

CRC190445

CSNDC APPLICANT'S CONDITIONS 8 FEBRUARY 2019

<p>5 November 2018 Conditions (this is the version tabled at the hearing that includes tracked changes from the version that was lodged with the application)</p>	<p>8 February 2019 Conditions (this is the version now proposed by the applicant and includes all those amendments agreed between CCC and CRC staff following the adjournment of the hearing. All amendments are shown in green text)</p>	<p>Comments to assist with understanding the amendments</p>
<p>Annual Exceedance Probability (AEP) is the chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of 40 cubic metres per second has an AEP of 2%, it means there is a 2% chance (i.e. one-in-fifty) of a peak flood discharge of 40 cubic metres a second or larger being equalled or exceeded in any year. AEP is the inverse of return period expressed as a percentage.</p>	<p>Annual Exceedance Probability (AEP) is the chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of 40 cubic metres per second has an AEP of 2%, it means there is a 2% chance (i.e. one-in-fifty) of a peak flood discharge of 40 cubic metres a second or larger being equalled or exceeded in any year. AEP is the inverse of return period expressed as a percentage.</p>	
<p>area of disturbance means an area where site clearance or earthworks are actively taking place and where the land has not been stabilised.</p>	<p>area of disturbance means an area where site clearance or earthworks are actively taking place and where the land has not been stabilised.</p>	
<p>CSNDC means the Christchurch City Council Comprehensive Stormwater Network Discharge Consent.</p>	<p>CSNDC means the Christchurch City Council Comprehensive Stormwater Network Discharge Consent.</p>	<p>CCC and CRC staff agreed to remove CSNDC references throughout the conditions and replace with 'resource consent'.</p>
<p>Christchurch Contaminant Load Model (C-CLM) means the Golder Associates (NZ) Ltd 2018 Christchurch Contaminant Load Model (C-CLM). The C-CLM report is attached to this resource consent as Schedule 2.</p>	<p>Christchurch Contaminant Load Model (C-CLM) means the Golder Associates (NZ) Ltd 2018 Christchurch Contaminant Load Model (C-CLM). The C-CLM report is attached to this resource consent as Schedule 2.</p>	
<p>critical duration means the time taken during a storm event for peak water levels to be reached in the receiving waters</p>	<p>critical duration means the time taken during a storm event for peak water levels to be reached in the receiving waters</p>	
<p>design storm is the theoretical rainfall event that an analysis is based on for a particular probability. The design storm is based on certain assumptions, including rainfall distribution and intensity, and the storm rainfall profile shape for the critical duration.</p>	<p>design storm is the theoretical rainfall event that an analysis is based on for a particular probability. The design storm is based on certain assumptions, including rainfall distribution and intensity, and the storm rainfall profile shape for the critical duration.</p>	
<p>development site means any individual area within a site or sites that is undergoing construction and/or earthworks activities but excludes sealed pavement repair where base course is not exposed.</p>	<p>development site means any individual area within a site or sites that is undergoing construction and/or earthworks activities but excludes sealed pavement repair where base course is not exposed.</p>	
<p>device means a street or property-scale installation for the purpose of removing contaminants from stormwater in a situation where storage capacity is limited. Examples include a rain garden or a proprietary treatment system.</p>	<p>device means a street or property-scale installation for the purpose of removing contaminants from stormwater in a situation where storage capacity is limited. Examples include a rain garden or a proprietary treatment system.</p>	
<p>EMP means Environmental Monitoring Programme.</p>	<p>EMP means Environmental Monitoring Programme.</p>	
<p>existing site means any site that discharges its stormwater into the CCC stormwater network at the date of commencement of this resource consent.</p>	<p>existing site means any site that discharges its stormwater into the CCC stormwater network at the date of commencement of this resource consent.</p>	
<p>Extra-Over Detention means attenuating sufficient stormwater to control peak flow rates from a developed site back to pre-developed flow rates for storms up to and including the critical 2 percent annual exceedance probability design storm event.</p>	<p>Extra-Over Detention means attenuating sufficient stormwater to control peak flow rates from a developed site back to pre-developed flow rates for storms up to and including the critical 2% percent AEP annual exceedance probability design storm event.</p>	<p>Amended for consistency</p>

	facility means a (usually large) constructed means of holding or attenuating stormwater for the purpose of reducing discharge rates or removing contaminants. Examples include a sedimentation basin, a constructed wetland, a wet pond an attenuation basin and/or an infiltration basin.	facility means a (usually large) constructed means of holding or attenuating stormwater, <u>at a larger scale than a device</u> , for the purpose of reducing discharge rates or removing contaminants. Examples include a sedimentation basin, a constructed wetland, a wet pond an attenuation basin and/or an infiltration basin.	
	first flush means either: a) the stormwater runoff generated from the first 25 millimetres of rain falling on impervious areas of a site, or b) the stormwater flow rate generated from up to 5mm/hr rainfall intensity on impervious areas of a site; or c) the stormwater runoff generated from the first 20 millimetres of rain falling on impervious areas of a site discharging to rain gardens or tree pits.	first flush means either: a) the stormwater runoff generated from the first 25 millimetres of rain falling on impervious areas of a site, or b) the stormwater flow rate generated from up to 5mm/hr rainfall intensity on impervious areas of a site; or c) the stormwater runoff generated from the first 20 millimetres of rain falling on impervious areas of a site discharging to rain gardens or tree pits.	
	flat land means any land where the average slope across the site is 5 degrees or less.	flat land means any land where the average slope across the site is 5 degrees or less.	
	greenfield means agricultural, forest or grass land previously undeveloped for urban purposes (construction of residential or industrial subdivision, buildings, roads and associated services).	greenfield means agricultural, forest or grass land previously undeveloped <u>that is to be used</u> for urban purposes, <u>for example</u> (construction of residential or industrial subdivision, buildings, roads and associated services).	Amended for clarity.
	high-use site means a site that: (a) has an expected average daily traffic (ADT) count equal to or greater than 250 vehicles per day; or (b) is used for petroleum storage or transfer in excess of 5,000 litres per year, not including delivered heating oil; or (c) is used for storage or maintenance of 10 or more heavy vehicles (trucks, buses, trains, heavy equipment, etc.).	high-use site means a site that: (a) has an expected average daily traffic (ADT) count equal to or greater than 250 vehicles per day; or (b) is used for petroleum storage or transfer in excess of 5,000 litres per year, not including delivered heating oil; or (c) is used for storage or maintenance of 10 or more heavy vehicles (trucks, buses, trains, heavy equipment, etc.).	
	hill land means any land where the average slope across the site exceeds 5 degrees.	hill land means any land where the average slope across the site exceeds 5 degrees.	
	industrial site means: (a) any premises used for the manufacturing, assembly, wholesaling or storage of products or the processing of raw materials and other ancillary activities; or (b) any premises used for the storage, transfer, treatment, or disposal of waste materials or for other waste-management purposes, or used for composting organic materials; or (c) any other premises from which a contaminant is discharged in connection with any industrial or trade process—but does not include any land under agricultural production.	industrial site means: (a) any premises used for the manufacturing, assembly, wholesaling or storage of products or the processing of raw materials and other ancillary activities; or (b) any premises used for the storage, transfer, treatment, or disposal of waste materials or for other waste-management purposes, or used for composting organic materials; or (c) any other premises from which a contaminant is discharged in connection with any industrial or trade process—but does not include any land under agricultural production.	

		Industry Liaison Group means a group of representatives from various industries invited by Christchurch City Council to attend an annual meeting to discuss stormwater discharges under this resource consent.	Definition added for clarity.
	LWRP means Canterbury Land and Water Regional Plan.	LWRP means Canterbury Land and Water Regional Plan.	
	papatipu rūnanga means the six Ngāi Tahu Papatipu Rūnanga within the Christchurch area, namely: Te Ngāi Tūāhuriri Rūnanga, Te Hapū o Ngāti Wheke/Rāpaki Rūnanga, Te Rūnanga o Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, and Te Taumutu Rūnanga, as represented by Mahaanui Kurataiao Ltd or its successor organisation.	papatipu rūnanga means the six Ngāi Tahu Papatipu Rūnanga within the Christchurch area, namely: Te Ngāi Tūāhuriri Rūnanga, Te Hapū o Ngāti Wheke/Rāpaki Rūnanga, Te Rūnanga o Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, and Te Taumutu Rūnanga, as represented by Mahaanui Kurataiao Ltd or its successor organisation.	
	Partial Detention means storage within first flush basins plus additional storage through flooding of wetland areas to an average depth of 500mm discharging over a minimum of 96 hours for the critical 2 percent annual exceedance probability design storm event.	Partial Detention means storage within first flush basins plus additional storage through flooding of wetland areas to an average depth of 500mm discharging over a minimum of 96 hours for the critical 2 percent annual exceedance probability design storm event.	
	QMCI means Quantitative Macroinvertebrate Community Index.	QMCI means Quantitative Macroinvertebrate Community Index.	
	re-development-site means a change to a developed site or a site activity that results in a stormwater discharge that has the potential to increase is not the same in the scale, intensity or contaminant content of character to the discharge that existed prior to the commencement of this consent.	re-development means a change to a developed site or a site activity that results in a stormwater discharge that has the potential to increase the scale, intensity or contaminant content of the discharge that existed prior to the commencement of this consent.	
		River Care Liaison Group means a group of representatives from organisations with a particular interest in the protection and restoration of the natural environment of the Christchurch rivers and their tributaries including wetlands and that are invited by Christchurch City Council to attend an annual meeting to discuss stormwater discharges under this resource consent.	Definition added for clarity.
		Settlement areas of Banks Peninsula means those areas within Banks Peninsula that are within the following zones, or equivalent zones if they are renamed, under the Christchurch District Plan: <ul style="list-style-type: none"> • Residential Banks Peninsula • Residential Small Settlement • Residential Large Lot • Commercial Banks Peninsula • Open Space Metropolitan Facilities • Specific Purpose (Lyttleton Port) • Industrial General • Specific Purpose (School) • Specific Purpose (Cemetery) • Open Space Community Parks. 	A definition of Banks Peninsula settlement areas added to assist with understanding and clarity of Conditions 1 and 2.
	site means an allotment title or other legally defined parcel of land held in a single certificate of title and any balance land or adjacent land with title(s) held by the same owner or ownership with an affiliated interest. In the case of greenfield and re-development, site means the area of land defined by the boundaries of proposed land disturbance.	site means an allotment title or other legally defined parcel of land held in a single certificate of title and any balance land or adjacent land with title(s) held by the same owner or ownership with an affiliated interest. In the case of greenfield and re-development, site means the area of land defined by the boundaries of proposed land disturbance.	
	SMP means Stormwater Management Plan.	SMP means Stormwater Management Plan.	
	stabilised means an area of land sufficiently covered by erosion-resistant material such as grass, mulch, weed matting, bark, sand/aggregate, or paving by asphalt, concrete, paver blocks, etc., in order to prevent erosion of the underlying soil.	stabilised means an area of land sufficiently covered by erosion-resistant material such as grass, mulch, weed matting, bark, sand/aggregate, or paving by asphalt, concrete, paver blocks, etc., in order to prevent erosion of the underlying soil.	

	stage of development means a part of a development area which is completed prior to any other stage of that development commencing. A stage of development is deemed to be finished following the completion of construction activities and when the development area has been stabilised.	stage of development means a part of a development area which is completed prior to any other stage of that development commencing. A stage of development is deemed to be finished following the completion of construction activities and when the development area has been stabilised.	
	stormwater means runoff from rainfall that has been collected, channelled, diverted, intensified or accelerated by human modification of the land surface or runoff from the external surface of any structure as a result of precipitation and may contain contaminants. This definition excludes discharges of spilled or deliberately released hazardous substances and/or washdown activities.	stormwater means runoff from rainfall that has been collected, channelled, diverted, intensified or accelerated by human modification of the land surface or runoff from the external surface of any structure as a result of precipitation and may contain contaminants. Stormwater This definition excludes discharges of groundwater, drainage water , spilled or deliberately released hazardous substances and/or washdown activities.	
	stormwater network means waterways identified in a SMP the Ōtākaro/ Avon River, Huritini/ Halswell River, Ōpāwaho/ Heathcote River, Ōtūkaikino River and the Pūharakekenui/ Styx River and their tributaries and also includes the reticulated piped network, kerb and channel, sumps, pipes, manholes, rapid soakage chambers and any stormwater conveyance and mitigation system for which Christchurch City Council are responsible for operation and maintenance.	stormwater network means waterways identified in a SMP the Ōtākaro/ Avon River, Huritini/ Halswell River, Ōpāwaho/ Heathcote River, Ōtūkaikino River and the Pūharakekenui/ Styx River and their tributaries and also includes the reticulated piped network, kerb and channel, sumps, pipes, manholes, rapid soakage chambers and any stormwater conveyance and mitigation system for which Christchurch City Council are responsible for operation and maintenance. a network owned or operated by the Christchurch City Council of pipes, swales, drains, kerbs and channels that collects stormwater within areas used or proposed to be used for urban-residential, commercial or industrial purposes, and any device or facility for the treatment of stormwater, prior to a discharge to land, groundwater or surface water. It excludes any drainage system that has been constructed for the primary purpose of collection, conveyance or discharge of drainage water.	Definition amended for clarity. Sentence added for clarity around drainage water.
		Sub-catchment means part of a catchment.	Added for clarity.
	surface water means water in waterways, lakes, wetlands, springs, or coastal waters, but excludes groundwater and atmospheric water.	surface water means water in rivers, watercourses and artificial waterbodies, waterways , lakes, wetlands, springs, or coastal waters, but excludes groundwater and atmospheric water.	
	SWIM means the Joint Stormwater Management Issues Working Group, or its successor. The SWIM is a forum of senior managers of Christchurch City Council and Canterbury Regional Council established to meet the outcome of on-going communication as detailed in the "Stormwater Management Protocol".	SWIM means the Joint Stormwater Management Issues Working Water Issues Management Group, or its successor. The SWIM is a forum of senior managers of Christchurch City Council and Canterbury Regional Council established to meet the outcome of on-going communication as detailed in the "Stormwater Management Protocol" 'Joint Christchurch City Council and Environment Canterbury Stormwater Management Protocol (March 2006, Revised September 2008 and November 2010)'.	Updated as SWIM is now referred to as WIM. Full name of the protocol has been added as footnotes are not easily incorporated into a final consent document.
	TSS means Total Suspended Solids.	TSS means Total Suspended Solids.	

	ACTIVITY Purpose and Location	ACTIVITY Purpose and Location	
1	This consent permits the discharge onto or into land or into surface water of stormwater which:	This consent permits authorises the discharge of stormwater onto or into land or into surface water of stormwater which: a. is generated from within the territorial boundaries of Christchurch City Council, or; b. enters the Christchurch City Council stormwater network from outside the Christchurch City Council boundary.	Amended wording of Condition 1 and 2 to provide greater clarity of what is, and is not, covered by the resource consent.
	a. is generated from existing sites, greenfield development sites and re-development sites within the territorial boundaries of the Christchurch City Council, and is discharged into the Christchurch City Council stormwater network, but excludes those areas outside of Banks Peninsula settlement areas; or	a. is generated from existing sites, greenfield development sites and re-development sites within the territorial boundaries of the Christchurch City Council, and is discharged into the Christchurch City Council stormwater network, but excludes those areas outside of Banks Peninsula settlement areas; or	
	b. enters the Christchurch City Council stormwater network from outside of the City boundary; or	b. enters the Christchurch City Council stormwater network from outside of the City boundary; or	
	c. is generated from roofs of individual existing sites, greenfield development sites and re-developments sites and is discharged onto or into land within the site; or	c. is generated from roofs of individual existing sites, greenfield development sites and re-developments sites and is discharged onto or into land within the site; or	
	d. is generated from hard-standing areas of individual existing residential sites, residential and non-residential greenfield development and residential and non-residential re-development sites and is discharged onto or into land within the site. <u>Advice Note: For the avoidance of doubt, this consent does not authorise existing discharges into land from non-residential hardstand areas via private stormwater systems.</u>	d. is generated from hard-standing areas of individual existing residential sites, residential and non-residential greenfield development and residential and non-residential re-development sites and is discharged onto or into land within the site. <u>Advice Note: For the avoidance of doubt, this consent does not authorise existing discharges into land from non-residential hardstand areas via private stormwater systems.</u>	
	Exclusions	Exclusions	
2	There shall be no discharge to land or surface water from the following unless expressly authorised by Canterbury Regional Council and Christchurch City Council:	This consent excludes discharges from:	Amended wording of Conditions 1 and 2 to provide greater clarity of what is, and is not, covered by the resource consent.
	a. Any new activity or re-development in a site or development area on the Canterbury Regional Council's Listed Land Use Register that is considered by Christchurch City Council to pose an unacceptably high risk of surface water or groundwater contamination;	a. Stormwater networks outside the settlement areas of Banks Peninsula; and	
	b. Any stage of during the construction of a development site with a total area of disturbance exceeding 5 hectares on flat land or 1 hectare on hill land; and	b. Private stormwater networks that bypass the Christchurch City Council stormwater network and discharge into the Coastal Marine Area; and	
	c. Any site listed on the attached Schedule 1 'Sites excluded from the Christchurch City Council Comprehensive Stormwater Network Discharge Consent' (i) at commencement of this consent; or (ii) as a result of the process set out in condition 3 below, or (iii) as a result of the process set out in condition 41, or (iv) by variation of this consent.	c. Hardstand areas of non-residential existing sites discharging onto or into land via private networks unless the discharge has been previously authorised by the Christchurch City Council; and	
		d. Any new activity on a site, or re-development of a site, or development area, on the Canterbury Regional Council's Listed Land Use Register that is considered by the Christchurch City Council to pose an unacceptably high risk of surface water or groundwater contamination; and	

