordance with condition 12 from Grampians Station shall not exceed 58120 kg of nitrogen and 1240 kg of phosphorus.</p> <p>The NDAs shall be complied following the first full year (1 July to 30 June) of irrigation development.</p>	<p>Condition number?</p> <p>Essential to define “Grampian Station” by reference to an area (22,000 ha), legal description and/or a map, otherwise there is a risk that authorised nutrient load would be double.</p> <p>The first clause of the proposed condition only requires compliance for commencement to occur, i.e., subsequent</p>		<p>This applicant has two consents giving a total irrigation area of 385 ha. The NDA's are whole of property thresholds – including the dryland parts of the property not included in this application.</p>	

		<p>compliance would not be required. This is not appropriate. The condition should require ongoing compliance with the NDA.</p> <p>Needs to be "The annual (01 July to 30 June) nutrient loading (NDA) estimated in accordance with condition X, shall be less than..."</p> <p>The final clause appears to be an attempt to broaden the compliance requirement but is missing some words and is not clear.</p>			
OVERSEER MODELLING:					
13	Where Overseer, or Overseer modelling, is referred for the purposes of determining compliance with the NDA limits associated with activities on the property it shall undertaken by an independent person with an Intermediate or Advanced Sustainable Nutrient Management Certificate issued by Massey University or an equivalent qualification.	Don't consider that the three day intermediate course is adequate. Should require the more intensive Advanced Certificate. Majority of fertiliser representatives have this qualification and an increasing number of agricultural consultants.		Leave for commissioners to decide	
FARM ENVIRONMENTAL MANAGEMENT PLAN					
14	<p>8. The Farm Environmental Management Plan prepared for the Grampians Station and supplied to Environment Canterbury on an annual basis within two months of commencement of the current irrigation season</p> <p>9. The consent holder shall implement, and update annually the Farm Environmental Management Plan (FEMP) for Grampians Station. The FEMP shall include</p> <p>(f) Verification of compliance with NDA's by farm nutrient modelling using the model Overseer[®] (AgResearch model version number 5.4.3 or later).</p> <p>(g) When undertaking the modelling outlined in clause (b), the consent holder shall use either weather records collected on-farm or from constructed data from the nearest weather station.</p> <p>(h) Implementation of Mandatory Good Agricultural Practices ("MGAPS") and requirements to manage in accordance with the Grampians Station Overseer[®] model inputs specified in the attached Appendix A – Grampians Station Overseer[®] parameter report. Appendix A forms part of this consent.</p> <p>(i) A property specific environmental risk assessment (including a description of the risks to water quality arising from the physical layout of the property and its operation which are not factored in as an Overseer parameter) prepared by a suitably qualified person which identifies any farm specific environmental risks along with measures to mitigate the farm specific</p>	<p>Condition is missing some wording. It appears to be some form of statement rather than a requirement. A final FEMP should be submitted prior to making a decision.</p> <p>A FEMP including verification of NDA compliance is not the same as an actual requirement to comply with the NDA.</p> <p>As above.</p> <p>No Appendix A provided.</p>		<p>FEMP has been supplied dated 1 April 2010. Draft watermark to be removed</p> <p>Clause C to be deleted</p> <p>Overseer parameter report attached</p>	