		<i>Advice Note: The identification of unacceptable high risk will be in the manner required by the memorandum of understanding between the Councils until a risk matrix is finalised.</i>	
		e. Any stage of development with a total area of disturbance exceeding 5 hectares on flat land or 1 hectare on hill land, and;	
		f. Any site listed on the attached Schedule 1 'Sites excluded from the Christchurch City Council Comprehensive Stormwater Network Discharge Consent' i. at commencement of this consent, or; ii. as a result of the process set out in Condition 3 below, or; iii. as a result of the process set out in Condition 41, or; by variation of this consent.	
		Transitional Arrangements	
3	Discharge <u>into the Christchurch City Council stormwater network</u> from the sites excluded by Condition 2 are will be within the scope of authorised under this consent on 1 January 2025, or when current discharge permits expire or are surrendered for those sites, whichever is the latest, <u>unless through the transitional arrangements set out below, or through the audits described in condition 41, the consent holder determines that the site poses an unacceptably high risk of surface water or groundwater contamination. The transitional arrangements are:</u>	Discharge into the Christchurch City Council stormwater network from the sites excluded by Condition 2-(d), (2)(e) e and f or 2(f) are authorised under this consent on 1 January 2025, or when current discharge permits expire or are surrendered for those sites, whichever is the latest, unless through the transitional arrangements set out below, or through the audits described in condition 41, the consent holder determines that the site discharge poses an unacceptably high risk of surface water or groundwater contamination. The transitional arrangements are:	Condition 3 now references which exclusions will be authorised on 1 January 2025, to provide greater clarity.
	<p>(a) <u>Within 6 months of this consent being in legal effect, the consent holder will engage with the Canterbury Regional Council to obtain full details of all of the consented activities excluded from this consent until 2025, including information on site activities, conditions and compliance records;</u></p> <p>(b) <u>On the date on which the previously excluded site comes within the scope of this consent, the discharge from the previously excluded site into the stormwater network shall be subject to standards that result in the same or better environmental outcomes for the quality and quantity of the discharge as those that were in the relevant site specific resource consent issued by the Canterbury Regional Council;</u></p> <p>(c) <u>Within 3 years of this consent being in legal effect, the consent holder will deliver to the Canterbury Regional Council a Transition Plan for the excluded sites that includes, but is not limited to:</u></p> <p>(i) <u>a description of the regulatory methods that will be used by the consent holder to ensure that previously excluded sites will be subject to standards that achieve required environmental outcomes as described in condition 3(b);</u></p> <p>(ii) <u>a description of how a risk matrix will be used for risk rating and to identify particular high risks and how they will be managed and audited;</u></p> <p>(iii) <u>a description of site specific monitoring plans for particular sites rated high in the risk matrix;</u></p> <p>(iv) <u>a description of the process that the consent holder will</u></p>	<p>(a) Within 6 months of the commencement of this consent being in-legal-effect, the consent holder will engage with the Canterbury Regional Council to obtain full details of all of the consented discharges activities excluded from this consent until 2025, including information on site activities, conditions and compliance records;</p> <p>(b) Within 30 months of the commencement of this resource consent the consent holder shall draft a risk matrix used to identify and rate the risk associated with each of the stormwater discharges. The risk matrix shall be developed as follows:</p> <p>i. Within 18 months of the commencement of this consent, the consent holder shall prepare a draft risk matrix and provide it to the Industry Liaison Group for comment;</p> <p>ii. The consent holder shall invite the Industry Liaison Group to provide comment within 2 months;</p> <p>iii. Within 3 months of receiving the comment referenced in Condition 3(c)(ii), the consent holder shall prepare a memo and/or revised risk matrix addressing feedback received from the engagement required by condition 3(c)(i) and circulate it to the Industry Liaison Group along with an invitation to an Industry Liaison Group meeting;</p> <p>iv. Within one month of the meeting held under Condition 3(c)(iii), the consent holder shall circulate minutes, including points of agreement and disagreement between the parties;</p> <p>v. Any changes to the draft risk matrix shall be provided to the</p>	<p>Changes to Conditions 3(a), (b), (c) and (d) for clarity.</p> <p>Condition 3(b) is proposed in response to further consultation with submitters (Oil Companies) and to provide greater clarity on the process for developing the risk matrix.</p> <p>CCC and CRC staff agreed on this wording and that the Councils will work together on sites that are not complying with requirements. This would also occur under the Industrial Site Audit process required under Condition 41.</p>

	<p><u>use to determine, in collaboration with CRC and through engagement with affected site operators, whether a site will remain excluded from authorisation under this consent due to it posing an unacceptably high risk of surface water or groundwater contamination.</u></p>	<p>Industry Liaison Group for feedback no less than 2 months prior to being submitted to Canterbury Regional Council.</p> <p>(c) Within 3 years of the commencement of this consent being in legal effect, the consent holder will deliver shall provide to the Canterbury Regional Council a Transition Plan for the discharges excluded by conditions 2(d), 2(e) and 2(f) that includes, but is not limited to:</p> <ul style="list-style-type: none"> (i) a description of the regulatory methods that will be used by the consent holder to ensure that previously excluded discharges sites will be subject to standards that achieve required environmental outcomes as described in condition 3(b); (ii) a description of how a the risk matrix prepared under Condition 3(c) will be used for risk rating and to identify particular high risk and how they will be managed and audited; (iii) a description of site specific monitoring plans for particular sites at which the discharge is rated high in the risk matrix; (iv) a description of the process that the consent holder will use to determine, in collaboration with CRC Canterbury Regional Council and through engagement with affected site owners and/or operators, whether a site will remain excluded from authorisation under this consent due to its discharge posing an unacceptably high risk of surface water or groundwater contamination; <p>(d) if as a result of the risk matrix and process set out in condition 3 it is determined that the discharge poses an unacceptably high risk of surface water or groundwater contamination then that discharge will remain excluded from this consent and listed on the attached Schedule 1;</p> <p>(e) the consent holder shall ensure that all other sites referred to in condition 3(a) are, from the date on which the discharges are authorised under this resource consent, subject to standards that result in the same or better environmental outcomes for the quality and quantity of the discharge as those that were in the relevant site specific resource consent issued by the Canterbury Regional Council.</p>	
	<p><i>Advice note: Discharge into the Christchurch City Council stormwater network will still require approval from Christchurch City Council, as owner and operator of the stormwater network, at the expiry of discharge permits for the sites noted above, or from 1 January 2025, whichever is the latest.</i></p>	<p><i>Advice note: Discharge into the Christchurch City Council stormwater network will still require approval from Christchurch City Council, as owner and operator of the stormwater network, at the expiry of discharge permits for the sites noted above, or from 1 January 2025, whichever is the latest.</i></p>	
	<p><u>Advice Note: The consent holder will still have the ability to seek a Variation of the resource consent. That may be used to exclude high risk sites and/or to exclude discharges into waterways from private stormwater pipes.</u></p>	<p>Advice Note: The consent holder will still have the ability to seek a Variation of the resource consent. That may be used to exclude high risk sites and/or to exclude discharges into waterways from private stormwater pipes.</p>	<p>CCC and CRC staff agreed that the advice note is not required.</p>
	<p>Stormwater Management Plans</p>	<p>Stormwater Management Plans</p>	

4	The consent holder shall, in consultation with papatipu rūnanga and the Christchurch-West Melton and Banks Peninsula Zone Committees (or successor organisations), develop, and as necessary update Stormwater Management Plans (SMPs) in accordance with the programme set out in Table 1 and submit each SMP to Canterbury Regional Council for certification that it contains the matters required by condition 6 and is consistent with the purpose of SMPs in condition 5. Certification will be by the RMA Compliance and Enforcement Manager of the Canterbury Regional Council.	4A The consent holder shall, in consultation with papatipu rūnanga, Department of Conservation, and the Christchurch-West Melton and Banks Peninsula Zone Committees (or successor organisations), develop, and as necessary update Stormwater Management Plans (SMPs) in accordance with the programme set out in Table 1 and submit each SMP to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance for certification that it contains the matters required by condition 6 and is consistent with the purpose of SMPs in condition 5. Certification will be by the RMA Compliance and Enforcement Manager of the Canterbury Regional Council.	Amendments added by CCC in response to DOC submission and evidence.																																								
		4B SMPs shall be reviewed and submitted for certification to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance every 10 years from the date of the certification of the SMP, except that: a. the Styx SMP shall be reviewed and submitted by 30 June 2023, and then 10 yearly after its certification, and; b. the Halswell SMP shall be reviewed and submitted by 30 June 2021, and then 10 yearly after its certification.	CCC and CRC staff agreed that it would be appropriate for SMP completion dates to be dependent on the consent decision date. Agreed to delete the “Date for 10 Year Review” column and insert a new condition to ensure earlier reviews for the existing Styx and Halswell SMPs.																																								
	<p>Table 1: SMP Programme</p> <table border="1"> <thead> <tr> <th>Catchment</th> <th>Date SMP Operative</th> <th>Date Submitted to Canterbury Regional Council</th> <th>Date for 10 Year Review</th> </tr> </thead> <tbody> <tr> <td>Ōtākaro/ Avon River Area Christchurch</td> <td></td> <td>30 June 2015</td> <td>30 June 2025</td> </tr> <tr> <td>Pūharakekenui/ Styx River Area Christchurch</td> <td>30 June 2014</td> <td></td> <td>30 June 20234</td> </tr> <tr> <td>Huritini/ Halswell River Area Christchurch</td> <td>30 June 2016</td> <td></td> <td>30 June 20216</td> </tr> <tr> <td>Ōpāwaho/ Heathcote River Area Christchurch</td> <td></td> <td>30 June 2019</td> <td>30 June 2029</td> </tr> </tbody> </table>	Catchment	Date SMP Operative	Date Submitted to Canterbury Regional Council	Date for 10 Year Review	Ōtākaro/ Avon River Area Christchurch		30 June 2015	30 June 2025	Pūharakekenui/ Styx River Area Christchurch	30 June 2014		30 June 2023 4	Huritini/ Halswell River Area Christchurch	30 June 2016		30 June 2021 6	Ōpāwaho/ Heathcote River Area Christchurch		30 June 2019	30 June 2029	<p>Table 1: SMP Programme</p> <table border="1"> <thead> <tr> <th>Catchment SMP Area</th> <th>Date SMP Operative</th> <th>Date Submitted to Canterbury Regional Council</th> <th>Date for 10 Year Review</th> </tr> </thead> <tbody> <tr> <td>Ōtākaro/ Avon River Area Christchurch</td> <td></td> <td>30 June 2015 Within 36 months of the commencement of this consent</td> <td>30 June 2025</td> </tr> <tr> <td>Pūharakekenui/ Styx River Area Christchurch</td> <td>30 June 2014</td> <td></td> <td>30 June 2023 34</td> </tr> <tr> <td>Huritini/ Halswell River Area Christchurch</td> <td>30 June 2016</td> <td></td> <td>30 June 2021 16</td> </tr> <tr> <td>Ōpāwaho/ Heathcote River Area Christchurch</td> <td></td> <td>30 June 2019 Within 18 months of the commencement of this consent</td> <td>30 June 2029</td> </tr> </tbody> </table>	Catchment SMP Area	Date SMP Operative	Date Submitted to Canterbury Regional Council	Date for 10 Year Review	Ōtākaro/ Avon River Area Christchurch		30 June 2015 Within 36 months of the commencement of this consent	30 June 2025	Pūharakekenui/ Styx River Area Christchurch	30 June 2014		30 June 2023 34	Huritini/ Halswell River Area Christchurch	30 June 2016		30 June 2021 16	Ōpāwaho/ Heathcote River Area Christchurch		30 June 2019 Within 18 months of the commencement of this consent	30 June 2029	<p>CCC and CRC staff agreed to delete the “Date for 10 Year Review” column given that the dates for completion are dependent on the consent decision date. A new condition (Condition 4B) is proposed to ensure earlier reviews for the existing Styx and Halswell SMPs.</p> <p>CCC and CRC staff agreed that the Avon SMP is to be resubmitted in compliance with the Condition 6 requirements. A timeframe of 36 months is proposed so that it can be completed once decisions surrounding the Christchurch Residential Red Zone have been made.</p> <p>Submission dates will provide an adequate timeframe for implementation of the SMP requirements set within these conditions, including consultation, and Stormwater TPRP review.</p>
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5	The purpose of the SMPs is to:	The purpose of the SMPs is to:																																									

	a. Demonstrate the means by which the quality of stormwater discharges will be progressively improved towards meeting the Receiving Environment Objectives and Attribute Target Levels for waterways, coastal waters, groundwater and springs, and water quantity, set out in the conditions of this consent and in Schedules 4 to 7;	a. Contribute to meeting the overall contaminant load reduction standards set in Condition 16; b. Set the contaminant load reduction targets required to be developed and set in each SMP and describe how they are to be achieved; c. Demonstrate the means by which the quality of stormwater discharges will be progressively improved towards meeting the Receiving Environment Objectives and Attribute Target Levels for waterways, coastal waters, groundwater and springs, and water quantity, set out in the conditions of this consent and in Schedules 4 to 7;	Amendment agreed so that the condition includes reference to overall contaminant load reduction standards as well as catchment specific targets. As some SMPs contain more than one catchment amended for clarity that each SMP will include the contaminant load reduction targets within its catchment(s).
	b. Demonstrate the means by which the stormwater contribution to groundwater and spring-fed stream flows will continue by discharge of stormwater to land infiltration systems where reasonably practicable;	d. Demonstrate the means by which the stormwater contribution to groundwater and spring-fed stream flows will continue by Provide for discharge of stormwater to land infiltration systems where reasonably practicable so as to demonstrate the means by which the stormwater contribution to groundwater and spring-fed stream flows will continue;	For clarity
	c. Demonstrate the means by which Christchurch City Council stormwater infiltration facilities constructed by, or on behalf of, the consent holder, after the commencement of this consent shall be designed, located and operated to avoid, remedy or mitigate adverse effects of groundwater mounding on other land in anything more frequent than the critical 2 percent Annual Exceedance Probability Event.	e. Demonstrate the means by which Christchurch City Council stormwater infiltration facilities constructed by, or on behalf of, the consent holder, after the commencement of this consent shall be designed, located and operated to avoid, remedy or mitigate adverse effects of groundwater mounding on other land in anything more frequent than the critical 2 percent Annual Exceedance Probability Event.	
	d. Plan the works authorised by this consent;	f. Plan the works authorised by this consent; Describe the works associated with the mitigation of the effects of stormwater discharges within each SMP.	Resource consent is for stormwater discharge, not the associated physical works. Amendments for clarity.
	e. Implement the conditions of this consent as they apply to each catchment.	g. Implement the conditions of this consent as they apply to each catchment.	
6	SMPs submitted to Canterbury Regional Council after the operative date of this consent shall include but not be limited to the following information:	SMPs submitted to Canterbury Regional Council after the commencement operative date of this consent shall include but not be limited to the following information:	Condition 6 has become very long, and in the final version it may be more succinct for the Condition 6 details to be contained in a schedule to the conditions. For ease of reference and numbering prior to the final version the Condition 6 sub-clauses remain in this location.
	a. Specific guidelines for implementation of stormwater management within the catchment to achieve the purpose of SMPs;	a. Specific guidelines for implementation of stormwater management within the catchment to achieve the purpose of SMPs;	
	b. A definition of the extent of the stormwater infrastructure, including any portions of waterways, that forms the stormwater network within the catchment for the purposes of this consent;	b. A definition of the extent of the stormwater infrastructure, including any portions of waterways, that forms the stormwater network within the catchment for the purposes of this consent;	The definition of stormwater network is already provided, therefore there is no need for a reference to waterways in this condition.
		c. A contaminant load reduction target for that catchment derived from modelling. The best available model or method and input data shall be used to define catchment-specific contaminant load reduction targets under each SMP in order to demonstrate the commitment of the consent holder to the improvement of stormwater discharge quality over time.	Condition requiring catchment specific CLM reduction targets to be determined via SMP development and reviews.

	<p>c. A description of statutory and non-statutory planning mechanisms to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality. These mechanisms will include (but are not limited to):</p> <ul style="list-style-type: none"> i. Relevant objectives, policies, standards and rules in the Christchurch District Plan; ii. Relevant bylaws; iii. Relevant strategies, codes, standards and guidelines; 	<p>d. A description of statutory and non-statutory planning mechanisms being used by the consent holder to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality. These mechanisms will shall include (but are not limited to):</p> <ul style="list-style-type: none"> i. Relevant objectives, policies, standards and rules in the Christchurch District Plan; ii. Relevant bylaws; and iii. Relevant strategies, codes, standards and guidelines. 	<p>Minor amendments for clarity.</p>
	<p>d. Mitigation methods to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality under Conditions 20 and 21. These methods may include (but are not limited to):</p> <ul style="list-style-type: none"> i. Stormwater mitigation facilities and devices; ii. Erosion and sediment control guidelines; iii. Education and awareness initiatives on source control systems and site management programmes; iv. Support for third party initiatives on source control reduction methods; v. Prioritising stormwater treatment in catchments that discharge: in proximity to areas of high ecological or cultural value, such as habitat for threatened species or Areas of Significant Natural Value under the Regional Coastal Environment Plan (Canterbury Regional Council, 2012), and for in areas with high contaminant loads; 	<p>e. Mitigation methods to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality under Conditions 20 and 21, and to meet the contaminant load reduction targets for each catchment as determined through the SMPs and the standards for the whole of Christchurch set in Condition 16. These methods shall include:</p> <ul style="list-style-type: none"> i. Stormwater mitigation facilities and devices; ii. Erosion and sediment control guidelines; iii. Education and awareness initiatives on source control systems and site management programmes; iv. Support for third party initiatives on source control reduction methods; v. Prioritising stormwater treatment in catchments: that discharge: in proximity to areas of high ecological or cultural value, such as habitat for threatened species or Areas of Significant Natural Value under the Regional Coastal Environment Plan (Canterbury Regional Council, 2012);; and areas with high contaminant loads; 	<p>To clarify that SMP needs to achieve catchment specific targets for each catchment as well as Christchurch-wide standards.</p>
	<p>e. Locations and identification of Christchurch City Council water quality and water quantity mitigation facilities and devices; including a description and justification for separation distances between treatment devices and any contaminated land</p>	<p>f. Locations and identification of Christchurch City Council water quality and water quantity mitigation facilities and devices; including a description and justification for separation distances between treatment devices and any contaminated land;</p>	
	<p>f. Identification of areas reserved for future development;</p>	<p>g. Identification of areas reserved for future development and a description of the consent holder's consideration to retrofit water quality and quantity mitigation for existing catchments through these developments where reasonably practicable;</p>	<p>To ensure that retrofit options are considered.</p>
	<p>g. Identification of areas subject to known flood hazards;</p>	<p>h. Identification of areas subject to known flood hazards;</p>	
	<p>h. An interpretation of environmental & cultural monitoring and how this information has been used to develop water quality mitigation methods and practices;</p>	<p>i. An interpretation A description of the results of environmental & and cultural monitoring and how this information has been used to develop water quality mitigation methods and practices;</p>	<p>Amendment for clarity.</p>
	<p>i. Results from and interpretation of water quantity and quality modelling, including identification of sub-catchments with high levels of contaminants;</p>	<p>j. Results from and interpretation of water quantity and quality modelling, including identification of sub-catchments with high levels of contaminants;</p>	
	<p>j. Mapping of existing information from Canterbury Regional Council and the consent holder showing locations where discrete spring vents occur;</p>	<p>k. Mapping of existing information from Canterbury Regional Council and the consent holder showing locations where discrete spring vents occur;</p>	
	<p>j. Consideration of any effects of the diversion and discharge of stormwater on baseflow in streams and springs;</p>	<p>l. Consideration of any effects of the diversion and discharge of stormwater on baseflow in streams waterways and springs; and details of monitoring that will be undertaken of any waterways and springs that could be affected by stormwater management changes anticipated within the life of the SMP;</p>	
	<p>k. A cultural impact assessment;</p>	<p>m. A cultural impact assessment;</p>	
	<p>l. A summary of outcomes resulting from any collaboration with papatipu rūnanga on SMP development;</p>	<p>n. A summary of outcomes resulting from any collaboration with papatipu rūnanga on SMP development;</p>	

	m. An assessment of the effectiveness of water quality or quantity mitigation methods established under previous SMPs and identification of any changes in methods or designs resulting from the assessment; and	o. An assessment of the effectiveness of water quality or quantity mitigation methods established under previous SMPs and identification of any changes in methods or designs resulting from the assessment;	
		p. <u>Assessment and description of any additional or new modelling, monitoring and mitigation methods;</u>	To respond to model updates that may be needed over time or models to be adopted to previously unmodeled catchments.
	n. A summary of feedback obtained in accordance with Condition 7 and if / how that feedback has been incorporated into the SMP.	q. A summary of feedback obtained in accordance with Condition 7 and if / how that feedback has been incorporated into the SMP;	
	<u>p. If the consent holder intends to use land not owned or managed by the consent holder for stormwater management, a description of the specific consultation undertaken with the affected land owner;</u>	r. If the consent holder intends to use land not owned or managed by the consent holder for stormwater management, a description of the specific consultation undertaken with the affected land owner;	
	<u>q. Identification of key locations in addition to those identified in Schedule 7 where modelled assessments of water levels shall be made for the critical 2% AEP event and any other relevant return interval. For each additional key location, appropriate water level reductions or tolerances for increases shall be set according to the SMP objectives and shall be reported with the model update results required under Condition 48;</u>	s. Identification of key locations in addition to those identified in Schedule 7 where modelled assessments of water levels <u>and/or volumes</u> shall be made for the critical 2% AEP event and any other relevant return interval. For each additional key location, appropriate water level reductions or tolerances for increases shall be set according to the SMP objectives and shall be reported with the model update results required under Condition 48;	As recommended in the expert witness statement.
	<u>r. Assessment of the risk of bird strike for any large public facilities within 3 kilometres of the airport;</u>	t. <u>Procedures, to be developed in consultation with Christchurch International Airport Limited, for the management Assessment of the risk of bird strike for any large public facility owned or managed by the Christchurch City Councils</u> within 3 kilometres of the airport;	Amended wording proposed following consultation with Christchurch International Airport.
	<u>s. A description of any relevant options assessments undertaken; and</u>	u. A description of any relevant options assessments undertaken <u>to identify the drivers behind mitigation measures selected; and</u>	To provide clarity on what the options assessment is required for.
	<u>t. An assessment of the potential change to the overall water balance to the management area arising from the change in pervious area and the stormwater management systems that are</u>	v. An assessment of the potential change to the overall water balance <u>for the SMP to the management</u> area arising from the change in pervious area and the stormwater management systems <u>proposed that are; and</u>	Amendments for clarity.
7	Prior to submitting a SMP or any amendment to a SMP, <u>other than one making minor changes and corrections</u> , to the Canterbury Regional Council, the consent holder shall <u>provide a draft copy to the following parties inviting feedback within a timeframe of not less than 40 working days:</u>	Prior to submitting a SMP or any <u>reviewed SMP</u> , or amendment to a SMP <u>to the Canterbury Regional Council</u> , other than one <u>agreed with Canterbury Regional Council as</u> making minor changes and corrections, <u>to the Canterbury Regional Council</u> , the consent holder shall:	Amendment for clarity.
	a. <u>In early development stages for a possible SMP, provide a briefing and invite comments from:</u> i. <u>papatipu rūnanga;</u> ii. <u>The relevant Zone Committee(s) (or successor organisation); and</u> iii. <u>The relevant Community Board(s) (or successor organisation); and</u> iv. <u>Department of Conservation</u>	a. In early development stages for a possible SMP, provide a briefing <u>to</u> and invite comments from: i. papatipu rūnanga; ii. The relevant Zone Committee(s) (or successor organisation); <u>and</u> iii. The relevant Community Board(s) (or successor organisation); and iv. <u>The</u> Department of Conservation	

	<p>b. Following completion of a draft SMP, the consent holder shall provide a draft copy to the following parties inviting feedback within a timeframe of not less than 40 working days:</p> <ul style="list-style-type: none"> i. papatipu rūnanga; ii. The relevant Zone Committee(s) (or successor organisation); and iii. he relevant Community Board(s) (or successor organisation); iv. <u>Department of Conservation.</u> 	<p>b. Following completion of a draft SMP, the consent holder shall provide a draft copy to the following parties inviting feedback within a timeframe of not less than 40 working days:</p> <ul style="list-style-type: none"> i. papatipu rūnanga; ii. The relevant Zone Committee(s) (or successor organisation); iii. and The relevant Community Board(s) (or successor organisation); iv. and The Department of Conservation. 	
		Stormwater Technical Peer Review Panel	
8	<p><u>The consent holder will obtain a peer review of the draft SMP from independent experts, attach a copy of the peer review to the draft SMP, and have a description within the SMP of the consent holder's response to that peer review.</u></p>	<p>8A. The consent holder will obtain a review of the draft SMP from the Stormwater Technical Peer Review Panel (Stormwater TPRP) , attach a copy of the review to the draft SMP, and have a description within the SMP of the consent holder's response to that review. The consent holder will obtain a peer review of the draft SMP from independent experts, attach a copy of the peer review to the draft SMP, and have a description within the SMP of the consent holder's response to that peer review.</p> <p>8. The consent holder shall establish, at its own cost, the Stormwater TPRP, which is to:</p> <ul style="list-style-type: none"> i. review each Draft SMP, including those being reviewed as required under Condition 4 of this resource consent or being amended under condition 11, and provide technical advice to the consent holder as to whether it is fit for purpose and meets the requirements of Conditions 5 and 6 of this resource consent; and ii. provide technical reviews to the consent holder on the scope of the feasibility studies and investigations required by Condition 37 (Table 3 actions a - c, d - e, f, and g - h) and Condition 38 (Table 4 actions d, e, m, n, o and p) of this resource consent and review the outcomes of the feasibility studies and investigations to ensure that actions arising from them incorporate best practicable options. The consent holder will attach a copy of the review to the relevant feasibility study or investigation provided to Canterbury Regional Council. <p><i>Advice Note: The technical reviews under Condition 8(ii) shall be provided by the relevant experts from the Stormwater TPRP and not the whole panel.</i></p>	Amended Stormwater Technical Peer Review Panel (TPRP) condition agreed between CCC and CRC staff.
		9A. The Stormwater TPRP shall be established within six months of commencement of this resource consent.	
		9B. The role of the Stormwater TPRP is confined to providing scientific and technical review on the matters outlined in Condition 8 (i) and (ii).	
		9C. The consent holder may appoint up to six independent Stormwater TPRP members with expertise which could include but not be limited to the following: <ul style="list-style-type: none"> i. Stormwater engineering and hydrological/flood modelling; ii. Freshwater and coastal water quality and ecology; iii. Hydrogeology; iv. Contaminated site/land management; 	

		<ul style="list-style-type: none"> v. Erosion and sediment control; and vi. Mātauranga Māori and mahinga kai. 	
		9D. If the Stormwater TPRP does not have expertise in any of the areas which it is required to advise the consent holder on, it shall inform the consent holder who may engage the services of a suitably qualified expert to advise it on the matter.	
		9E. The Consent Holder shall provide any administrative support necessary for the Stormwater TPRP to carry out its functions.	
	<i>Advice Note: The Christchurch City Council intend for development of the SMPs to be a collaborative process with input from key stakeholders. During development of SMPs, papatipu rūnanga, CWMS Zone Committees and Canterbury Regional Council technical staff will be invited to all technical presentations and will have opportunity to review and comment on draft SMP documents. Presentations will be made at public meetings of both the Banks Peninsula and Christchurch-West Melton Zone Committees. Once all documented feedback has been considered and addressed, the finalised SMP documentation will be submitted to the Canterbury Regional Council.</i>	<i>Advice Note: The Christchurch City Council intend for development of the SMPs to be a collaborative process with input from key stakeholders. During development of SMPs, papatipu rūnanga, CWMS Zone Committees and Canterbury Regional Council technical staff will be invited to all technical presentations and will have opportunity to review and comment on draft SMP documents. Presentations will be made at public meetings of both the Banks Peninsula and Christchurch-West Melton Zone Committees. Once all documented feedback has been considered and addressed, the finalised SMP documentation will be submitted to the Canterbury Regional Council.</i>	
8	The consent holder shall review the content of the SMPs to assess whether changes to the SMPs will better achieve their purpose. The programme for that review is as set out in Table 1 above. The times in Table 1 are maximums. Reviews may be more frequent.	10. The consent holder shall review the content of the certified SMPs to assess whether changes to the SMPs will better achieve their purpose. The programme for that review is as set out in Condition 4B and Table 1 above. The times in Table 1 are maximums. Reviews may be more frequent.	This condition is still under review by CRC and CCC staff as to whether it is required.
9	The consent holder shall amend the SMPs as it considers necessary including the use of any new technologies, new opportunities for additional treatment (such as for infill areas or retro-fit) or new constraints on treatment due to changed developer plans, new regulatory tools and processes, outcomes of investigations and trials in conditions 37 and 38 , or updated industry best practice for stormwater treatment, including the type, size and location of treatment facilities, and their timing for implementation.	The consent holder shall amend the SMPs as it considers necessary including the use of any new technologies, new opportunities for additional treatment (such as for infill areas or retro-fit) or new constraints on treatment due to changed developer plans, new regulatory tools and processes, outcomes of investigations and trials in conditions 37 and 38, or updated industry best practice for stormwater treatment, including the type, size and location of treatment facilities, and their timing for implementation.	Deletion proposed – condition is unnecessary given the amendments to Condition 10, shown as 11 below.
10	The consent holder shall amend the SMPs as it considers necessary to respond to the results of the Christchurch Contaminant Load Model (C-CLM), or results of monitoring, including any investigations or outcomes in relation to the responses to modelling and monitoring under Conditions 49 - 51.	11 The consent holder shall amend the SMPs as it considers necessary to respond to: <ul style="list-style-type: none"> a. the results of the Christchurch Contaminant Load Model (C-CLM) and contaminant load reduction targets set within the SMPs, or any revisions thereof, b. The results of monitoring, including any investigations or outcomes in relation to the responses to modelling and monitoring under Conditions 49 – 51,- c. Outcomes of investigations and trials carried out under Conditions 37 and 38, d. Any changes to relevant national, and/or regional planning documents as a result of the sub-regional process, e. The use of new technologies, new opportunities for additional treatment (such as for infill areas or retro-fit) or new constraints on treatment due to changed developer plans, f. New environmental data and research including updated international and national best practice technologies. 	CCC and CRC staff agreed on amended wording to ensure the latest information is used when amending SMPs.
11	Any amendments to SMPs may not replace the previous version until the amendments have been certified by the RMA Compliance and Enforcement Manager of the Canterbury Regional Council as achieving the purposes of the SMP, as set out in Condition 5.	12. Any amendments to SMPs, other than one those agreed with Canterbury Regional Council as making minor changes and corrections, will not may not replace the previous version until the amendments have been certified by the RMA Compliance and Enforcement Manager of the	Amendments for clarity.

		Canterbury Regional Council, Attention: Regional Leader—Monitoring and Compliance as containing the matters required by condition 6 and as being consistent with the purpose of SMPs in condition 5. as achieving the purposes of the SMP, as set out in Condition 5.	
	Implementation Plan	Implementation Plan	
12	<p>The purpose of an Implementation Plan is to give effect to SMPs and to include the matters set out in condition 13. An Implementation Plan shall be:</p> <p>a. prepared by the consent holder, through engagement with papatipu rūnanga under condition 15(a), after 12 months but no more than 18 months after this consent commences; and</p> <p>b. Updated to give effect to new SMPs within 12 months of new SMPs becoming operative;</p> <p>c. Reviewed by the consent holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and</p> <p>d. to give effect to the SMPs and Be made available to Canterbury Regional Council and papatipu rūnanga on request.</p> <p>This plan shall be reviewed by the consent holder every 3 years, with reference to the Christchurch City Council Long Term Plan.</p>	<p>13. The purpose of an Implementation Plan is to give effect to certified SMPs and to include the matters set out in condition 1314. An Implementation Plan shall be:</p> <p>a. prepared by the consent holder, through engagement with papatipu rūnanga under condition 15(a), and with the Department of Conservation, after 12 months but no more than within 18 months after the commencement of this consent commences;</p> <p>b. updated to give effect to new, reviewed or amended SMPs within 12 months of new SMPs being certifiedcoming operative;</p> <p>c. reviewed by the consent holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and</p> <p>d. be made available to Canterbury Regional Council and papatipu rūnanga on request.</p>	<p>Amendments for clarity.</p> <p>Amendments in response to Department of Conservation evidence, and for consistency.</p>
13	The Implementation Plan shall include but not be limited to:	14. The Implementation Plan shall include but not be limited to:	
	a. A list and map of proposed stormwater mitigation methods and devices;	a. A list and map of proposed stormwater mitigation methods and devices;	
	b. A programme of stormwater works for Christchurch City Council and private development;	b. A programme of stormwater works for Christchurch City Council and anticipated private development;	
	c. A plan for regulatory, investigative, educational and preventative activities or programmes relating to stormwater discharges, including activities undertaken under conditions 37 and 38;	c. A plan for regulatory, investigative, educational and preventative activities or programmes relating to stormwater discharges, including activities undertaken under conditions 37 and 38;	
	d. Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan.; and	d. Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan.	
	e. Reporting on any testing or water quality monitoring undertaken that is used to check the performance of facilities or to inform prioritisation of areas for mitigation.		
14	The Implementation Plan may also include details of maximum stormwater contaminant concentrations that Christchurch City Council, as owner and operator of the stormwater network, will accept into the Christchurch City Council network.		
	Engagement with Papatipu Rūnanga	Engagement with Papatipu Rūnanga	
15	The consent holder shall engage with papatipu rūnanga:	The consent holder shall engage with papatipu rūnanga:	
	a. In the development and review of the SMPs required under Conditions 4 and 8 to 10 11, and the development of the Implementation Plan required under Conditions 12, 13 and 14;	a. In the development and review of the SMPs required under Conditions 4, and 8 to 12, and other amendment to SMPs, and the development of the Implementation Plan required under Conditions 12 and 13 and 14 ;	
	b. At concept design stage for the installation of stormwater treatment facilities and devices with regard to wāhi tapu and taonga;	b. At concept design stage for the installation of stormwater treatment facilities and devices with regard to wāhi tapu and taonga;	
	c. By providing quarterly reports to Mahaanui Kurataiao Ltd on stormwater developments, projects and monitoring under this resource consent;	c. By providing quarterly reports to Mahaanui Kurataiao Ltd on stormwater developments, projects and monitoring under this resource consent;	