	<p>environmental risks.</p> <p>(j) A requirement to review the risk assessment if there are any significant changes in land use practice</p> <p>10. Detailed records shall be maintained of fertilizer application rates, types of crops (including winter feed/forage crops), cultivation methods, stock units by type, breed and age, prediction of realistic crop yields that are used to determine crop requirements and all other inputs to the Overseer nutrient budgeting model.</p> <p>11. A report based on Overseer® modelling shall be provided within one month of completion of the Overseer modelling by the person described in condition 13 and no later than two months prior to the start of the next irrigation season to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager. The consent holder shall supply to the Canterbury Regional Council all model inputs relied upon for the annual Overseer® modelling.</p> <p>12. Changes may be made to Grampians Station Overseer® model inputs, provided that written certification is provided that the change is modelled using Overseer®, and that the result of that modelling demonstrates that the NDAs are not exceeded.</p> <p>13. A copy of that certification plus a copy of the resultant Overseer parameter report shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, prior to the implementation of that change.</p> <p><i>Advisory notes (Conditions 8 and 9)</i></p> <p><i># for the purposes of this consent "Significant changes" constitutes a major change in the stock ratios between sheep, cattle, and deer or a major change in the farming systems for the property. . For example going from extensive sheep and beef farming to dairy farming or cropping. It does not include changes in stock numbers as would be expected to deal with inter seasonal variations arising from climatic conditions or changes in stocking rates due to market demand.</i></p>	<p>Should be a person "with the qualifications described...".</p> <p>The full Overseer output and input reports should be provided not a report "based on Overseer modelling". These should include the "Current farm" calculated total N and total P leaching/runoff.</p> <p>Not clear who can undertake this certification. Condition 13 may not apply.</p> <p>Advisory note condition references appear to be incorrect.</p> <p>Not clear why this is needed. Conditions should allow for any change provided that the NDA is complied with and annual Overseer modelling is carried out</p>			
<p>FERTILISER</p>					
<p>15</p>	<p>14. Fertiliser shall be managed and applied in accordance with 'The Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use) NZFMRA 07' or any subsequent updates.</p> <p>15. The consent holder shall keep a record of all fertiliser applications applied to the property, including fertiliser type, concentration, date and location of application, climatic conditions, mode of application and any report of the fertiliser contractor regarding the calibration of the spreader.</p> <p>16. For land based spreading of fertiliser an independent fertiliser spreading contractor shall be used to spread any</p>	<p>This code of practice is generally not written as an enforceable document, which means that this condition could not be enforced, doesn't provide any assurance about effects and is therefore not necessary. Retention may give an impression that many aspects of fertiliser use can be controlled via a consent condition and enforced when they cannot. Therefore recommend deletion unless</p>			

	<p>fertiliser on the property except as provided for by clause (b) below.</p> <p>(c) Where an independent fertiliser spreading contractor is used the consent holder shall keep a record of the contractor used which can be supplied to the Canterbury Regional Council upon request.</p> <p>(d) Where the applicant's own fertiliser spreaders are used, the consent holder shall test and calibrate the fertiliser spreaders at least annually, and every 5 years the fertiliser spreader will be certified by a suitably qualified person in accordance with 'The Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use) NZFMRA 07' or any subsequent updates and the results of testing shall be provided to the Canterbury Regional Council upon request.</p> <p>17. Nitrogen fertiliser shall not be applied to land between 31st May and 1st September in any year except for the use of nitrification inhibitors</p> <p>18. All fertiliser brought onto the property which is not immediately applied to the land is stored in a covered area that incorporates all practicable measures to prevent the fertiliser entering waterways.</p> <p>19. Applications of nitrogen fertiliser shall not exceed 50 kg nitrogen / hectare per application.</p> <p>20. If liquid fertilisers, excluding liquid effluent, are stored on-site for more than three working days, the consent holder shall ensure that the fertiliser is stored in a bunded tank, at least 110% of the volume of the tank to avoid any discharge to surface or groundwater and such that it is also protected from vehicle movements.</p> <p>Fertiliser filling areas shall not occur within 50 metres from a water course, spring or bore.</p>	<p>specific and enforceable components could be separated out and applied.</p> <p>Not clear what use could be made of "a record of the contractor".</p> <p>There should be watercourse/spring/bore buffer areas specified where no fertiliser filling shall occur, e.g., minimum of 50 metres.</p> <p>Last clause needs numbering.</p>			
IRRIGATION INFRASTRUCTURE					
16	<p>3. The consent holder shall ensure that all new (not on the property at the time of commencement of this consent) irrigation infrastructure is designed and certified by a suitably qualified independent expert holding National Certificate in Irrigation Evaluation Level 4, and installed in accordance with the certified design.</p> <p>(a) Copies of certified design documents shall be provided to the Canterbury Regional Council upon request.</p> <p>(b) All irrigation infrastructure shall be tested within 12 months of the first exercise of this consent and afterwards every five years in accordance with the 'Irrigation Code of Practice and Irrigation Design Standards, Irrigation NZ, March 2007' (code of</p>	<p>Issued by who? NZWETA?</p> <p>What certified design? Certified by who?</p> <p>This code of practice is not written as an enforceable document, which means that this condition could not be enforced, doesn't provide any assurance about effects and is therefore not necessary. Retention may give an</p>			