	d. <u>By providing the outcomes of Condition 49 and 50 on responses to modelling.</u>	d. By providing the outcomes of the engagement required by Conditions 49 and 50 on responses to modelling;																									
	e. <u>By providing the outcomes of Condition 51 on responses to monitoring.</u>	e. By providing the outcomes of investigation report required by Condition 51 on responses to monitoring.																									
	f. e. By holding an annual meeting with Mahaanui Kurataiao Ltd to discuss stormwater works under this consent, and papatipu rūnanga input predicted for the next 12 month period.	f. By holding an annual meeting with Mahaanui Kurataiao Ltd to discuss stormwater works under this consent, and papatipu rūnanga input predicted for the next 12 month period.																									
	<i>Advice Note: The Christchurch City Council is committed to working in partnership with papatipu rūnanga through the implementation of the resource consent. This is aimed at achieving the goals of the consent and providing for the ongoing involvement of mana whenua as well as identifying and reflecting mana whenua values and interests in the management of stormwater. While the partnership approach needs to be confirmed with papatipu rūnanga, it may involve the establishment and resourcing of a joint CCC/papatipu rūnanga Stormwater Working Party along with relevant technical support involving Mahaanui Kurataiao Ltd as well as Te Rūnanga o Ngāi Tahu. It is envisioned that the working party would meet not less than annually and provide a forum for advising on resource consent implementation.</i>	<i>Advice Note: The Christchurch City Council is committed to working in partnership with papatipu rūnanga through the implementation of the resource consent. This is aimed at achieving the goals of the consent and providing for the ongoing involvement of mana whenua as well as identifying and reflecting mana whenua values and interests in the management of stormwater. While the partnership approach needs to be confirmed with papatipu rūnanga, it may involve the establishment and resourcing of a joint CCC/papatipu rūnanga Stormwater Working Party along with relevant technical support involving Mahaanui Kurataiao Ltd as well as Te Rūnanga o Ngāi Tahu. It is envisioned that the working party would meet not less than annually and provide a forum for advising on resource consent implementation.</i>																									
	STANDARDS AND RESTRICTIONS	STANDARDS AND RESTRICTIONS																									
	Stormwater Contaminant Load Modelling	Stormwater Contaminant Load Modelling																									
16	The consent holder will install stormwater mitigation facilities and devices that achieve the reductions in contaminant load specified in Table 2 below as measured by the Golder Associates (NZ) Ltd 2018 Christchurch Contaminant Load Model (C-CLM) report which is attached to this resource consent as Schedule 2:	<p>16A The consent holder shall use best practicable options to reduce the contaminant load in stormwater discharged from the stormwater network to demonstrate the commitment to improve the quality of stormwater discharges from the network over time. The measures used to improve stormwater discharge quality shall be set out in SMPs for each catchment as required under Condition 6 and Schedule X of this consent.</p> <p>16B The consent holder shall install stormwater mitigation facilities and devices that achieve the contaminant load reduction standards specified in Table 2 below as derived by the Golder Associates (NZ) Limited 2018 Christchurch Contaminant Load Model (C-CLM) report which is attached to these conditions-as Schedule 2.</p> <p>16C The consent holder shall use best practicable options to achieve the contaminant load reduction targets specified in the SMPs derived from the C-CLM or subsequent improved modelling methods and best available information.</p>	<p>Condition 16A may be superfluous.</p> <p>Condition rewrite to include requirement to use BPO to achieve Christchurch-wide standards as well as SMP specific targets (X refers to Condition 6 (or a schedule) containing the SMP requirements).</p>																								
	Table 2: Reductions in stormwater contaminant load	Table 2: Christchurch-wide Reductions in stormwater contaminant load reduction standards load	Amendment to clarify that Table 2 is for all of Christchurch.																								
	<table border="1"> <thead> <tr> <th></th> <th>Contaminant load compared to no treatment as at 2018</th> <th>5 years from 2018 compared to no treatment</th> <th>10 years from 2018 compared to no treatment</th> <th>25 years from 2018 compared to no treatment</th> <th>35 years from 2018 compared to no treatment</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Contaminant load compared to no treatment as at 2018	5 years from 2018 compared to no treatment	10 years from 2018 compared to no treatment	25 years from 2018 compared to no treatment	35 years from 2018 compared to no treatment							<table border="1"> <thead> <tr> <th></th> <th>Contaminant load compared to no treatment as at 2018</th> <th>5 years from 2018 compared to no treatment</th> <th>10 years from 2018 compared to no treatment</th> <th>25 years from 2018 compared to no treatment</th> <th>35 years from 2018 compared to no treatment</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Contaminant load compared to no treatment as at 2018	5 years from 2018 compared to no treatment	10 years from 2018 compared to no treatment	25 years from 2018 compared to no treatment	35 years from 2018 compared to no treatment							Remove 35-year scenario as consent is now applied for a duration of 25 years.
	Contaminant load compared to no treatment as at 2018	5 years from 2018 compared to no treatment	10 years from 2018 compared to no treatment	25 years from 2018 compared to no treatment	35 years from 2018 compared to no treatment																						
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		(as at 2023)	(as at 2028)	(as at 2043)	(as at 2053)			(as at 2023)	(as at 2028)	(as at 2043)	(as at 2053)		
	TSS	12 %	21 %	25 %	27 %	29 %	TSS	12 %	21 %	25 %	27 %	29 %	
	Total Zinc	10 %	15 %	18 %	20 %	21 %	Total Zinc	10 %	15 %	18 %	20 %	21 %	
	Total Copper	16 %	23 %	28 %	30 %	31 %	Total Copper	16 %	23 %	28 %	30 %	31 %	
17	The base case against which reductions are to be assessed is the modelled untreated contaminant load.						The base case against which reductions are to be assessed is the modelled untreated contaminant load.						CRC and CCC staff agreed to deletion of condition as the base case is described in the C-CLM.
18	The C-CLM will be run at five yearly intervals starting in 2023 for comparison with the targets set in Table 2 above and reported to Canterbury Regional Council in the annual report for those years.						The consent holder shall provide a report to the Canterbury Regional Council, Attention: Regional Leader: Monitoring and Compliance at five yearly intervals from commencement of this resource consent on whether the contaminant load reduction standards under Condition 16 and targets developed through the SMPs are being met.						Condition rewrite to require reporting on Christchurch-wide standards and SMP targets. CRC and CCC staff agreed that every five years this report may form part of the yearly reporting required under Condition 53.
	<p><i>Advice note:</i> The C-CLM is the primary means of assessing the relative reduction in contaminant loads for copper, zinc and TSS which would enter the receiving environment as a result of the structural measures used by the Council.</p> <p>A range of alternative contaminant modelling technologies may be used for research purposes or to assist with stormwater management and contaminant load reductions. These could include (but are not limited to) event-based models and methods of assessing predicted improvement in receiving environment water quality, if or when such tools become available.</p>						<p><i>Advice note:</i> The C-CLM is the primary means of assessing the <i>City-wide standards for the relative reduction in contaminant loads for copper, zinc and TSS</i> which would enter the receiving environment as a result of the structural measures used by the Council.</p> <p>A range of alternative contaminant modelling technologies may be used for research purposes or to assist with stormwater management and contaminant load reductions. These could include (but are not limited to) event-based models and methods of assessing predicted improvement in receiving environment water quality, if or when such tools become available.</p>						Updated Conditions 16 and 37 require consent holder to refine model and investigate alternative methods.
Water Quality and Quantity Standards							Water Quality and Quantity Standards						
19	For any development or redevelopment within a catchment which does not have a certified SMP, stormwater quality and quantity mitigation shall meet the General City conditions as specified in Schedule 3.						For any development or redevelopment within a catchment which does not have a certified SMP, stormwater quality and quantity mitigation shall meet the General City conditions as specified in Schedule 3.						
20	The consent holder shall use reasonably practicable measures reasonable endeavours to mitigate the effects of the discharge of stormwater on surface water quality, instream sediment quality, aquatic ecology health and mana whenua values. The extent of mitigation of effects shall be measured by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedules 4 and 5.						The consent holder shall use reasonable endeavours best practicable options to mitigate the effects of the discharge of stormwater on: a. surface water quality, instream sediment quality, aquatic ecology health and mana whenua values. The extent of mitigation of effects shall be measured by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedules 4 and 5, b. groundwater and spring water quality. The extent of mitigation of effects shall be measured by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedule 6, c. water quantity. The extent of mitigation of effects shall be measured against achievement of by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedule 7.						CCC and CRC staff agreed to use of BPO. Conditions 20 – 22 combined to avoid repetition. CCC and CRC staff agreed on amended wording.
21	The consent holder shall use reasonably practicable measures reasonable endeavours to mitigate the effects of the discharge of stormwater on groundwater and spring water quality. The extent of mitigation of effects shall be measured by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedule 6.						The consent holder shall use reasonably practicable measures reasonable endeavours to mitigate the effects of the discharge of stormwater on groundwater and spring water quality. The extent of mitigation of effects shall be measured by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedule 6.						Shifted within consent conditions.

22	The consent holder shall use reasonable endeavours reasonably practicable measures to mitigate the effects of the discharge of stormwater on water quantity. The extent of mitigation of effects shall be measured against achievement of by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedule 7.	The consent holder shall use reasonable endeavours reasonably practicable measures to mitigate the effects of the discharge of stormwater on water quantity. The extent of mitigation of effects shall be measured against achievement of by the Receiving Environment Objectives and Attribute Target Levels monitoring described in Schedule 7.	Shifted within consent conditions.
23	The consent holder shall use reasonable endeavours reasonably practicable measures to ensure that construction phase stormwater quality mitigation is implemented for all development sites prior to commencement of stripping of vegetation or earthworks on the site.	The consent holder shall use reasonably practicable measures to ensure that construction phase stormwater quality mitigation is implemented in accordance with the erosion and sediment control toolbox or successor document for all development sites prior to commencement of stripping of vegetation or earthworks on the site.	Amended wording so that the required standard of works applies to the party carrying out the works.
24	The consent holder shall use reasonable endeavours reasonably practicable measures to ensure that operational phase stormwater quality and quantity mitigation is implemented for all development and re-development (where required) prior to issuing certification under the relevant legislation.	The consent holder shall use reasonably practicable measures to ensure that operational phase stormwater quality and quantity mitigation is implemented for all development and re-development (where required) prior to issuing certification under the relevant legislation.	Amended wording so that the required standard of works applies to the party carrying out the works.
25	The consent holder shall provide retrofit water quality and quantity mitigation for existing development where practicable.	The consent holder shall provide retrofit water quality and quantity mitigation for existing development where practicable.	
	Design of Facilities and Devices	Design of Facilities and Devices	
26	Water quality and quantity mitigation facilities and devices shall be designed in general accordance with the Christchurch City Council's Waterways, and Wetlands and Drainage Guide, Infrastructure Design Standard, Construction Standard Specifications, Christchurch Rain Garden Design Criteria, Christchurch Stormwater Tree Pit Design Criteria and Stormfilter™ Design Rainfall Intensity Criterion Report or their respective successor document(s).	Water quality and quantity mitigation facilities and devices shall be designed in general accordance with: a. the Christchurch City Council's Waterways, Wetlands and Drainage Guide, Infrastructure Design Standard, Construction Standard Specifications, Christchurch Rain Garden Design Criteria, Christchurch Stormwater Tree Pit Design Criteria and Stormfilter™ Design Rainfall Intensity Criterion Report or their respective successor document(s), b. other national and international best practice design criteria that may become available over the duration of this resource consent, c. the following design requirements for facilities within 3 kilometres of Christchurch International Airport to ensure the risk of bird strike is minimised: i. stormwater infiltration basins to fully drain within 48 hours of the cessation of a 2% AEP stormwater event; ii. ensure there is sufficient rapid soakage overflow capacity to minimise the ponding of stormwater outside of the infiltration area(s); and iii. limit attractiveness to birds through landscaping design and the use of suitable non-bird attracting species.	Amendments to ensure consideration of national and international best practice design criteria that may become available over the duration of the CSNDC. Added 26 (c) following further consultation with Christchurch International Airport.
27	The consent holder shall ensure that all stormwater quality mitigation facilities and devices servicing greenfield development after commencement of this consent are designed to treat the first flush.	The consent holder shall ensure that all stormwater quality mitigation facilities and devices servicing greenfield development after commencement of this consent are designed to treat the first flush.	
28	For all water quality mitigation facilities and devices constructed after commencement of this consent to service re-development, or retrofit water quality mitigation facilities for existing development, reasonable endeavours shall be taken to design facilities that treat the first flush.	For all water quality mitigation facilities and devices constructed after commencement of this consent to service re-development, or retrofit water quality mitigation facilities for existing development, the consent holder reasonable endeavours shall be taken to design facilities to treat as much of the first flush as reasonably practicable design facilities that treat the first flush.	Amended wording to recognise the difficulty of treating first flush in retrofit situations.
29	All stormwater mitigation facilities and devices constructed after commencement of this consent shall meet any other specific requirements as specified within the Implementation Plan.	All stormwater mitigation facilities and devices constructed after commencement of this consent shall meet any other specific requirements as specified within the Implementation Plan when prepared in accordance with Condition 12.	Amendment for clarity.

30	Christchurch City Council stormwater infiltration facilities constructed after the commencement of the consent shall be located to maintain the following separation distances from domestic and community drinking water supply wells that exist prior to the construction of the infiltration facility:	Christchurch City Council stormwater infiltration facilities constructed after the commencement of the consent shall be located to maintain the following separation distances from domestic and community drinking water supply wells that exist prior to the construction of the infiltration facility:	Condition 30 amendments for clarity.
	<u>a. Infiltration devices that only discharge roof water from a single building or that discharge stormwater generated from an impervious area less than 2,000 m² (including roof area), shall maintain a separation distance from any drinking-water supply well outside of a zone equivalent to the protection areas specified in Table S1A of Schedule 1 of the Canterbury Land and Water Regional Plan, unless, in the case of private drinking water bores, the consent holder has made a reticulated water supply available to the property.</u>	a. Infiltration devices that only discharge roof water from a single building or that discharge stormwater generated from an impervious area less than 2,000 m ² (including roof area), shall maintain a separation distance from any domestic and community drinking-water supply well outside of a zone equivalent to the protection areas specified in Table S1A of Schedule 1 of the Canterbury Land and Water Regional Plan, unless, in the case of private drinking water bores, the consent holder has made a reticulated water supply available to the property;	
	<u>b. Infiltration devices for larger discharges than those described in a) above shall maintain a separation distance of 2000 m when located up-gradient of domestic drinking water supply wells; and Infiltration devices shall maintain a separation distance of 500 m when located down-gradient or cross-gradient of domestic drinking water supply wells, unless, in the case of private drinking water bores, the consent holder has made a reticulated water supply available to the property;</u>	b. Infiltration devices for larger discharges than those described in a) above shall maintain a separation distance of 2000 m when located up-gradient of domestic and community drinking water supply wells; and infiltration devices shall maintain a separation distance of 500 m when located down-gradient or cross-gradient of domestic and community drinking water supply wells, unless, in the case of private drinking water bores, the consent holder has made a reticulated water supply available to the property;	
	c. Or as an alternative to a) and b), a shorter separation distance may be utilised based on an assessment of site specific information undertaken by the consent holder and certified that it will not have an adverse effect on a domestic drinking water supply well by the Canterbury Regional Council, RMA Monitoring and Compliance Manager.	c. Or as an alternative to a) and b), a shorter separation distance may be utilised based on an assessment of site specific information undertaken by the consent holder and certified by the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance that it will not have an a less than minor adverse effect on a domestic and community drinking water supply wells; RMA Monitoring and Compliance Manager	
	<u>d. Within 24 months of this consent becoming operative, a site-specific assessment of contamination risk and appropriate mitigation shall also be undertaken for any existing stormwater infiltration basins that do not comply with the separation distances defined in b) above. This assessment will be provided to the Canterbury Regional Council, RMA Monitoring and Compliance Manager for certification that it will not have an adverse effect on a domestic drinking water supply well.</u>	d. Within 24 months of this consent becoming operative commencing , a site-specific assessment of contamination risk and appropriate mitigation shall also be undertaken for any existing stormwater infiltration basins that do not comply with the separation distances defined in b) above. This assessment will be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance RMA Monitoring and Compliance Manager for certification that it will not have an a less than minor adverse effect on a domestic and community drinking water supply wells.	
31	Christchurch City Council stormwater mitigation facilities constructed after the commencement of this consent shall have secondary flow paths to the downstream stormwater network.	Christchurch City Council stormwater mitigation facilities constructed after the commencement of this consent shall have secondary flow paths to the downstream stormwater network.	
32	Christchurch City Council stormwater mitigation facilities constructed after commencement of this consent shall include best practice features designed to capture and contain as much as reasonably practicable any spills of contaminants entering the stormwater facility.	Christchurch City Council stormwater mitigation facilities constructed after commencement of this consent shall include best practice features designed to capture and contain as much as reasonably practicable any spills of contaminants entering the stormwater facility.	
33	Design of stormwater mitigation facilities serving sub-catchments greater than 20 hectares shall include computer modelling for detailed hydraulic analysis. The outlet hydrograph for the two percent AEP critical duration design storm generated by modelling of the final design for these facilities shall then be used in the water quantity model for the corresponding river catchment to demonstrate consistency with water quantity objectives in the SMP.	Design of stormwater mitigation facilities serving sub-catchments greater than 20 hectares shall include computer modelling for detailed hydraulic analysis. The outlet hydrograph for the two percent 2% AEP critical duration design storm generated by modelling of the final design for these facilities shall then be used in the water quantity model for the corresponding river catchment to demonstrate consistency with water quantity objectives in the SMP.	