	<p>practice) by a suitably qualified independent expert.</p> <p>(c) The expert shall prepare a report within two months of the testing, outlining their findings and shall identify any changes needed to comply with the code of practice.</p> <p>(d) Any changes needed to comply with this code of practice shall be implemented within five years from the date of the report. A copy of the report shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager, within three months of the report being completed.</p> <p>4. If existing irrigation infrastructure is being used, the consent holder shall obtain an evaluation report prepared by a suitably qualified person, on the following terms:</p> <p>(d) The evaluation shall determine the system's current performance in accordance with the Code of Practice for Irrigation Evaluation.</p> <p>(e) This report shall be obtained within three months of the first exercise of the consent.</p> <p>(f) Any recommendations identified in the report shall be implemented within five years from the date of receipt of the report.</p> <p>A copy of the report shall be forwarded to the Canterbury Regional Council within 3 months of the report being completed.</p>	<p>impression that aspects of irrigation design can be controlled via conditions and enforced when they cannot. Therefore recommend deletion unless specific and enforceable components could be separated out and applied.</p> <p>Why not the person referred to above?</p>			
FERTIGATION					
17	<p>7. If the irrigation system used in association with taking water in terms of this permit is to be used to distribute effluent, fertiliser or any other added contaminant, then one of the following shall be installed upstream of the point of addition of the effluent, fertiliser or other added contaminant:</p> <p>iv. a reduced pressure zone device (RPZD), or</p> <p>v. a pressure vacuum breaker (PVB), or</p> <p>vi. an air gap backflow prevention system.</p> <p>8. Installation of a RPZD or a PVB shall be in accordance with section 9 (PVB) or section 12 (RPZD) of Australian/New Zealand Standard AS/NZS 2845.1 Water supply - Backflow prevention devices, Part 1: Materials, design and performance requirements, or an equivalent standard.</p> <p>9. An air gap backflow prevention system shall have an unobstructed vertical air gap separation of at least twice the diameter of the inlet pipe, from the lowest point of the inlet pipe to the flood level rim of the receptacle into which it</p>				

	<p>discharges.</p> <p>10. Field testing and maintenance shall be carried out of an RPZD or a PVB at commissioning of the use of the system for application of effluent or fertiliser and annually afterwards, in accordance with AS 2845.3 Water supply—Backflow prevention devices, Part 3: Field testing and maintenance, or an equivalent standard.</p> <p>11. An air gap backflow prevention system shall be tested at commissioning and annually afterwards. Maintenance shall be undertaken as necessary to ensure that backflow prevention is effective.</p> <p>12. Installation, testing and maintenance shall be undertaken by a certified irrigation evaluator. A report on the annual testing shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within two weeks of initial commissioning and within two weeks of each annual testing. Each report shall be accompanied with the name, qualifications and experience of the person who undertook the installation, testing or maintenance.</p> <p><i>Advice note</i></p> <p><i>The discharge of effluent, fertiliser or any contaminant would require authorisation as a permitted activity or via a discharge permit. Contact the Canterbury Regional Council for advice on the relevant regional rules.</i></p>				
SUBDIVISION					
18	<p>The NDAs shall be recalculated if there is a sale or transfer of any part, but not the whole, of the total farm area specified in Appendix [should be Appendix A]*. The recalculated NDAs shall replace the NDAs specified in condition 12. The recalculation of the NDAs shall be undertaken and certified using Overseer, completed and provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager together with a copy of the full Parameter report, within one month of the sale or transfer.</p>	<p>No Appendix A provided.</p> <p>Condition 12 does not specify the NDA.</p> <p>Suggest add after “The recalculated NDAs...” “...shall be undertaken to accurately redistribute the NDA between the resultant properties and...”. Also need to add: “The new NDAs may be recalculated on any proportionment as long as the total of all the NDAs does not exceed the NDAs of the parent title as set out in condition 19.</p>			
SOIL MANAGEMENT					
19	<p>(c) The consent holder shall use, where practicable, direct drilling as the principal method for establishing pastures; and</p> <p>(d) On the irrigation area the consent holder shall, where practicable, sow and irrigate all cultivated areas as soon as</p>				