34	All Christchurch City Council stormwater mitigation facilities and devices constructed after commencement of this consent shall have an Operations and Maintenance Manual which shall be made available on request.	All Christchurch City Council stormwater mitigation facilities and devices constructed after commencement of this consent shall have an Operations and Maintenance Manual which shall be made available on request.																									
	Other Actions by the Consent Holder	Other Actions by the Consent Holder																									
35	The consent holder shall investigate and implement methods to improve the management of stormwater quality and reduce stormwater effects on the receiving environment (stormwater quality investigation).	The consent holder shall investigate and implement methods to improve the management of stormwater quality and reduce stormwater effects on the receiving environment (stormwater quality investigation).																									
36	The purpose of the stormwater quality investigation is to:	The purpose of the stormwater quality investigation is to:																									
	a. Monitor the performance of selected stormwater treatment facilities and devices;	a. Monitor the performance of selected stormwater treatment facilities and devices;																									
	b. Assess the potential for the application of new technologies and management strategies;	b. Assess the potential for the application of new technologies and management strategies;																									
	c. Investigate using various models and techniques of water quality improvement strategies and options.	c. Investigate using various models and techniques of water quality improvement strategies and options.																									
37	The consent holder shall undertake the actions set out in Table 3 below for the investigation required by condition 35 above:	The consent holder shall undertake the actions set out in Table 3 below for the investigation required by condition 35 above:																									
	Table 3: Stormwater Quality Investigation	Table 3: Stormwater Quality Investigation																									
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				and refine assumptions within the model, to improve the accuracy of model predictions.			
	<p>d. Conduct a feasibility study to establish the existing knowledge base and investigate the feasibility of robustly predicting the responses of the receiving environment to changes in network contaminant loads and resulting in-stream concentrations.</p> <p>Consideration to be given to how and when the receiving environment might respond to changes in contaminant concentrations, how much work would be involved to predict results, what sort of models are possible, how would monitoring to obtain real world results be carried out, how long would it take the biological community to respond (i.e. lag effects), and gaps of knowledge.</p>	Dec – 18	Jun -20	<p>d. Conduct a feasibility study to establish the existing knowledge base and investigate the feasibility of robustly predicting the responses of the receiving environment to changes in network contaminant loads and resulting in-stream concentrations.</p> <p>Consideration to be given to how and when the receiving environment might respond to changes in contaminant concentrations, how much work would be involved to predict results, what sort of models are possible, how would monitoring to obtain real world results be carried out, how long would it take the biological community to respond (i.e. lag effects), and gaps of knowledge.</p>	Dec-18 Within 12 months of the commencement of the resource consent	Jun-20 Within 3 years of the commencement of the resource consent	Timeframes provide for coordination of this action with the implementation of Condition 37(b), to allow maximum transfer of knowledge gained and provide sufficient time for review of the feasibility study by the Stormwater TPRP.
	<p>e. If the consent holder considers that the feasibility study under d. shows sufficient merit, and the Council considers it warranted, instigate a programme of research, monitoring and/or modelling to quantify expected responses in the receiving environment. For example: Undertake selected monitoring of discharges at “end of pipe”, into the receiving environment to assist model development and calibration</p>	Jul-20	Ongoing	<p>e. If the consent holder considers that the feasibility study under d. shows sufficient merit, and the Council considers it warranted, instigate a programme of research, monitoring and/or modelling to quantify expected responses in the receiving environment. For example: Undertake selected monitoring of discharges at “end of pipe”, into the receiving environment to assist model development and</p>	Jul-20 Within 3 years of the commencement of the resource consent	Ongoing	This timeframe provides for coordination Condition 37(d).

			calibration			
f. Investigate the impacts of applying alternative modelling tools (including 'deterministic' models) to characterise the relationship between contaminant loads, concentrations and the receiving environment, and the processes which influence that relationship. Such tools may include the MEDUSA and MUSIC modelling tools.	Mar-19	Jun-22	f. Investigate the impacts of applying alternative modelling tools (including 'deterministic' models) to characterise the relationship between contaminant loads, concentrations and the receiving environment, and the processes which influence that relationship. Such tools may include the MEDUSA and MUSIC modelling tools.	Mar-19 Within 1 year of the commencement of the resource consent	Jun-22 Ongoing	
g. Conduct a study to Investigate the feasibility and of techniques for addressing remediating adverse effects of stormwater sediment discharges on receiving environments. This will include consideration of sediment cover of the bed, and copper, lead, zinc and PAHs contamination.	Sep-18 Jun-19	Oct-19 Jun-20	g. Investigate the feasibility of techniques for remediating adverse effects of stormwater sediment discharges on receiving environments. This will include consideration of sediment cover of the bed, and copper, lead, zinc and PAHs contamination.	Jun-19 Within 1 year of the commencement of the resource consent	Jun-20 Within 3 years of the commencement of the resource consent	Timeframes provide for coordination of this action with the implementation of Conditions 37(b) and 37(d), to allow maximum transfer of knowledge gained and provide sufficient time for review of the feasibility study by the Stormwater TPRP.
h. Instigate a remediation programme if the consent holder considers determines that it is feasible, instigate an instream sediment remediation programme the stormwater sediment discharge investigation in item 7. indicates sufficient merit.	Nov-19 Jul-20	Ongoing	h. If the consent holder determines that it is feasible, instigate an instream sediment remediation programme.	Jul-20 Within 3 years of the commencement of the resource consent	Ongoing	This timeframe provides for coordination Condition 37(g).
i. Conduct a monitoring programme for assessing Monitor the actual contaminant-TSS, zinc and copper reduction performance of selected stormwater treatment facilities and devices in order. Apply the results of the study in determining the feasibility and selection of proposed treatment facilities and devices, and to improve the level of certainty of performance values relating to TSS, zinc and copper in contaminant load modelling. Report findings and outcomes in annual report to CRC.	Sep-18	Ongoing	i. Monitor the actual TSS, zinc and copper reduction performance of selected stormwater treatment facilities and devices in order to improve certainty of performance values relating to TSS, zinc and copper in contaminant load modelling. Report findings and outcomes in annual report to CRC.	Sep-18 Within 6 months of the commencement of the resource consent	Ongoing	

	<u>i. Apply the monitoring output, along with other stormwater modelling and monitoring data being gathered, to inform the planning and design of stormwater systems and facilities, including in the development of Implementation Plans and reviews of SMPs, IDS and WWDG.</u>			j. Apply the monitoring output, along with other stormwater modelling and monitoring data being gathered, to inform the planning and design of stormwater systems and facilities, including in the development of Implementation Plans and reviews of SMPs, IDS and WWDG.			
	<u>k. Carry out targeted wet weather monitoring of surface water in selected receiving environments, to improve knowledge of the state of the receiving environment, contaminant inputs and treatment efficiency, and to inform mitigation options under the SMPs. Selected areas may include new stormwater developments and retrofits and known existing hotspots of contaminants. Sampling shall focus on detailed methods to characterise inputs, such as the use of auto-sampling, rather than grab sampling.</u>	Jun-19	Ongoing	k. Carry out targeted wet weather monitoring of surface water in selected receiving environments, to improve knowledge of the state of the receiving environment, contaminant inputs and treatment efficiency, and to inform mitigation options under the SMPs. Selected areas may include new stormwater developments and retrofits and known existing hotspots of contaminants. Sampling shall focus on detailed methods to characterise inputs, such as the use of auto-sampling, rather than grab sampling.	Jun-19 Within 6 months of the commencement of the resource consent	Ongoing	
38	The consent holder shall also undertake the actions set out in Table 4 below:			The consent holder shall also undertake the actions set out in Table 4 below:			
	Table 4: Other Actions by Consent Holder			Table 4: Other Actions by Consent Holder			
	Other Actions	Activity Start Date	Activity Completion Date	Other Actions	Activity Start Date	Activity Completion Date	
	Source Control			Source Control			
	<u>a. Lodge a submission to central government within 18 months of giving effect to this consent seeking national measures and industry standards to reduce the discharge of contaminants including zinc and copper from metal roofs, car tyres and brake pads.</u>	Feb-19	Dec-19	<u>a. Lodge a submission to central government within 18 months of giving effect to this consent seeking national measures and industry standards to reduce the discharge of contaminants including zinc and copper from metal roofs, car tyres and brake pads.</u>	Feb-19 Within 6 months of the commencement of the resource consent	Dec-19 Within 1 year of the commencement of the resource consent	CCC and CRC staff agreed to amending action start dates and completion dates to be from the time of commencement of the consent. Stormwater TPRP (Condition 8) will be used to provide input and advice on actions as a result of investigations/feasibility studies.

	b. Prepare and submit for Council approval Conduct a cost/benefit analysis of options with recommendations for carrying out a targeted trial for contaminant reduction from increased level of selective street sweeping and sump cleaning (For consideration as part of Council Annual Planning process for AP2021).	Sep-18	Dec-19	b. Conduct a cost/benefit analysis of options for carrying out a targeted trial for contaminant reduction from increased level of selective street sweeping and sump cleaning (For consideration as part of Council Annual Planning process for AP2021).	Sep-18 Within 6 months of the commencement of the resource consent	Dec-19 Within 1 year of the commencement of the resource consent	
	c. If the consent holder determines that the cost/benefit analysis shows that it is warranted, c Carry out trials for increased targeted/selective street sweeping and sump cleaning if Council resolves to do so under 2 above.	Jul-20	Jun-22	c. If the consent holder determines that the cost/benefit analysis shows that it is warranted, carry out trials for increased targeted/selective street sweeping and sump cleaning.	Jul-20 Within 1 year of the commencement of the resource consent	Jun-22 Within 3 years of the commencement of the resource consent	Completion date provides adequate duration for completion of the task.
	d. Prepare and submit for Council approval Conduct a cost/benefit analysis of issues and options of alternate methods of stormwater treatment and discharge with recommendations for carrying out trials including consideration of redirection to sewer and Managed Aquifer Recharge/Discharge (For consideration as part of Council Annual Planning process for AP2021).	Dec-18	Oct-19	d. Conduct a cost/benefit analysis of options of alternate methods of stormwater treatment and discharge including consideration of redirection to sewer and Managed Aquifer Recharge/Discharge (For consideration as part of Council Annual Planning process for AP2021).	Dec-18 Within 6 months of the commencement of the resource consent	Oct-19 Within 18 months of the commencement of the resource consent	
	e. If the consent holder determines that the cost/benefit analysis shows that it is warranted, c Carry out trials for alternate methods of stormwater treatment and discharge if Council resolves to do so under 4 above <u>Add new item (and renumber subsequent items accordingly):</u>	Nov-19	Jun-22	e. If the consent holder determines that the cost/benefit analysis shows that it is warranted, carry out trials for alternate methods of stormwater treatment and discharge	Nov-19 Within 1 year of the commencement of the resource consent	Jun-22 Within 3 years of the commencement of the resource consent	
	f. Apply the results of trials on street sweeping, sump cleaning and alternate methods of stormwater treatment (actions b and c above), along with results from other stormwater modelling and monitoring data being gathered, to the planning and design of stormwater systems and facilities, including in the development of Implementation Plans and reviews of SMPs, IDS and WWDG.			f. Apply the results of trials on street sweeping, sump cleaning and alternate methods of stormwater treatment (actions b and c above), along with results from other stormwater modelling and monitoring data being gathered, to the planning and design of stormwater systems and facilities, including in the development and review of SMPs, IDS and WWDG.			
	g. If the consent holder considers determines it warranted as a result of the trials in item c above , increased frequency of street sweeping of selected areas.	Jul-19	Ongoing	g. If the consent holder determines it warranted as a result of the trials in item c above, increased frequency of street sweeping of selected areas.	Jul-19 Within 2 years of the commencement of the resource consent	Ongoing	
	h. If the consent holder considers			h. If the consent holder			

<p>determines it warranted as a result of the trials in item 5.3 above, increased frequency of sump cleaning at selected locations.</p>	Jul-20	Ongoing	<p>determines it warranted as a result of the trials in item c above, increased frequency of sump cleaning at selected locations.</p>	Jul-20 Within 2 years of the commencement of the resource	Ongoing	
<p>h. Instigate, in the building consent approval and inspection process, a requirement for and process for approval and inspection of erosion and sediment control measures prior to site clearances commencing and throughout the construction process.</p>	Jul-19	Ongoing	<p>i. Instigate, in the building consent approval and inspection process, a requirement for and process for approval and inspection of erosion and sediment control measures prior to site clearances commencing and throughout the construction process.</p>	Jul-19 Within 6 months of the commencement of the resource consent	Ongoing	
<p>i. Operational inspection of a sample of stormwater treatment and/or retention devices on non-industrial sites.</p>	Jul-20	Ongoing	<p>j. Operational inspection of a sample of stormwater treatment and/or retention devices on non-industrial sites.</p>	Jul-20 Within 2 years of the commencement of the resource consent	Ongoing	
<p>Communication, Education and Awareness</p> <p>l. Make reasonable endeavours to establish a community water engagement programme involving Council, Canterbury Regional Council, Ngai Tahu, DoC, MfE, Universities, industry representatives and Community Groups with the objective of encouraging awareness and community actions to reduce stormwater contaminant discharges and improve waterways through source control and behaviour change.</p> <p>Possible initiatives of the community water engagement programme are:</p> <ul style="list-style-type: none"> • Providing information for property owners on quick actions that they can undertake around the home to stop contaminants from entering stormwater (based on 2017 Community Waterway Survey findings conducted by Christchurch City Council). • Implement a sustainable behaviour change programme. Actions aimed at stopping contaminants getting into the stormwater network, such as: sediment, litter, bacterial contaminants. • Undertaking a wider educational programme for schools. • Educating dog owners about effects of faecal matter; • Seeking industry behaviour change. 	Jul-19	Ongoing	<p>Communication, Education and Awareness</p> <p>k. Make reasonable endeavours to establish a community water engagement programme involving Council, Canterbury Regional Council, Ngai Tahu, DoC, MfE, Universities, industry representatives and Community Groups with the objective of encouraging awareness and community actions to reduce stormwater contaminant discharges and improve waterways through source control and behaviour change.</p> <p>Possible initiatives of the community water engagement programme are:</p> <ul style="list-style-type: none"> • Providing information for property owners on quick actions that they can undertake around the home to stop contaminants from entering stormwater (based on 2017 Community Waterway Survey findings conducted by Christchurch City Council). • Implement a sustainable 	Jul-19 Within 6 months of the commencement of the resource consent	Ongoing	

			<p>behaviour change programme. Actions aimed at stopping contaminants getting into the stormwater network, such as: sediment, litter, bacterial contaminants.</p> <ul style="list-style-type: none"> • Undertaking a wider educational programme for schools. • Educating dog owners about effects of faecal matter; • Seeking industry behaviour change. 			
			<p>l. Develop a programme for operational inspection of a sample of private stormwater treatment and/or retention devices on non-industrial sites for the purposes of ensuring proper function and maintenance.</p>			CCC and CRC agreed (meeting 17 January 2019) on amended wording.
			<p>m. Conduct a cost/benefit analysis of options to further improve source control that considers:</p> <ul style="list-style-type: none"> i. allocation of staff/resources to undertake industrial site audits; ii. expected contamination risk and possible risk reduction of industrial sites; iii. other source control measures in Condition 38. 	within 6 months of the commencement of the resource consent	Within 18 months of the commencement of the resource consent	
			<p>n. Apply, through agreement between the consent holder and Canterbury Regional Council, the results of the cost/benefit analysis to prioritise source control measures in SMPs and in implementation plans and to determine the number of audits conducted under Condition 41(b).</p>	within 2 years of the commencement of the resource consent	Ongoing	
			Puharakekenui/Styx River Weed Management			
						A condition regarding weed management in the Puharakekenui/Styx River in consideration of Clause 38 of the Joint Statement of Water Quantity Witnesses is currently being discussed between CCC and CRC staff and will be provided with the right of reply.
			Communication, Education and Awareness			
			o. Make reasonable			

			<p>endeavours to establish a community water engagement programme involving Council, Canterbury Regional Council, Ngai Tahu, DoC, MfE, Universities, industry representatives and Community Groups with the objective of encouraging awareness and community actions to reduce stormwater contaminant discharges and improve waterways through source control and behaviour change.</p> <p>Possible initiatives of the community water engagement programme are:</p> <ul style="list-style-type: none"> • Providing information for property owners on quick actions that they can undertake around the home to stop contaminants from entering stormwater (based on 2017 Community Waterway Survey findings conducted by Christchurch City Council). • Implement a sustainable behaviour change programme. Actions aimed at stopping contaminants getting into the stormwater network, such as: sediment, litter, bacterial contaminants. • Undertaking a wider educational programme for schools. • Educating dog owners about effects of faecal matter; • Seeking industry behaviour change. 			
			<p>p. The consent holder shall invite- the river care groups that it is</p>	<p>Within 1 year of the commencement of</p>	<p>Ongoing</p>	<p>Conditions 38 (p) and (r) requiring the River Care Liaison Group and Industry Liaison Group meetings</p>

				<p>aware of to have representatives on a River Care Liaison Group and will convene meetings at least once annually. At each meeting the River Care Liaison Group shall be updated by the consent holder on matters relating to the exercise of this consent, including but not limited to:</p> <ul style="list-style-type: none"> i. Relevant capital and maintenance works completed in the past year and currently programmed by the consent holder; ii. Development and refinement of the C-CLM and flood modelling; iii. Any new technologies in stormwater contaminant reduction or preventative measures; iv. Compliance and monitoring results as reported under Condition 53. 	the resource consent		have been developed as a result of further consultation with submitters.
				<p>q. The consent holder shall invite industry groups to have representatives on an Industry Liaison Group and shall convene meetings at least once annually. At each meeting the Industry Liaison Group shall be updated by the consent holder on matters relating to the exercise of this consent, including but not limited to:</p> <ul style="list-style-type: none"> i. development of the risk matrix required under Condition 3 (c) (ii); ii implementation of the industrial site audit process under Condition 41; iii any new technologies in stormwater contaminant reduction or preventative measures; iv. Compliance and monitoring results as reported under Condition 53. 	Within 1 year of the commencement of the resource consent	Ongoing	
	Erosion and Sediment Control			Erosion and Sediment Control			
39	<p>An site specific Erosion and Sediment Control Plan (ESCP) shall be prepared and implemented for the construction phase stormwater discharge from any development area in general accordance with Canterbury Regional Council's <i>Erosion and Sediment Control Toolbox for Canterbury (or successor)</i>.</p>			<p>A site specific Erosion and Sediment Control Plan (ESCP) shall be prepared and implemented for the construction phase stormwater discharge from any development area in general accordance with Canterbury Regional Council's <i>Erosion and Sediment Control Toolbox for Canterbury (or successor)</i>.</p>			

40	Copies of ESCPs submitted to or prepared by/for the consent holder shall be made available on request.	Copies of ESCPs submitted to or prepared by/for the consent holder shall be made available on request.	
	<p>Add 3 new conditions:</p> <p><i>The consent holder shall develop a Sediment Discharge Management Plan (SDMP) and present it for certification to the RMA Compliance and Enforcement Manager of the Canterbury Regional Council within twelve months of the operative date of this consent. Certification will be whether the SDMP is consistent with the purpose and required content of the SDMP.</i></p> <p><i>The purpose of the SDMP is to manage discharges of stormwater from development sites as far as is reasonably practicable to mitigate adverse effects on water clarity and aquatic biota, and allow the fine sediment and TSS Attribute Target Levels for waterways and coastal areas within Schedules 4 and 5 to be met.</i></p> <p><i>The SDMP shall include, but not be limited to, the following means to achieve the purpose:</i></p> <ul style="list-style-type: none"> <i>i. A risk matrix to determine TSS limits for the discharge of stormwater into the Christchurch City Council Stormwater Network from individual sites, depending on such factors as likely concentrations and volumes of sediment in the discharge, whether the discharge will be treated downstream by a Council treatment facility prior to reaching the receiving environment, and the sensitivity of the receiving environment;</i> <i>ii. A description of the process for how TSS limits will be included in authorisations for discharges into the network from individual sites;</i> <i>iii. A description of the process for how the consent holder will monitor sites and monitor management of sites to ensure TSS limits are achieved; Details on how records will be kept (such as site TSS limits, compliance monitoring and enforcement action), with records made available to the Canterbury Regional Council on request.</i> <p><i>The consent holder may review and amend the SDMP so as to better achieve the purpose of the plan and in response to any updates to the relevant Attribute Target Levels. Any amendments to the SDMP shall not replace the previous version until the plan has been certified by the RMA compliance and Enforcement Manager of the Canterbury Regional Council as being consistent with the purpose and required content of the SDMP.</i></p>	<p>The consent holder shall develop a Sediment Discharge Management Plan (SDMP) and present it for certification to the RMA Compliance and Enforcement Manager of the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance within twelve months of the operative date of this consent. Certification will be whether the SDMP is consistent with the purpose and required content of the SDMP.</p> <p>The purpose of the SDMP is to manage discharges of stormwater from development sites as far as is reasonably practicable to mitigate adverse effects on water clarity and aquatic biota as far as is reasonably practicable, to which will be measured against allow the fine sediment and TSS Attribute Target Levels for waterways and coastal areas within Schedules 4 and 5. to be met.</p> <p>The SDMP shall include, but not be limited to, the following means to achieve the purpose:</p> <ul style="list-style-type: none"> i. A risk matrix to determine TSS limits for the discharge of stormwater into the Christchurch City Council Stormwater Network from individual sites, depending on such factors as likely concentrations and volumes of sediment in the discharge, whether the discharge will be treated downstream by a Council treatment facility prior to reaching the receiving environment, and the sensitivity of the receiving environment; ii. A description of the process for how TSS limits will be included in authorisations by the Christchurch City Council for discharges into the network from individual sites; iii. A description of the process for how the consent holder's process to will monitor sites and monitor management of sites to ensure TSS limits are achieved; iv. Details of how records will be kept (such as site TSS limits, compliance monitoring and enforcement action), with records made available to the Canterbury Regional Council on request. <p>The consent holder may review and amend the SDMP so as to better achieve the purpose of the plan and in response to any updates to the relevant Attribute Target Levels. Any amendments to the SDMP shall not replace the previous version until the plan has been certified by the RMA compliance and Enforcement Manager of the Canterbury Regional Council as being consistent with the purpose and required content of the SDMP.</p>	<p>CCC and CRC staff agreed amendments for clarity.</p> <p>The conditions require CCC to develop an SDMP that will include a risk matrix that determines a TSS limit on a site by site basis. This still needs to be developed and provided to CRC for certification.</p>
	Industrial Site Management	Industrial Site Management	
41	The consent holder shall, in collaboration with the Canterbury Regional Council:	The consent holder shall, in collaboration with the Canterbury Regional Council:	
	a. Undertake-Maintain a desktop based identification of industrial sites, ranking sites for risk relative to stormwater discharge and identify the industrial sites that pose the highest risk;	a. Maintain a desktop based identification of industrial sites, ranking sites for risk relative to stormwater discharge and identify the industrial sites that pose the highest risk;	

	<p>b. Audit at at least 15 sites per year, of which at least 10 sites are ranked as posing high risk, and of which at least 5 will be determined at the consent holder's discretion during the year, as needs arise, so as to address:</p> <p>i Sites with known or suspected contamination or risk;</p> <p>ii Re-audits of previously mitigated sites;</p> <p>iii Sites undergoing re-developments.</p> <p>rolling list of at least 10 of the highest risk sites in the city and report progress on an annual basis;</p>	<p>b. Audit at least 15 sites per year, of which at least 10 are sites are agreed with the Canterbury Regional Council.</p> <p>ranked as posing high risk, and of which at least 5 will be determined at the consent holder's discretion during the year, as needs arise, so as to address:</p> <p>iv Sites with known or suspected contamination or risk;</p> <p>v Re-audits of previously mitigated sites;</p> <p>vi Sites undergoing re-developments.</p> <p>c. The consent holder may vary the annual number of site audits in 41(b) if agreed by the Canterbury Regional Council under Condition 38 (n).</p> <p>e. of whichThe audit will include at least 10 sites, are newly engaged and ranked as posing high risk, and of which at least 5 will be determined at the consent holder's discretion during the year, as needs arise, so as to address:</p> <p>i Sites with known or suspected contamination or risk;</p> <p>ii Re-audits of previously mitigated sites;</p> <p>iii Sites undergoing re-developments.</p>	<p>CCC and CRC staff agreed on amended wording for simplicity and clarification, and to add advice note regarding the potential for the annual number of site audits to change depending on the outcome of the cost benefit analysis under Condition 38(m).</p>
	<p>Identify any industrial sites that pose an unacceptably high risk and add them to Schedule 1 of this consent. The consent holder cannot add any more sites to Schedule 1 of this consent after 1 January 2025.</p> <p>b. If the audit process and monitoring of a site determines that the site is presenting an unacceptably high risk to the receiving environment the consent holder shall inform the site owner and operator and notify the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager of that concern.</p>	<p>d. If the audit process and monitoring of a site determines that the site is presenting an unacceptably high risk to the receiving environment the consent holder shall inform the site owner and operator and notify the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager Regional Leader – Monitoring and Compliance of that concern.</p>	
	<p>c. If the consent holder considers, following further engagement with the site operator and the CRC, that the site is not appropriately mitigating that unacceptably high risk, the consent holder may determine to add the site to schedule 1 and notify the CRC that it has added the site to schedule 1.</p>	<p>e. If the consent holder considers, following further engagement with the site operator and the Canterbury Regional Council CRC, that the site is not appropriately mitigating that unacceptably high risk, the consent holder may, determine to add the site to Schedule 1 and upon agreement with notify the Canterbury Regional Council, CRC that it has added the site to Schedule 1.</p>	<p>Amendments to reflect that CRC must agree that the exclusion of the site is appropriate.</p> <p>CCC and CRC staff agreed amended wording.</p>
	MONITORING AND REPORTING	MONITORING AND REPORTING	
	Environmental Monitoring Programme	Environmental Monitoring Programme	
42	The consent holder shall implement the EMP attached to this consent, with the purpose of monitoring whether the Receiving Environment Objectives and Attribute Target Levels are being met.	The consent holder shall implement the EMP attached to this consent, with the purpose of monitoring whether the Receiving Environment Objectives and Attribute Target Levels are being met.	
43	The consent holder may review and amend the EMP for the purposes of better monitoring and to determine whether the Receiving Environment Objectives and Attribute Target Levels are being met.	The consent holder may review and amend the EMP for the purposes of better improved monitoring and / or to better determine whether the Receiving Environment Objectives and Attribute Target Levels are being met.	Amendments for clarity.
44	Any amendments to the EMP may not replace the previous version until the EMP has been certified by the RMA Compliance and Enforcement Manager of the Canterbury Regional Council as complying with the requirements of Condition 43 42 .	Any amendments to the EMP may shall not replace the previous version until the EMP has been certified by the RMA Compliance and Enforcement Manager of the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance as complying with the requirements of Condition 42.	Amendments for clarity.

45	The Attribute Target Levels in Schedule 34 for hardness modified copper, lead and zinc in Banks Peninsula surface water shall be calculated for each monitored waterway following the collection of one year of monitoring data. Hardness modified values for copper, lead and zinc for all sites within the EMP shall also be reviewed every five years, with the first review being undertaken in 20232020. Hardness modified values shall be calculated using the ANZECC (2000) methodology, as outlined in the EMP. Should a new method of modifying metals become appropriate, this new methodology and any subsequent change in Attribute Target Levels shall be applied. Updated values will be incorporated into the EMP as an amendment, in accordance with Condition 43.	(a) The Attribute Target Levels in Schedule 4 for hardness modified copper, lead and zinc concentrations in Banks Peninsula surface water shall be calculated for each monitored waterway following the collection of one year of monitoring data. (b) Hardness modified values for copper, lead and zinc for all surface water monitoring sites (including Banks Peninsula sites) within the EMP shall also be reviewed every five years, with the first review being undertaken in 2020. (c) Hardness modified values shall be calculated using the ANZECC (2000) methodology, as outlined in the EMP. Should a new method of modifying metal concentrations become appropriate, this new methodology and any subsequent change in Attribute Target Levels shall be applied. Updated values will shall be incorporated into the EMP as an amendment, in accordance with Condition 43.	CCC and CRC staff agreed to amendments for clarity.
46	The Attribute Target Levels in Schedules 34 to 45 are from relevant regional and national guideline levels. Should these guideline levels be updated, the Attribute Target Levels shall be updated to reflect this. Updated values will be incorporated into the EMP as an amendment, certified in accordance with Condition 43.	The Attribute Target Levels in Schedules 4 to 5 are taken from relevant regional and national guideline levels. Should these guideline levels be updated, the Attribute Target Levels shall be updated to reflect this. Updated values will be incorporated into the EMP as an amendment, certified in accordance with Condition 43.	
47	The Attribute Target Levels in Schedules 34 and 45 for the Waterway Cultural Health Index, Marine Cultural Health Index and State of Takiwā scores, as well as the associated mana whenua values monitoring sites and methodology in the EMP, shall be developed in collaboration with papatipu rūnanga. Once these scores, sites and monitoring methods are confirmed, monitoring for these mana whenua objectives mana whenua values monitoring shall commence. Updated information will be incorporated into the EMP as an amendment, in accordance with Condition 43 by August 2020.	The Attribute Target Levels in Schedules 4 and 5 for the Waterway Cultural Health Index, Marine Cultural Health Index and State of Takiwā scores, as well as the associated mana whenua values monitoring sites and methodology in the EMP, shall be developed in collaboration with papatipu rūnanga. Updated information will shall be incorporated into the EMP as an amendment, in accordance with Condition 43 within 18 months of the commencement of this resource consent. by August 2020. Once these scores, sites and monitoring methods are confirmed, mana whenua values monitoring shall commence.	Amendments and reorganising wording for clarity.
48	The water quantity/flood model(s) for the Pūharakekenui/ Styx, Ōtakaro/ Avon, Ōpāwaho/ Heathcote River and Huritini/ Halswell Rivers shall be updated as necessary to reflect changes in development patterns or modelling parameters every 5 years starting with the 2019 annual report. The results of model updates and a description of how they demonstrate compliance with Schedule 7 shall be included in the annual report required under Condition 53.	The water quantity/flood model(s) for the Pūharakekenui/ Styx, Ōtakaro/ Avon, Ōpāwaho/ Heathcote River and Huritini/ Halswell Rivers shall be updated as necessary to reflect changes in development patterns or modelling parameters every 5 years starting with the 2019 annual report. The results of model updates and a description of how they demonstrate compliance with Schedule 7 shall be included in the annual report required under Condition 53.	
	Responses to Modelling	Responses to Modelling C-CLM	
49	Where the C-CLM results show that the percentage contaminant reductions required by Table 2 in Condition 16 are not met, the consent holder will be in breach of this consent, and will undertake the following:	Where the C-CLM results show that the percentage contaminant reductions contaminant load reduction targets required: a) By the standards in Table 2 in Condition 16 are not met the consent holder will be in breach of this consent ; and/or b) By the targets derived under each catchment-specific SMP are not met; The consent holder will undertake the following:	CCC and CRC staff agreed to this amendment to include catchment specific contaminant load reductions in responses to modelling.
	a. Investigate the reasons for not achieving the modelled contaminant load reductions and describe what measures will be implemented (if necessary) to improve stormwater discharge quality;	a. Investigate the reasons for not achieving the modelled contaminant load reductions and describe what measures will be implemented (if necessary) to improve stormwater discharge quality;	
	b. Assess whether reasonable endeavours to mitigate the adverse effects of stormwater have been carried out;	b. Assess whether reasonable endeavours best practicable options to mitigate the adverse effects of stormwater have been carried out;	

	c. If the assessment in (b) determines that reasonable endeavours have not been carried out, assess options for correction / remediation to mitigate any adverse effects, and provide a timeline for the correction / remediation (if necessary);	c. If the assessment in (b) determines that reasonable endeavours best practicable options have not been carried out, assess options for correction / remediation to mitigate any adverse effects, and provide a timeline for the correction / remediation (if necessary);	
	d. Prepare a report, provided to Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, and papatipu rūnanga (via Mahaanui Kurataiao Ltd) , detailing the matters set out in (a) to (c) above.	d. Prepare a report, provided Submit a report to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance RMA-Compliance and Enforcement Manager , and papatipu rūnanga (via Mahaanui Kurataiao Ltd), detailing the matters set out in (a) to (c) above.	
		Responses to Flood Modelling	CCC and CRC agreed on amended wording the need for 'Responses to Flood Modelling' conditions.
49A		Where the flood modelling results show that the attribute target levels in Schedule 7 are not met, the consent holder shall:	
		a. Investigate the reasons for not achieving the attribute target levels within Schedule 7 and describe what measures will be implemented (if necessary) to meet the attribute target levels within Schedule 7;	
		b. Assess whether best practicable options to mitigate the adverse effects of flooding have been carried out;	
		c. If the assessment in (b) determines that best practicable options have not been carried out, assess options for correction / remediation to mitigate any adverse effects, and provide a timeline for the correction / remediation (if necessary);	
		d. Submit a report to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, and papatipu rūnanga (via Mahaanui Kurataiao Ltd), detailing the matters set out in (a) to (c) above.	
50	If, upon submittal of the report, where required by Condition 49, agreement between Christchurch City Council and Canterbury Regional Council cannot be reached regarding any aspects, the consent holder shall consult with the SWIM group, or successor group, in accordance with the Joint Christchurch City Council and Canterbury Regional Council Stormwater Management Protocol or subsequent revisions to the Protocol, and in accordance with any agreements entered into between the consent holder and papatipu rūnanga; and implement any actions or changes identified as necessary by the SWIM group, or successor group, through the consultation.	If, upon submittal of the report, where required by Condition 49 or 49A , agreement between Christchurch City Council and Canterbury Regional Council cannot be reached regarding any aspects, the consent holder shall consult with the SWIM group, or successor group, in accordance with the Joint Christchurch City Council and Canterbury Regional Council Stormwater Management Protocol or subsequent revisions to the Protocol, and in accordance with any agreements entered into between the consent holder and papatipu rūnanga; and implement any actions or changes identified as necessary by the SWIM group, or successor group, through the consultation.	
	<i>Advice note: Discussions should be undertaken with the Canterbury Regional Council prior to and following investigations, to try and establish agreed approaches prior to submitting the report.</i>	<i>Advice note: Discussions should be undertaken with the Canterbury Regional Council prior to and following investigations, to try and establish agreed approaches prior to submitting the report.</i>	
	Responses to Monitoring	Responses to Monitoring	
51	If the monitoring results identify that the following Attribute Target Levels are not being met:	If the monitoring results identify that the following TSS, copper, lead and zinc Attribute Target Levels in surface water, as set out in Schedules 4 and 5, and Escherichia coli , copper, lead and zinc in groundwater, as set out in Schedule 6, are not being met, the consent holder shall:	CCC and CRC staff agreed on amendments for simplification.
	a. TSS, copper, lead and zinc in surface water, as set out in Schedules 4 and 5;	a. TSS, copper, lead and zinc in surface water, as set out in Schedules 4 and 5;	
	b. Escherichia coli , copper, lead and zinc in groundwater, as set out in Schedule 6;	b. Escherichia coli, copper, lead and zinc in groundwater, as set out in Schedule 6;	

	the consent holder shall: c. <u>Engage with Environment Canterbury about and perform an investigation to identify whether this is due to the effects of stormwater network discharges, with site investigations prioritised for areas with high levels of contaminants, or sensitive or high value receiving environments;</u>	the consent holder shall: 6- a. Engage with Environment Canterbury the Canterbury Regional Council about conducting, and perform an investigation into to identify , whether this is due to the effects of stormwater discharges authorised under this resource consent network discharges , with site investigations prioritised for areas with high levels of contaminants, or with sensitive or high value receiving environments;	CCC and CRC agreed amended wording for clarity.
	d. Compile the results of such an investigation into a report to be submitted to the Canterbury Regional Council and papatipu rūnanga (via Mahaanui Kurataiao Ltd).	b. Carry out an investigation if required under Condition 51(a) and compile the results of such an investigation into a report to be submitted to the Canterbury Regional Council and papatipu rūnanga (via Mahaanui Kurataiao Ltd).	CCC and CRC agreed amended wording for clarity.
	e. The report shall include, at a minimum: i. An evaluation of whether the monitoring results are due to stormwater network discharges or not; ii. An assessment of options for correction/remediation (if effects are likely due to stormwater network discharges); iii. A timeline of implementation of corrective action/remediation (if necessary).	c. The report shall include, at a minimum: i. An evaluation of whether the monitoring results are due to stormwater discharges authorised under this resource consent network discharges or not; ii. An assessment of options for correction/remediation (if effects are likely due to stormwater discharges authorised under this resource consent network discharges); iii. A timeline of implementation of corrective action/remediation (if necessary) effects are a result of discharges authorised under this resource consent.	CCC and CRC agreed amended wording for clarity.
	f. If, upon submittal of the above report, agreement between Christchurch City Council and Canterbury Regional Council cannot be reached regarding any aspects of the report referenced in Condition (e) above, the consent holder shall consult with the SWIM group, or successor group, in accordance with the Joint Christchurch City Council and Canterbury Regional Council Stormwater Management Protocol or subsequent revisions to the Protocol, and in accordance with any agreements entered into between the consent holder and papatipu rūnanga; and	d. f. —If, upon submittal of the above report, agreement between Christchurch City Council and Canterbury Regional Council cannot be reached regarding any aspects of the report referenced in Condition (ec) above, the consent holder shall consult with the SWIM group, or successor group, in accordance with the Joint Christchurch City Council and Canterbury Regional Council Stormwater Management Protocol or subsequent revisions to the Protocol, and in accordance with any agreements entered into between the consent holder and papatipu rūnanga and implement any actions or changes identified as necessary by the WIM group, or successor group, through the consultation; and	
	<u>g. The sites triggering an investigation for a given monitoring year will be identified in the annual report referred to in Condition 53, and the subsequent investigation report will be provided with the following annual monitoring report twelve months later;</u>	e. g. The sites triggering an investigation for a given monitoring year will shall be identified in the annual report referred to in Condition 53, and the subsequent investigation report will shall be provided with the following annual monitoring report twelve months later;	
	<u>h.</u> Implement any actions or changes identified as necessary by the SWIM group, or successor group, through the consultation under Condition 51(f) above.	f. Implement any actions or changes identified as necessary by the SWIM group, or successor group, through the consultation under Condition 51(fd) above.	
	Reporting	Reporting	
52	The consent holder shall maintain relevant records including, but not limited to, detailed design drawings and reports, details of site specific assessments undertaken, maps and any engineering design and construction certificates issued for any water quality or quantity mitigation facilities constructed. These records are to be made available to Canterbury Regional Council on request.	The consent holder shall maintain relevant records including, but not limited to, detailed design drawings and reports, details of site-specific assessments undertaken, maps and any engineering design and construction certificates issued for any water quality or quantity mitigation facilities constructed. These records are to be made available to Canterbury Regional Council on request.	
53	The consent holder shall provide an annual report to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, Banks Peninsula and Christchurch-West Melton Zone Committees, and papatipu rūnanga (via Mahaanui Kurataiao Ltd) by 30 June each year. This report will also be made available on the Christchurch City Council website. The report shall include, where appropriate:	The consent holder shall provide an annual report to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager Regional Leader – Monitoring and Compliance , Banks Peninsula and Christchurch-West Melton Zone Committees, and papatipu rūnanga (via Mahaanui Kurataiao Ltd) by 30 June each year. This report will shall also be made available on the Christchurch City Council website. The report	