	possible following ground disturbance.				
SUB-CATCHMENT SURFACEWATER MONITORING AND MITIGATION					
20	<p>The water quality of the Grays River shall be monitored as follows:</p> <p>(h) Location:</p> <p>Map reference: NZMS 260 I38: 960-668 immediately upstream of all irrigation takes on Grays River</p> <p>Map reference: NZMS 260 I38: 033-602 downstream of the discharge</p> <p>Map reference : NZMS 260 I38: 047-582 for the Grays Swamp</p> <p>Note: Unless otherwise agreed the coordinates for Grays River monitoring shall be as specified – but provided the three characteristics of the monitoring points are adhered to (being upstream of all intakes; downstream of all intakes; and the Swamp receiving environment) then within those parameters the consent holder may vary the actual coordinates with the prior agreement of Ecan so as to more appropriately monitor the localised river effects arising from the exercise of this take consent</p> <p>(i) Water quality variables to include: (a) Dissolved inorganic nitrogen (b) dissolved reactive phosphorus; (c) dissolved oxygen (d) conductivity (e)turbidity (f)Water Temperature (g) periphyton biomass as chlorophyll a per square metre;(h) ecoli</p> <p>(j) This monitoring may be carried out on an individual basis, or may be prepared in collaboration with other consent holders, or on a collective basis by a suitable independent body appointed by all relevant consent holders in the sub catchment.</p> <p>(k) Frequency of monitoring: Quarterly during the months of November, February, May and August in each year.</p> <p>(l) Methods: The methods of sampling and analysis shall be those that are generally accepted by the scientific community as appropriate for monitoring river water quality and periphyton biomass. The methods of sampling shall be documented and made available to the Canterbury Regional Council on request.</p> <p>(m) The water quality monitoring shall be undertaken by a suitably qualified and/or experienced person who demonstrates that they understand the appropriate methods to use for surface water quality sampling, including preservation of samples. That person shall certify in writing that each batch of samples has been sampled and</p>	<p>Needs to clearly state when this should start.</p> <p>A map should be provided to show locations. Ideally map reference s should also include current NZTopo map references.</p> <p>Don't consider that a secondary approval is appropriate, but an alternative approach would be to state "at or about" to give some flexibility. Locations should be specific to the irrigation areas.</p> <p>Monitoring should be undertaken monthly between 1 December and 30 April with a minimum of three weeks between sampling. Monitoring during November and August is unlikely to be the appropriate time to identify possible adverse effects on water quality. Averaging results over a 12 month period would mask summer adverse effects.</p>			

	<p>preserved in accordance with generally accepted scientific methods. A copy of those certifications and the person's qualifications shall be provided to the Canterbury Regional Council on request.</p> <p>(n) The laboratory undertaking analyses shall be accredited for those analyses by International Accreditation New Zealand (IANZ) or an equivalent accreditation organisation that has Mutual Recognition Agreement with IANZ.</p> <p>The results of all sampling shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager by 30 May each year. This shall include copies of reports from the laboratory that undertook the analyses.</p>				
	<p>The pre – irrigation monitoring shall be carried out in the full year prior to commencement of irrigation using the methodology set out above to determine the environmental trigger levels for condition 21 which shall either be the trigger levels set out below or the pre-irrigation DIN/DRP levels whichever is the higher.</p>	<p>What pre-irrigation monitoring? Where is this specified? Are some proposed conditions missing or is this left over from an earlier conceptual approach?</p>			
TRIGGER RESPONSE CONDITION: EXCEEDANCE OF SURFACE WATER EARLY WARNING TRIGGER – GRAYS RIVER					
21	<p>(h) If the monitoring undertaken in accordance with condition 20 shows that the average sample result for any of the two Grays River monitoring sites identified in condition 20 over the annual period (November to August test results as above) is greater than 0.14 mg/l of DIN; or 0.006 mg/l DRP; or 90 mg chl <i>a</i>/ m² (early warning trigger) but does not exceed 0.18 mg/l of DIN; or 0.007 mg/l DRP; or 120 mg chl <i>a</i>/ m² (environmental standard trigger),(OR the pre-irrigation monitoring shows that the DIN/DRP levels are higher than the ANZECC guidelines then those pre-irrigation actual annual average sample results shall be substituted for the trigger levels) the consent holder shall prepare a report into the cause of the breach of the early warning trigger (or any exceedence of the pre- irrigation sample results, as the case may be). The report shall be prepared by an expert review panel consisting of two qualified and experienced independent scientists. One of the scientists shall be nominated by the Canterbury Regional Council, and the other shall be appointed by the consent holder.</p> <p>(i) The report shall:</p> <p>v. include the experts' conclusion on whether the exceedence(s) were as a result of natural influences, one off events, or in whole or part by nutrient loss associated with the irrigation authorised by this consent; and</p> <p>vi. include an assessment as to whether there is likely to be a continuation of the monitored results;</p>	<p>See above comments re the need for summer rather than annual average.</p> <p>Numbering of clauses incorrect</p> <p>What pre-irrigation monitoring?</p>			51