		shall include, where appropriate:	
	a. A summary of the outcomes of monitoring, <u>investigations and other actions</u> , in accordance with Conditions 20, 21, 22, , 37, 38, and 42 <u>and the one-off report required by Condition 47. This summary shall be presented in such a way as to assess compliance with the resource consent conditions and trigger the responses required</u> ;	a. A summary of the outcomes of monitoring, investigations and other actions, in accordance with Conditions 20, 21, 22, 37, 38, and 42 and the one-off report required by Condition 47. This summary shall be presented in such a way as to assess compliance with the resource consent conditions and trigger the responses required;	
	b. A summary of the C-CLM and results;	b. A summary of the C-CLM and results <u>and contaminant load reduction targets set within SMPs, including any amendments to the model and consequential changes to expected contaminant load reductions</u> ;	Amendment to allow for development and amendment of C-CLM or alternatives as well as targets identified in SMPs.
	c. A summary of any discussions, consultation or responses carried out under Conditions 49 - 51;	c. A summary of any discussions, consultation or responses carried out under Conditions 49 - 51;	
	d. A summary of Canterbury Regional Council records of consent compliance and where any non-compliances of this consent occurred;	d. A summary of Canterbury Regional Council records of consent compliance and where any non-compliances of this consent occurred;	
	e. A summary of flood modelling results (if applicable) for development in greenfield areas;	e. A summary of flood modelling results (if applicable) for development in greenfield areas;	
	f. The supply of updates to Schedule 1 where required;	f. The supply of updates to Schedule 1 where required;	
	g. An update on the timetable for construction and activation of Christchurch City Council stormwater mitigation systems for each SMP area, and/or any changes to the implementation of SMP requirements;	g. An update on the timetable for construction and activation of Christchurch City Council stormwater mitigation systems for each SMP area, and/or any changes to the implementation of SMP requirements;	
	h. Records of developments authorised under this consent;	h. Records of developments authorised under this consent;	
	i. Report on any collaboration with papatipu rūnanga and any activities relating to the protection or enhancement of cultural mana whenua values;	i. Report on any collaboration with papatipu rūnanga and any activities relating to the protection or enhancement of mana whenua values;	
	j. A summary of the stormwater quality investigations undertaken during the year;	j. A summary of the stormwater quality investigations undertaken during the year;	
	k. A summary of any additional monitoring or investigations undertaken beyond those specified in the EMP, including those undertaken on industrial sites <u>in accordance with Condition 41</u> , that have been initiated to inform the consent holder on stormwater management effectiveness;	k. A summary of any additional monitoring or investigations undertaken beyond those specified in the EMP, including those undertaken on industrial sites in accordance with Condition 41, that have been initiated to inform the consent holder on stormwater management effectiveness;	
	<u>l. Reporting of the alignment of the consent with the Christchurch West Melton sub-regional section.</u>	l. Reporting of the alignment of the consent with the Christchurch West Melton sub-regional section <u>of the Canterbury Land and Water Regional Plan</u> ;	
	<u>m. Any changes to the regulatory framework that may warrant changes to the SMPs.</u>	m. Any changes to the regulatory framework that may warrant changes to the SMPs; <u>and</u>	
	<u>n. Any complaints or monitoring regarding springs.</u>	n. Any complaints or monitoring regarding springs. <u>Any complaints or observations received by the consent holder regarding spring flow and/or quality.</u>	CCC and CRC staff agreed amended wording.
	ADMINISTRATION AND DURATION	ADMINISTRATION AND DURATION	
54	The consent holder shall engage with papatipu rūnanga to collaboratively consider the Conditions on a 5-yearly basis from the date of granting of this consent.	The consent holder shall engage with papatipu rūnanga to collaboratively consider the Conditions on a 5-yearly basis from the date of granting of this consent.	
55	The Canterbury Regional Council may, on any of the last five days of March or September each year, serve notice of its intention to review the conditions of this consent for the purposes of:	The Canterbury Regional Council may, on any of the last five days of March or September each year, serve notice of its intention to review the conditions of this consent for the purposes of:	
	a. Dealing with any adverse effect on the environment which may arise from the exercise of this consent;	a. Dealing with any adverse effect on the environment which may arise from the exercise of this consent;	

	b. Complying with the requirements of a relevant rule in an operative regional plan.	b. Complying with the requirements of a relevant rule in an operative regional plan.	
	c. _____ within 5 years of the Christchurch West Melton sub-regional section being notified/operative.	c. Achieving consistency of this resource consent in regard to catchment management planning and stormwater management with the provisions of the Christchurch West Melton Sub-regional Section of the Canterbury Land and Water Regional Plan within five years of the notification of the sub-regional section.	Amendment to ensure that the resource consent will respond to the outcomes of the plan change.
		d. Ensuring that improvements of the quality of the stormwater discharge occur over the duration of this resource consent to reduce any adverse effect on the environment; or	Addition to make sure that improvements of discharge quality occur as is the intention of the resource consent.
		e. To provide alternative standards for the expected city-wide percentage contaminant load reductions in Condition 16, or targets for the contaminant load reductions set within SMPs that become apparent through the C-CLM or alternative methods developed by the consent holder.	Addition to ensure that contaminant load standards and targets will be amended when required.
56	The duration of the consent is 25 years.	The duration of the consent is 25 years.	Deleted as this will be included in the consent header.
#		Prior to the exercise of this resource consent, the following resource consents shall be surrendered: a. CRC120223 b. CRC131249	
#		If this consent is not exercised before 31 March 2021, then it shall lapse in accordance with Section 125 of the Resource Management Act 1991.	Lapsing period added.

<p>References</p> <p>ANZECC (Australian and New Zealand Environment and Conservation Council, ANZECC, and Agriculture and Resource Management Council of Australia and New Zealand, ARMCANZ), 2000. Australian and New Zealand guidelines for fresh and marine water quality. Volume 1: The guidelines. ANZECC & ARMCANZ, Artarmon, New South Wales.</p> <p>Crowe, A. & Hay, J. 2004. Effects of fine sediment on river biota. Report No. 951, prepared for Motueka Integrated Catchment Management Programme. Cawthron Institute, Nelson.</p> <p>Canterbury Regional Council (2012). Regional Coastal Environment Plan for the Canterbury Region – Volume 1 (amended 20 September 2012). Canterbury Regional Council.</p> <p>Canterbury Regional Council (2017). Canterbury Land and Water Regional Plan - Volume 1 (August 2017 <u>May 2018</u>). Canterbury Regional Council, Christchurch.</p> <p>Harding, J.S., 2005. Impacts of metals and mining on stream communities, in <i>Metal Contaminants in New Zealand</i>, T.A. Moore, A. Black, J.A. Centeno, J.S. Harding & D.A. Trumm (Editors), p. 343-357. Resolutionz press, Christchurch.</p> <p>Ryan, P.A., 1991. Environmental effects of sediment on New Zealand streams: a review. <i>New Zealand Journal of Marine and Freshwater Research</i> 25: 207-221.</p> <p><u>Stuart, L.S., Batley, G.E. & Chariton, A.A. (2000). Revision of the ANZECC/ARMCANZ sediment quality guidelines. CSIRO Land and Water Science Report 08/07, prepared for the Department of Sustainability, Environment, Water, Population and Communities, CSIRO, Canberra, Australia.</u></p>	<p>References</p> <p>ANZECC (Australian and New Zealand Environment and Conservation Council, ANZECC, and Agriculture and Resource Management Council of Australia and New Zealand, ARMCANZ), 2000. Australian and New Zealand guidelines for fresh and marine water quality. Volume 1: The guidelines. ANZECC & ARMCANZ, Artarmon, New South Wales.</p> <p>ANZECC (Australian and New Zealand Environment and Conservation Council, ANZECC, and Agriculture and Resource Management Council of Australia and New Zealand, ARMCANZ) (2018). Australian and New Zealand guidelines for fresh and marine water quality. ANZECC & ARMCANZ, Artarmon, New South Wales. http://www.waterquality.gov.au/anz-guidelines. Accessed 22 November 2018.</p> <p>Crowe, A. & Hay, J. 2004. Effects of fine sediment on river biota. Report No. 951, prepared for Motueka Integrated Catchment Management Programme. Cawthron Institute, Nelson.</p> <p>Canterbury Regional Council (2012). Regional Coastal Environment Plan for the Canterbury Region – Volume 1 (amended 20 September 2012). Canterbury Regional Council.</p> <p>Canterbury Regional Council (2017). Canterbury Land and Water Regional Plan - Volume 1 (August 2017 <u>May 2018</u>). Canterbury Regional Council, Christchurch.</p> <p>Harding, J.S., 2005. Impacts of metals and mining on stream communities, in <i>Metal Contaminants in New Zealand</i>, T.A. Moore, A. Black, J.A. Centeno, J.S. Harding & D.A. Trumm (Editors), p. 343-357. Resolutionz press, Christchurch.</p> <p>Ryan, P.A., 1991. Environmental effects of sediment on New Zealand streams: a review. <i>New Zealand Journal of Marine and Freshwater Research</i> 25: 207- 221.</p> <p><u>Stuart, L.S., Simpson, S. L., Batley, G.E. & Chariton, A.A. (200013). Revision of the ANZECC/ARMCANZ sediment quality guidelines. CSIRO Land and Water Science Report 08/07, prepared for the Department of Sustainability, Environment, Water, Population and Communities, CSIRO, Canberra, Australia.</u></p>	
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Schedule 1: Sites excluded from the Christchurch City Council Comprehensive Discharge Consent

Sites excluded from the South West SMP Area

Street Address	Street Number	Legal Description	CCC Prupi
Alloy Street	2	Lot 2 DP 64248	704537
Ballarat Way	2	Lot 1 DP 466471	618251
Ballarat Way	10	Lot 2 DP 466471	618252
Blenheim Road	412	Part Lot 3 DP 15178	466207
Blenheim Road	4/455	Lot 1 DP 489573	923053
Branston Street	96	Lot 2 DP 352288	587825
Canterbury Street	7	Lot 10 DP 2899, Lot 9 DP 2899, Lot 11 DP 2899, Lot 12 DP 2899, Lot 1 DP 21916	716119
Carmen Road	106G	Lot 3 DP 338441	582584
Chappie Place	17	Lot 1 DP 443257	908779
Halswell Junction Road	515	Lot 2 DP 358423, Lot 3 DP 358423	587860, 587861
Hayton Road	115	Lot 3 DP 353897	585855
Hayton Road	137	Lot 2 DP 343321	584430
Hayton Road	79 & 79A	Lot 1 DP 481286, Lot 2 DP 481286	924341, 924342
Main South Road	222	Lot 1 DP 14716, Lot 1 DP 51993	750576
Main South Road	243 & 245	Pt Lot 2 DP 6604, RS 39034, Lot 1 DP 78344, Lot 2 DP 78344	516213, 520964, 408547, 510731
McAlpine Street	18	Lot 8 DP 36831	429004
McAlpine Street	67	Lot 9 DP 30936	428578
Parkhouse Road	59	Lot 1 DP 25818	485608
Springs Road	254	Lot 1 DP 358423	587859
Waterloo Road	60	Lot 1 DP 80063	407540
Wigram Close	15	Lot 1 DP 51889, Lot 2 DP 324467	504628, 579847
Wigram Road	120	Lot 2 DP 493335	625647
Wigram Road	122	Lot 4 DP 475888	621028
Wigram Road	120A	Lot 1 DP 493335	625646
Wilmers Road	10	Lot 4 DP 20669	817675
Wilmers Road	50	Lot 5 DP 447519	615860
Partial Site Exclusions			
Street Address	Street Number	Legal Description	CCC Prupi
Carmen Road	112	Section 27 SO 459717	629404
Halswell Junction Road	600	Lot 7 DP 404845	609872
Harvard Avenue	45	Lot 1 DP 81480	565026
Main South Road	282	Lot 10 DP 1391	750597

Sites excluded from the Pūharakekenui/Styx SMP Area

Street Address	Street Number	Legal Description	CCC Prupi
Barnes Road	79-87	Lot 1 DP 346683	586324
Belfast Road	30	Lot 2 DP 37063	425217
Broughs Road	6	LOT 15 DP 36871	814749
Broughs Road	7	LOT 2 DP 36871	714473
Broughs Road	15	LOT 3 DP 36871	804901
Broughs Road	23	LOT 4 DP 36871	874832
Cavendish Road	150	Lot 2 DP 401108	609557
Cavendish Road	158	Lot 1 DP 360822	587685
Dickeys Road	13	Pt Lot 1 DP 23890, Lot 1 DP 25116	437651, 438723
Export Avenue	1	LOT 6 DP 83863	861839
Export Avenue	2	LOT 2 DP 304904	861835
Export Avenue	3	LOT 5 DP 83863	861838
Export Avenue	6	LOT 3 DP 83863	861836
Export Avenue	8	LOT 4 DP 83863	861837
Johns Road	480	Sec 62 SO 460822	620075
Johns Road	530	PT LOT 1 DP 51000	870081
Johns Road	544	PT LOT 1 DP 23615	857821
Johns Road	550	Sec 8 SO 494743, Sec 21 SO 494743	628638, 628647
Johns Road	568	LOT 2 DP 51000	832492
Johns Road	600	PT RS 40862	870083
Logistic Drive	10	LOT 10 DP 375764	891559
Logistic Drive	11	LOT 9 DP 375764	891558
Logistic Drive	12	LOT 1 DP 412022	900821
Logistic Drive	14	LOT 12 DP 375764, LOT 2	900822
Logistic Drive	15	LOT 8 DP 375764	891557
Logistic Drive	16	LOT 13 DP 375764	891562
Logistic Drive	17	LOT 7 DP 375764	891556
Logistic Drive	18	LOT 100 DP 412877	900774
Logistic Drive	19	LOT 6 DP 375764	891555
Logistic Drive	20	LOT 101 DP 412877	900775
Logistic Drive	21	LOT 5 DP 375764	891554
Logistic Drive	23	LOT 4 DP 375764	891553
Logistic Drive	24	LOT 102 DP 412877	900776
Logistic Drive	25	LOT 3 DP 375764	891552
Logistic Drive	26	LOT 103 DP 412877	900777
Logistic Drive	27	LOT 2 DP 375764	891551
Logistic Drive	28	LOT 104 DP 412877	900778
Logistic Drive	29	LOT 1 DP 375764	891550
Logistic Drive	31	LOT 17 DP 375764	891566
Logistic Drive	15L	LOT 19 DP 375764	891573
Logistic Drive	29L	LOT 20 DP 375764	891574
Lower Styx Road	361	Lot 1 DP 508689	629529
Mcleans Island Road	2	LOT 16 DP 375764	891565
Mcleans Island Road	12	LOT 15 DP 375764	891564

Mcleans Island Road	14	LOT 1 DP 304904	865337
Mcleans Island Road	16	LOT 2 DP 79639	754142
Nathan Place	1	PT LOT 2 DP 55072	870082
Nathan Place	7	LOT 3 DP 55072	864585
Nathan Place	11	LOT 1 DP 70619	864584
Radcliffe Road	301	Lot 4 DP 313448	584569
Sawyers Arms Road	527	LOT 1 DP 55072	836526
Sawyers Arms Road	530	PT LOT 1 DP 51000	870081
Sawyers Arms Road	533	LOT 1 DP 45800	858525
Sawyers Arms Road	540	LOT 1 DP 36870	817420
Sawyers Arms Road	565	LOT 2 DP 64781	771301
Sawyers Arms Road	575	LOT 1 DP 64781	771302
Spencerville Road	25	Lot 2 DP 53987	419068
Turners Road	50	Lot 3 DP 83312	568085
Wairakei Road	656	Lot 1 DP 6411	414964

Schedule 2: Christchurch Contaminant Load Model

Schedule 3: General City Conditions – Water Quality and Quantity

This table indicates minimum requirements to enable discharges under this consent from greenfield developments and re-developments in areas not yet covered by a Stormwater Management Plan. Until 1 January 2025, for any development where the Christchurch City Council (CCC) considers there are factors that require Canterbury Regional Council input it can choose to not accept a proposed discharge to its network, and therefore a consent from the Regional Council would be required. The CCC may also require a higher standard than is represented in the table below in order to mitigate effects on the network or if any special conditions exist.