<p>vii. be completed by 30 July following the sampling; and</p> <p>viii. be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, by 30 August following the sampling.</p> <p>(j) If the authors of the report prepared in accordance with clauses (a) and (b) conclude, after considering all the relevant available information, including on-site monitoring, sub-catchment monitoring, and catchment resource consent compliance and audit reports made available by the Canterbury Regional Council, that the cause of the breach of the early warning trigger was unlikely to have been caused in whole or in part by nutrient loss associated with the irrigation authorised by this consent, or if the report concludes that it is unlikely that there is a trend towards exceedance of the environmental standard trigger pertaining to the Grays River monitoring sites, then no further action needs to be undertaken by the consent holder, and no nutrient load reductions and investigations shall be required, if.</p> <p>(k) If the monitoring undertaken in accordance with condition 20 shows that the average sample result for any of the two Grays River monitoring sites identified in condition 20, over the period December to April is greater than 0.14 mg/l of DIN; or 0.006 mg/l DRP; or 90 mg chl <i>a</i>/ m² (early warning trigger) but does not exceed 0.18 mg/l of DIN; or 0.007 mg/l DRP; or 120 mg chl <i>a</i>/ m² (environmental standard trigger), then the property nutrient load (NDA), as specified in condition 19, shall be reduced by 5% x Irrigation Proportion Factor (IPF) for the irrigation season subsequent to the monitoring period. The IPF shall be the proportion of the total authorised irrigation area developed for irrigation at the time of the exceedance under this resource consent divided by the total farm area (being 385 irrigated hectares on a total farm area of 22,000 hectares.</p> <p>(l) Unless the experts conclude that the exceedance was caused by an event or activity other than nutrient loss associated with the irrigation authorised by this consent or if the experts conclude that it is unlikely that there is a trend towards exceedance of the environmental standard trigger pertaining to the Grays River monitoring sites, then the consent holder shall prepare a Remedial Action Plan.</p> <p>(m) The Remedial Action Plan shall set out the methods and timeframes for altering and/or adapting farm land use practices to ensure that the exceedance in the early warning trigger pertaining to the Grays River monitoring site, is returned to and maintained below the average sample results of 0.14 mg/l of DIN; or 0.006 mg/l of DRP; or 90 mg chl <i>a</i>/ m² (early warning trigger) for the Grays River</p>	<p>Should clarify "If <u>both</u> authors of the report..."</p> <p>Needs to be a compounding requirement for continuing breach e.g., "The NDA reduction shall compound on any currently reduced NDA."</p> <p>Should be ..."<u>both</u> conclude..."</p> <p>Need to add "as soon as practicable" after "... is returned..."</p> <p>Correct period - December to</p>			
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	<p>monitoring site, over the period December to April.</p> <p>(n) The Remedial Action Plan shall be prepared by a suitably qualified and experienced person using approved methods, such as Overseer® to show that the actions to be undertaken will achieve the necessary nutrient reductions;</p> <p>iv. If the Remedial Action Plan outlined in clauses (e) and (f) is prepared in collaboration with other consent holders who are required to prepare a Remedial Action Plan for this sub catchment the Remedial Action Plan shall be deemed to comply with this condition</p> <p>v. Any actions required by the Remedial Action Plan shall be incorporated into the consent holders FEMP. The amended FEMP shall be immediately implemented.</p> <p>vi. The consent holder shall provide the Canterbury Regional Council with the Remedial Action Plan and an amended FEMP upon request.</p> <p>If a required reduction in nutrient load is in effect under clause (d) and monitoring for that period shows that the average sample results for the Grays River monitoring site over the period December to April is less than 0.14 mg/l of DIN; or 0.006 mg/l of DRP; or 90 mg chl a/ m2 (early warning trigger), then for the subsequent season no property NDA reduction shall be required under this condition.</p>	<p>April, but doesn't match earlier proposed period.</p> <p>"approved" should be deleted and the sentence changed to "...using Overseer or an equivalent method..." Change "show" to "demonstrate". Add "as soon as practicable" after "...reductions..."</p> <p>Needs a condition number.</p>			
		<p>Condition missing for "Trigger response condition: exceedence of surface water environmental standard trigger" Refer to Simons Hill/Simons Pass proposed conditions for possible wording</p>			
<p>20</p>	<p>Monitoring of Haldon (Northern)Arm of Lake Benmore and Lower Lake Benmore</p> <p>The water quality of the Haldon (Northern) Arm of Lake Benmore and Lower Lake Benmore shall be monitored as follows:</p> <p>(e) Locations:</p> <p>Haldon (Northern) Arm, Map reference: NZMS 260 H39:8823-3531 (NZTopo50 CA16:7828-7366) (as shown on the attached map (Appendix F)</p> <p>Lower Lake Benmore, Map reference: NZMS 260 H39:8802-2371 (NZTopo50 CA16:7808-6205) (as shown on the attached map (Appendix F)</p> <p>(f) Depths: depth integrated 0-10m, 25m, 50m</p>	<p>Previous condition was 21. Numbering incorrect.</p> <p>Needs to clearly state when this should start.</p> <p>Condition numbering error</p>			

Any non-compliance with water quality monitoring requirements would be a matter for all relevant consent holders.				
TRIGGER RESPONSE CONDITIONS				
<p>(i) If the monitoring undertaken in accordance with condition (xx) shows that the average TLI for the 1 - 10 m depth integrated samples for the Haldon (Northern) Arm site over the period December to April is greater than 2.75 (early warning trigger) but does not exceed 3.0 (environmental standard trigger), then the property nutrient loads, as specified in condition (xx), shall be reduced temporarily by 5% x the Irrigation Proportion Factor (IPF) for the irrigation season subsequent to the monitoring period. The IPF shall be the proportion of the area developed for irrigation under this resource consent divided by the total farm area being 385 hectares on a total farm area of 22,000 ha</p> <p>(j) If the monitoring undertaken in accordance with condition (28) shows that the average TLI for the 1 - 10 m depth integrated samples over the period December to April is greater than 2.75 but does not exceed 3.0, then a report into the cause of the breach of the early warning trigger shall be prepared by a person with an appropriate post-graduate science qualification, by 30 July following the sampling. A copy of this report shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager, by 30 August following the sampling.</p> <p>(k) If a reduction in nutrient loading is required under any part of this condition and monitoring in the period that that reduction applies shows that the average TLI for the 1 – 10 m depth integrated samples for the monitoring site over the period December to April continues to be greater than 2.75 but does not exceed 3.0 then there shall be a further property nutrient load reduction of 5% x IPF for the subsequent irrigation season.</p> <p>(l) The above nutrient load reductions and investigation (condition 29 (a)-(c)) shall not be required if a two person expert panel with one expert nominated by the Canterbury Regional Council both conclude after considering all the relevant available information including catchment resource consent compliance, FEMP compliance monitoring pertaining to this consent and audit reports made available by the Canterbury Regional Council, that the cause of the breach of the early warning trigger was unlikely to have been caused in whole or in part by nutrient loss associated with the irrigation authorised by this consent.</p> <p>(m) If a required reduction in nutrient load is in effect under this condition and monitoring for that period shows that the average TLI for the 1 – 10 m depth integrated samples for the monitoring site over the period December to April is less than 2.75, then for the subsequent season the full NDA for</p>	<p>Condition number? Reporting officer recommendation was for an early warning trigger of 2.5 on the basis that existing data indicates current TLI could be 2.4. An early warning TLI of 2.75 for the Haldon Arm would provide for a significant WQ deterioration. Refer to Second Addendum S42A of Dr Freeman.</p> <p>There is no condition 28. Condition 20? Needs to refer to both monitoring sites.</p> <p>Condition number reference incorrect.</p> <p>Condition number reference incorrect.</p> <p>Condition number reference incorrect. Needs to refer to both monitoring sites.</p>		<p>Remediation Action Plans and Trigger levels</p> <p>Other Applicants, separately represented have suggested that there be no reduction in the NDA pending the preparation of a Remediation Action Plan to establish whether the cause of the rise in TLI's is a result of natural influences, one off events, or land use practices.</p> <p>The test in the remediation plans is for the applicant to establish that that its practices are highly unlikely to have contributed to the rise in TLI levels in Lake Benmore.</p> <p>While UWAG is not opposed to the concept of remediation plans, it is of the view that the need to provide certainty of conditions, that are legally enforceable, militate against the use of Remediation planning where factors such as:</p> <ul style="list-style-type: none"> • The time lag associated with groundwater movement into the Lake Benmore receiving environment • The identification and quantification of the role played by natural influences • The verification of data from recreational use; and dryland property operations; • The uncertainty associated with whether the movement in the TLI is part of a trend and whether that trend will likely continue. <p>As a result UWAG have adopted the higher threshold recommended by Romanos but in that context where there is an exceedence to that limit have opted for the certainty of an immediate (and certain) reduction in the NDA's by 5% with the opt out provisions that if an applicant can show that it is not the cause of the increase then two independent experts can confirm on the evidence pertaining to that property that it has not influenced the rise in TLI's</p>	