Source of Stormwater Discharge(s)	SMALL SITES	LARGE SITES
	Total area of disturbance does not exceed 1,000m ²	Total area of disturbance equals, or is greater than 1,000m ²
From/during land disturbance activities	Erosion and Sediment Control Plan is required	Erosion and Sediment Control Plan is required
From new / re-development residential roof and hardstand areas	<p>No discharge onto or into land where average site slope exceeds 5 degrees</p> <p>Sumps collecting runoff from new hardstand areas shall be fitted with submerged or trapped outlets wherever practicable</p> <p>An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required for sites in the flat**</p> <p>On-site rain water storage is required for new and redevelopment sites on the hills</p>	<p>No discharge onto or into land where average site slope exceeds 5 degrees</p> <p>First flush treatment is required for stormwater runoff from new hardstand areas in excess of 150m² and buildings with copper or uncoated galvanised metal roofs or guttering/spouting*</p> <p>An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required for sites in the flat**</p> <p>On-site rain water storage is required for new and redevelopment sites on the hills</p>
From new / re-development non-residential roof and hardstand areas	<p>No discharge onto or into land where average site slope exceeds 5 degrees</p> <p>First flush treatment is required for stormwater runoff from new hardstand areas in excess of 150m², buildings with copper or uncoated galvanised roofs or guttering/spouting and high-use sites</p> <p>An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required**</p> <p>Site management and spill procedures required for sites that engage in hazardous activities***</p>	<p>No discharge onto or into land where average site slope exceeds 5 degrees</p> <p>First flush treatment is required for stormwater runoff from new hardstand areas in excess of 150m², buildings with copper or uncoated galvanised roofs or guttering/spouting and high-use sites</p> <p>An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required**</p> <p>Site management and spill procedures required for sites that engage in hazardous activities***</p>

* CCC has discretion to waive the requirement for first flush treatment of hardstand areas on large residential sites where the amount of pollution-generating hardstand being added is considered to have less than minor effect. "Uncoated" means without a painted or enamelled coating.

** Quantity assessment and mitigation - The effects of the discharge on CCC stormwater network capacity and/or the extent or duration of flooding on downstream properties are to be assessed. Where CCC considers an increase (including cumulative increases) has a more than minor effect, onsite stormwater attenuation or stormwater network upgrade shall be provided. The details of storage volume and peak discharges or network capacity required to mitigate effects on flooding or network capacity constraints shall be determined by the Christchurch City Council Planning Engineer.

*** Site management and spill procedures – Procedures are to be implemented to prevent the discharge of hazardous substances or spilled contaminants discharging into any land or surface waters via any conveyance path.

Schedule 4: Receiving Environment Objectives and Attribute Target Levels for Waterways -

- **The EMP outlines the methodology for the monitoring of Attributes and how these will be compared against Attribute Target Levels**
- TBC-A = To Be Confirmed once a full year of monitoring allows hardness modified values to be calculated, in accordance with Condition 45.
- TBC-B = To Be Confirmed following engagement with papatipu rūnanga, through an update to the EMP, in accordance with Condition 47.

Objective	Attribute	Attribute Target Level	Basis for Target
Enhance ecological values <u>Ecological values are at acceptable levels</u> <u>Adverse effects on ecological values do not occur due to stormwater inputs</u>	QMCI	Lower limit QMCI scores: <ul style="list-style-type: none"> • Spring-fed – plains – urban waterways: 3.5 • Spring-fed – plains waterways: 5 • Banks Peninsula waterways: 5 	QMCI is an indicator of aquatic ecological health, with higher numbers indicative of better quality habitats, due to a higher abundance of more sensitive species. QMCI scores are taken from the guidelines in Table 1a of the LWRP (Canterbury Regional Council, 2017 8). This metric is designed for wadeable sites and should therefore be used with caution for non-wadeable sites. These targets can be achieved through reducing contaminant loads and waterway restoration.
Decrease sediment input to prevent adverse effects on water clarity and aquatic biota <u>Adverse effects on water clarity and aquatic biota do not occur due to sediment inputs</u>	Fine sediment (<2 mm diameter) percent cover of stream bed TSS concentrations in surface water	Upper limit fine sediment percent cover of stream bed: <ul style="list-style-type: none"> • Spring-fed – plains – urban waterways: 30% • Spring-fed – plains waterways: 20% • Banks Peninsula waterways: 20% Upper limit concentration of TSS in surface water: 25 mg/L during base flow, and 100 mg/L during wet weather No statistically significant increase in TSS concentrations <u>in surface water</u>	Sediment (particularly from construction) can decrease the clarity of the water, and can negatively affect the photosynthesis of plants and therefore primary productivity within streams, interfere with feeding through the smothering of food supply, and can clog suitable habitat for species. These se <u>sediment cover</u> Target Levels are taken from the standards for the original Styx and South-West Stormwater Management Plan consents, and are based on Table 1a of the LWRP (Canterbury Regional Council, 2017 8). These targets should be used with caution at sites that likely naturally have soft-bottom channels. These targets can be achieved through reducing contaminant loads (particularly using erosion and sediment control) and instream sediment removal.
Reduce copper, lead and zinc levels in surface water to prevent adverse effects on aquatic biota <u>Adverse effects on aquatic biota do not occur due to copper, lead and zinc inputs in surface water</u>	Zinc, copper and lead concentrations in surface water	Upper limit concentration of dissolved zinc: <ul style="list-style-type: none"> • Ōtākaro/ Avon River catchment: 0.0297 mg/L • Ōpāwaho/ Heathcote River catchment: 0.04526 mg/L • <u>Cashmere Stream: 0.00724 mg/L</u> • Huritini/ Halswell River catchment: 0.01919 mg/L • Pūharakekenui/ Styx River catchment: 0.01214 mg/L • Ōtūkaikino River catchment: 0.00868 mg/L • Linwood Canal: 0.146 mg/L • Banks Peninsula catchments: TBC-A Upper limit concentration of dissolved copper: <ul style="list-style-type: none"> • Ōtākaro/ Avon River catchment: 0.00356 mg/L • Ōpāwaho/ Heathcote River catchment: 0.00543 mg/L • <u>Cashmere Stream: 0.00302 mg/L</u> • Huritini/ Halswell River catchment: 0.00336 mg/L • Pūharakekenui/ Styx River catchment: 0.00212 mg/L • Ōtūkaikino River catchment: 0.00152 mg/L • Linwood Canal: 0.0175 mg/L • Banks Peninsula catchments: TBC-A 	These metals can be toxic to aquatic organisms, negatively affecting such things as fecundity, maturation, respiration, physical structure and behaviour. The CCC has developed these hardness modified trigger values in accordance with the methodology in the 'Australian and New Zealand Environment and Conservation Council, and Agriculture and Resource Management Council of Australia and New Zealand' (ANZECC, 2000) guidelines, and the species protection level relevant to each waterway in the LWRP (Canterbury Regional Council, 2017 8). This calculation document can be provided on request. These targets can be achieved primarily through reducing contaminant loads.

Objective	Attribute	Attribute Target Level	Basis for Target
		<p>Upper limit concentration of dissolved lead:</p> <ul style="list-style-type: none"> • Ōtākaro/ Avon River catchment: 0.01554 mg/L • Ōpāwaho/ Heathcote River catchment: 0.02916 mg/L • Cashmere Stream: 0.00521 mg/L • Huritini/ Halswell River catchment: 0.01257 mg/L • Pūharakekenui/ Styx River catchment: 0.00634 mg/L • Ōtūkaikino River catchment: 0.00384 mg/L • Linwood Canal: 0.167 mg/L • Banks Peninsula catchments: TBC-A <p>No statistically significant increase in copper, lead and zinc concentrations</p>	
<p>Reduce nutrient levels to limit excessive growth of macrophytes and filamentous algae Excessive growth of macrophytes and filamentous algae does not occur due to nutrient inputs</p>	<p>Total macrophyte and filamentous algae (>20 mm length) cover of stream bed</p>	<p>Upper limit total macrophyte cover of the stream bed:</p> <ul style="list-style-type: none"> • Spring-fed – plains – urban waterways: 60% • Spring-fed – plains waterways: 50% • Banks Peninsula waterways: 30% <p>Upper limit filamentous algae cover of the stream bed:</p> <ul style="list-style-type: none"> • Spring-fed – plains – urban waterways: 30% • Spring-fed – plains waterways: 30% • Banks Peninsula waterways: 20% 	<p>Macrophyte and algae cover are indicators of the quality of aquatic habitat. Targets are taken from Table 1a of the LWRP (Canterbury Regional Council, 20178). Improvement towards these targets can be achieved by reduction in nutrient concentrations and riparian planting to shade the waterways.</p>
<p>Improve instream sediment quality to prevent adverse effects on aquatic biota Adverse effects on aquatic biota do not occur due to zinc, copper, lead and PAHs in instream sediment</p>	<p>Zinc, copper, and lead and PAHs concentrations in instream sediment</p>	<p>Upper limit concentration of total recoverable metals for all classifications:</p> <ul style="list-style-type: none"> • Copper = 65 mg/kg dry weight • Lead = 50 mg/kg dry weight • Zinc = 200 mg/kg dry weight • Total PAHs = 4 10 mg/kg dry weight <p>No statistically significant increase in copper, lead, zinc and Total PAHs</p>	<p>Meta Metals can bind to sediment and remain in waterways, potentially negatively affecting biota. These trigger values are based on the ISQG-low ANZECC (2000) guidelines (ANZECC, 2018: Stuart Simpson et al., 2013). These targets can be achieved through reducing contaminant loads and instream sediment removal.</p>
<p>Enhance mana whenua freshwater values Mana whenua freshwater values are at acceptable levels Adverse effects on Mana Whenua values do not occur due to stormwater inputs</p>	<p>Waterway Cultural Health Index and State of Takiwā scores</p>	<p>Lower limit averaged Waterway Cultural Health Index and State of Takiwā scores for all classifications:</p> <ul style="list-style-type: none"> • Spring-fed – plains – urban waterways: TBC-B • Spring-fed – plains waterways: TBC-B Banks Peninsula waterways: TBC-B 	<p>The Waterway Cultural Health Index assesses cultural values and indicators of environmental health, such as mahinga kai (food gathering). These indices are on a scale of 1 - 5, with higher scores indicative of greater cultural values. No guidelines are available currently for the different types of waterways, so these targets will be developed specifically for this consent, with higher targets for waterways with higher values. These targets can be achieved through reducing contaminant loads and habitat restoration.</p>

Schedule 5: Receiving Environment Objectives and Attribute Target Levels for Coastal Waters

- The EMP outlines the methodology for the monitoring of Attributes and how these will be compared against Attribute Target Levels
- TBC-B = To Be Confirmed following consultation with papatipu rūnanga, through an update to the EMP, in accordance with Condition 47.

Objective	Attribute	Attribute Target Level	Basis for Target
Reduce sediment input to prevent adverse effects on water clarity and aquatic biota <u>Adverse effects on water clarity and aquatic biota do not occur due to sediment inputs</u>	TSS concentrations in surface water	No statistically significant increase in TSS concentrations	Elevated levels of TSS in the water column decrease the clarity of the water and can adversely affect aquatic plants, invertebrates and fish (Crowe & Hay, 2004; Ryan, 1991). For example, sediment can affect photosynthesis of plants and therefore primary productivity, interfere with feeding through the smothering of food supply, and can clog suitable habitat for species (Crowe & Hay, 2004; Ryan, 1991). <u>There is no guideline available for this parameter, so no change in concentrations is proposed to be conservative.</u> The target will be achieved by reducing contaminant loads (particularly using erosion and sediment control measures).
Decrease copper, lead and zinc levels in water to prevent adverse effects on aquatic biota <u>Adverse effects on aquatic biota do not occur due to copper, lead and zinc inputs in surface water</u>	Copper, lead and zinc concentrations in surface water	Maximum dissolved metal concentrations for all classes (with the exception of the Operational Area of the Port of Lyttelton): <ul style="list-style-type: none"> • Copper: 0.005 <u>0.0013</u> mg/L • Lead: 0.005 <u>0.0044</u> mg/L • Zinc: 0.05 <u>0.015</u> mg/L <p>No statistically significant increase in copper, lead and zinc concentrations <u>(with the exception of the Operational Area of the Port of Lyttelton)</u></p>	Metals, in particular, copper, lead and zinc, can be toxic to aquatic organisms, negatively affecting such things as fecundity, maturation, respiration, physical structure and behaviour (Harding, 2005). Site specific criteria are set out in the Regional Coastal Environment Plan for the Canterbury Region (Canterbury Regional Council, 2012). The plan specifically details that this guideline is not relevant for the Operational Area of the Port of Lyttelton. <u>These targets are taken from the ANZECC (2000) guidelines for the protection of 95% of species.</u> This <u>Operational Area of the Port of Lyttelton area</u> is affected by direct discharges from boats that will make monitoring of the effects of stormwater difficult, <u>therefore the targets are not applicable to this area.</u> These targets will be achieved by reducing contaminant loads.
Enhance mana whenua coastal values <u>Mana whenua coastal values are at acceptable levels</u> <u>Adverse effects on Mana Whenua values do not occur due to stormwater inputs</u>	Marine Cultural Health Index and State of Takiwā scores	Minimum averaged Marine Cultural Health Index and State of Takiwā scores for all classes: <ul style="list-style-type: none"> • TBC-B 	The Marine Cultural Health Index and State of Takiwā scores assesses cultural values and indicators of environmental health, such as mahinga kai (food gathering). These indices are on a scale of 1 - 5, with higher scores indicative of greater cultural values. No guidelines are available currently for coastal areas, so this target will be developed specifically for this consent. These targets can be achieved through reducing contaminant loads.

Schedule 6: Receiving Environment Objectives and Attribute Target Levels for Groundwater and Springs

- The EMP outlines the methodology for the monitoring of Attributes and how these will be compared against Attribute Target Levels

Objective	Attribute	Attribute Target Level	Basis for Target
<i>Protect drinking water quality</i>	Copper, lead, zinc and <i>Escherichia coli</i> concentrations in drinking water	<p>Concentration to not exceed:</p> <ul style="list-style-type: none"> • Dissolved Copper: 0.5 mg/L • Dissolved Lead: 0.0025 mg/L • Dissolved Zinc: 0.375 mg/L <p>No statistically significant increase in the concentration of <i>Escherichia coli</i> at drinking water supply wells</p>	The most important use of Christchurch groundwater is the supply of the urban reticulated drinking water supply. Contaminants in stormwater that infiltrate into the ground could impact on the quality of water supply wells and/or springs. The compliance criteria for a potable and wholesome water supply are specified in the Drinking-Water Standards for New Zealand 2005 (Revised 2008). Metals and <i>E.coli</i> were chosen for these targets, as these are contaminants present in stormwater. The target values for copper and lead are a quarter of the Maximum Acceptable Value (MAV) or Guideline Value (GV) taken from the Drinking Water Standards for New Zealand 2005 (revised 2008). This is to ensure investigations occur before the water quality limits in the LWRP are exceeded, which are that concentrations are not to exceed 50% of the MAV. An equivalent criteria has also been applied to the zinc target, which is not included in the LWRP water quality limits, but has a guideline in the drinking water standards.
<i>Avoid widespread adverse effects on shallow groundwater quality</i>	Electrical conductivity in groundwater	<ul style="list-style-type: none"> • No statistically significant increase in electrical conductivity 	Contaminants in stormwater that infiltrate into the ground could impact on groundwater quality. Long term groundwater quality at monitoring wells is undertaken by Canterbury Regional Council. Those monitoring points that occur within the urban area could be impacted by CCC stormwater management activities. Electrical conductivity is to be used as an indicator for identifying <u>any general</u> changes in <u>groundwater quality related to recharge</u> metals (particularly copper, lead, zinc).

Schedule 7: Receiving Environment Attribute Target Levels for Water Quantity

MODELLED CATCHMENTS			
<p>Attribute Target Level: Modelled flood levels for the 2% AEP for the assessment year critical duration event shall not increase more than the Maximum Increase listed below when compared to the modelled 2% AEP for the baseline year impervious scenario critical duration, as determined using CCC flood models. The baseline year scenario and assessment year scenario shall be identical except for changes to the impervious area, mitigation measures and the inclusion of any new network(s) that has arisen between the dates of the two scenarios and within the city limits. All non-variant scenario parameters shall be as at the assessment year scenario. The critical duration shall be assessed at the monitoring location of the attribute target level.</p>			
Receiving Environment	Monitoring Location	Baseline Year	Maximum Increase (mm)
<u>Ōtākaro/ Avon River</u>	<u>Gloucester Street Bridge</u>	<u>2014</u>	<u>50</u>
<u>Pūharakekenui/ Styx River</u>	<u>Harbour Road Bridge</u>	<u>2012</u>	<u>100 +/- 20%</u>
<u>Ōpāwaho/ Heathcote River</u>	<u>Ferniehurst Street</u>	<u>1991</u>	<u>30</u>
<u>Huritini/ Halswell River</u>	<u>Minsons Drain confluence*</u>	<u>2016</u>	<u>0</u>
NON-MODELLED CATCHMENTS			
Receiving Environment	Attribute Target Level	Basis for Target	Notes
Ōtūkaikino River	Discharges from all new greenfield development into the Christchurch City Council network are mitigated using the "Partial Detention" strategy outlined in the Pūharakekenui/ Styx SMP <u>until such time as a monitoring location can be set during review of the SMP</u>	As measured through the CCC discharge authorisation compliance process for Resource and Building Consents <u>until such time as an Baseline Year can be set during review of the SMP</u>	CCC does not monitor or model flooding in the Ōtūkaikino River <u>has just begun monitoring the Ōtūkaikino at Dickeys Road Bridge. Council does not currently model flooding in the Ōtūkaikino River.</u> Flooding occurs primarily due to backwater effects in the Waimakariri River. Therefore, a best practice approach to mitigation of development will be implemented <u>until such time as Maximum Increase can be set during review of the SMP.</u>
Banks Peninsula (Various)	Discharges from all new greenfield development within settlement areas of Te Pātaka o Pākaihautū/ Banks Peninsula into the Christchurch City Council Network are mitigated using the "Extra-Over Detention" strategy	As measured through the CCC discharge authorisation compliance process for Resource and Building Consents	Receiving environments within Te Pātaka o Pākaihautū/ Banks Peninsula Settlements are primarily coastal. The strategy behind "Extra-Over Detention" is to mitigate peak flows from development sites back to pre-development flow rates in order to mitigate effects of flooding and waterway channel erosion. Therefore, a best practice approach to mitigation of development will be implemented.

* The Minsons Drain confluence with the Huritini/Halswell River represents the southerly extent of inputs from Christchurch City catchments, but also contains discharges from Selwyn District. Inputs from catchments outside of the city shall be isolated in the CCC stormwater model for compliance assessment purposes.