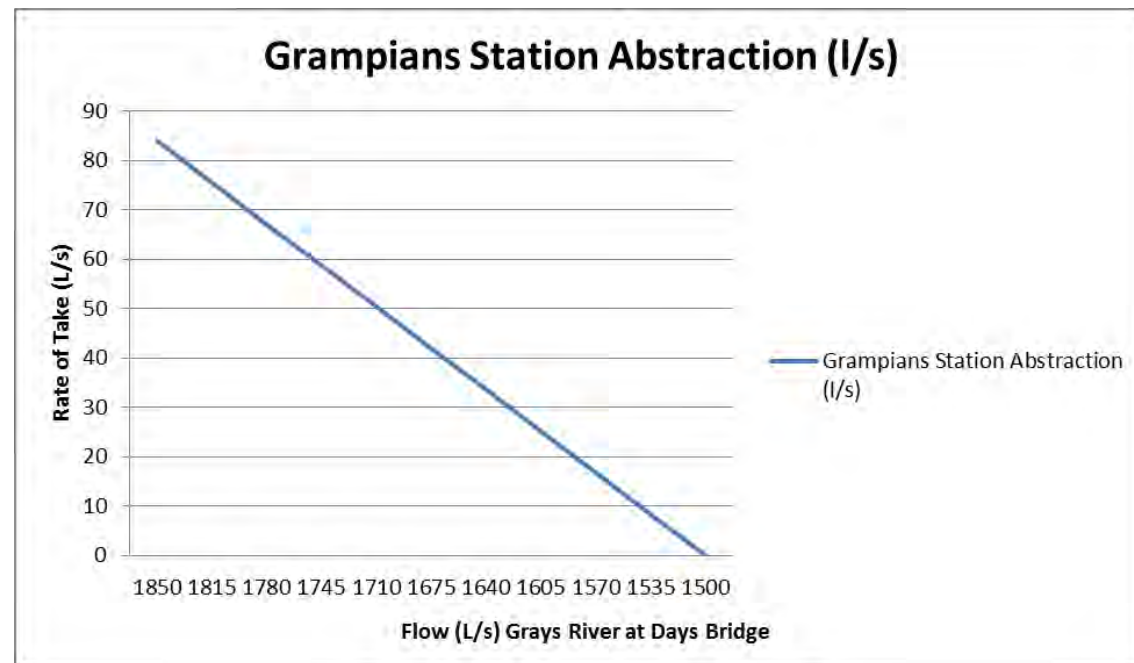
	<p>the property, as specified in condition (17) shall be restored.</p> <p>(n) If the monitoring undertaken in accordance with condition (28) shows that the average TLI for the 1 - 10 m depth integrated samples for the Haldon (Northern) Arm monitoring site over the period December to April is greater than 3.0 (environmental standard trigger), then the property nutrient load, as specified in condition (17), shall be reduced by 10% x Irrigation Proportion Factor (IPF) for the irrigation season subsequent to the monitoring period. The IPF shall be the proportion of the area authorised for irrigation under this resource consent divided by the total farm area, as specified in Appendix C.</p> <p>(o) If the monitoring undertaken in accordance with condition (28) shows that the average TLI for the 1 - 10 m depth integrated samples over the period December to April is greater than 3.0 for either the Haldon (Northern) Arm or the Lower Benmore monitoring sites, then a report into the cause of the breach of the environmental standard trigger shall be prepared by a person with an appropriate post-graduate science qualification, by 30 July following the sampling. A copy of this report shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager, by 30 August following the sampling.</p> <p>(p) If a reduction in nutrient loading is required under any part of this condition and monitoring in the period that that reduction applies shows that the average TLI for the 1 – 10 m depth integrated samples for the Haldon (Northern) Arm monitoring site over the period December to April continues to be greater than 3.0 then there shall be a further property nutrient load reduction of 15% x IPF for the subsequent irrigation season and rising to 20% for any further irrigation season</p> <p>(b) The above nutrient load reductions and investigation (condition 30 (a)-(c)) shall not be required if a two person expert panel with one expert nominated by the Canterbury Regional Council both agree that the cause of the breach of the environmental standard was unlikely to have been caused in whole or in part by nutrient loss associated with the irrigation authorised by this consent. If a required reduction in nutrient load is in effect under this condition and monitoring for that period shows that the average TLI for the 1 – 10 m depth integrated samples for the Haldon (Northern) Arm monitoring site over the period December to April is less than 3.0, then for the subsequent season no property nutrient load reduction shall be required under this condition.</p>	<p>Reference to condition 17 is incorrect. Should refer to a re-written condition currently unnumbered between conditions 12 and 13.</p> <p>Condition number reference incorrect.</p> <p>Some important conditions are missing from this suite e.g., there is no primary reduction requirement if the TLI exceeds 3.0. Refer to the Simons Hill/Simons Pass condition suites for a full list of conditions.</p> <p>Condition number reference incorrect.</p>		<p>Where an applicant requests exemption from the 5% rise, the two experts are likely to request information relating the all of the matters specified in the FEMPS, the independent verification of Overseer monitoring, the history of change in farm management practices pertaining to the property and any other property specific information.</p> <p>UWAG has taken the view that, given the small number (by hectares) of irrigators it represents that it would impossible to conceive a Remediation Plan which binds all catchment users and therefore has opted for the certainty of a set reduction where the rise in TLI's evinces a trend towards the 3.0 TLI standard</p>	
22	The Canterbury Regional Council may, once per year, on any of the last 5 working days of March or July serve notice of its intention to review the conditions of this resource consent for the				

	<p>purposes of dealing with any adverse effect on the environment which may arise from the exercise of the resource consent and which it is appropriate to deal with at a later stage, including</p> <p>(c) 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; and</p> <p>(d) amending the flow in the Grays River and tributaries at which abstraction is required to be reduced or discontinued as set out in condition 6.</p>	Condition number reference incorrect.			
23	The lapsing date for the purposes of section 125 shall be 5 years.	Shall be [between 5 years and 5 years three months, date set for each quarter]. Cannot specify a lapse date of 5 years as this is the automatic default under the RMA			

Table A for Condition <2> above – Maximum rates of volumes

Year	Maximum rate of abstraction (litres / second)	Maximum Daily Volume (cubic metres / day)	Maximum Annual Volume (cubic metres / year)
1 September 2010 to 30 April 2011	84 l/s	7,257 m ³ /day	882,000 m ³ /annum
1 September 2011 to 30 April 2012	84 l/s	7,257 m ³ /day	882,000 m ³ /annum
1 September 2012 to 30 April 2013	84 l/s	7,257 m ³ /day	882,000 m ³ /annum
1 September 2013 to 30 April 2014 and every year thereafter	84 l/s	7,257 m ³ /day	882,000 m ³ /annum

Minimum flow graph



Conditions for discharge permit CRC041545 (AN Hope)		
Expiry date sought - 30 th of April 2025 to coincide with expiry of CRC041542 and CRC041543		
No.	Proposed Conditions	Comments
		Agree metering not required as long as diversion and take metered so can work out the difference.
1	(a) Water shall only be discharged to the an unnamed channel at or about map reference NZMS 260 I38: 0471-5823 as shown on Plan "AN Hope: (b) The discharge shall only be unused conveyance water and shall contain no contaminants. (c) Water shall only be discharged at a rate not exceeding 29 litres per second.	Agreed
2	(a) All practicable measures shall be undertaken to avoid erosion of the bed or banks of the unnamed water channel occurring as a result of the discharge. (b) In the event of any erosion occurring to the bed or banks of the unnamed water channel, as a result of the discharge, the consent holder shall be responsible for rectifying the situation as soon as practicable.	Agreed
3	The discharge shall not occur in a manner likely to cause erosion of, or instability to, the banks or bed of the unnamed stream channel; or reduce the flood-carrying capacity of the	Agreed

	waterway	
4	The discharge, after reasonable mixing, shall not cause a change in the colour or a reduction of the clarity of the receiving water body.	Agreed
5	The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage.	Agreed
6	The lapsing date for the purposes of section 125 shall be [between 5 years and 5 years three months, date set for each quarter].	Agreed

Plan "CRC041542/3"

