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5 April 2019

Christchurch City Council
Attn.: Brent Pizzey
Associate General Counsel
PO Box 73015
Christchurch 8154

Dear Brent

CRC190445 – Christchurch City Council Comprehensive Stormwater Network Discharge Consent (CSNDC): Agreement on Resource Consent Conditions

Thank you for the opportunity to provide a statement on the Christchurch City Council's (CCC) final proposed resource consent conditions.

Since the adjournment of the Hearing, CCC and Canterbury Regional Council (CRC) staff have met on multiple occasions to work cooperatively on, and further develop, the resource consent conditions for the CSNDC, to resolve issues raised at the hearing and to improve clarity and consistency of the conditions.

We have reviewed the latest version of the Applicant's proposed conditions and are generally satisfied that these will adequately mitigate the actual and potential adverse effect arising from the proposed stormwater discharges. Copies of the agreed conditions ('Track Change Version' and 'Clean Version') are attached to this letter. We are also satisfied that the and the Draft Environmental Monitoring Programme (Version 6.0, dated April 2019) is adequate to assess whether Receiving Environment Objectives and Attribute Target Levels are being met. On this basis, we confirm that, in response to Paragraph 6 of the Commissioners' Minute of 28 March 2019, there are no remaining areas of disagreement between the Applicant and the CRC reporting officers with regard to the proposed conditions.

CRC staff consider that the current draft conditions, as amended in cooperation between the Applicant and CRC staff, address the issues raised at the Hearing, including:

- The definition of the stormwater network, which has been amended to address the CRC's and submitters concerns regarding the inclusion of rivers as part of the network. This has also led to the redrafting of Conditions 1 to 3, which describe the scope of the resource consent, in order to more clearly define the discharges that fall under the CSNDC and the ones that do not.
- The Applicant has adopted the term 'Best Practicable Options' in relation to mitigation measures put in place by CCC, which is supported by CRC staff as the terminology sets a higher standard than 'all reasonably practicable measures', which was considered the

minimum requirement by the CRC in terms of mitigation measures that are to be implemented under the CSNDC. We consider the use of 'reasonably practicable' in other instances adequate.

- The recommendation by CRC staff for a Technical Advisory Panel has been adopted by the Applicant in form of the proposed Stormwater Technical Peer Review Panel (Stormwater TPRP). This panel will provide a review of the SMPs and also provide input into the various feasibility studies and cost benefit analysis proposed by the Applicant in Schedules 3 and 4 of the proposed conditions ('Clean Version'). This approach is supported by CRC staff.
- In addition to the Christchurch Contaminated Load Model, which sets City-wide contaminant load reduction standards, the Applicant now proposes to develop contaminant load reduction targets through the Stormwater Management Plan (SMP) process. Further investigations are proposed to ensure the best reasonably practicable model or method and input data are used to develop these targets. The Stormwater TPRP will provide input and guidance on this process. Reporting will demonstrate compliance with the targets and actions need to be taken if targets are not being met. CRC staff support this approach.
- The Applicant proposes to carry out investigations into the effectiveness of source control, including a cost benefit analysis on the number of Industrial Site Audits (ISAs) that should be carried out by CCC over the duration of the resource consent. While our position was to require a higher number of ISAs, we support this approach as it will be guided by the Stormwater TPRP.
- Additional flood monitoring locations are proposed to be developed through the SMP process in addition to those identified in Schedule 10 of the proposed conditions ('Clean Version'). Further, investigations are proposed into flooding issues and river management, specifically for the Pūharakekenui/Styx River Catchment.
- The Applicant has proposed the inclusion of a Receiving Environment Objective for flooding in Schedule 10 of the proposed conditions ('Clean Version'), which is supported by CRC staff. Further, conditions have been added by the Applicant addressing the responses to flood modelling, should the Attribute Target Levels in Schedule 10 not be met.
- The Applicant has also addressed a number of matters raised by submitters, specifically industry groups and river care groups. The Applicant proposes improved consultation and engagement with these groups, and their involvement in the SMP development and other processes under the CSNDC, which is supported by CRC staff.

Notwithstanding the above support expressed for the conditions, it is noted that this statement has not considered any changes that the Applicant may propose to address any matters arising from the evidence of the water quantity experts at the reconvened hearing.

On the basis that the majority of issues raised at the hearing have been addressed by the Applicant through the revision of the proposed resource consent conditions, I am now in a position to recommend granting of the CSNDC for a duration of 25 years.

If the Commissioners would like further comment on, or assistance with, the drafting of the final resource consent conditions, further comment on the cooperative process between the Applicant and CRC staff to date, or the agreements reached between the Applicant and CRC staff, we would be happy to provide this to the Commissioners.

Yours sincerely

Nick Reuther
Senior Consents Planner

Paul Hopwood
Principal Strategy Advisor

Encl.:

- CRC190445 – CSNDC Applicant's Conditions 8 April 2019 ('Track Change Version')
- CRC190445 – A Comprehensive Resource Consent to Discharge Stormwater from within Christchurch City onto or into Land, into Water and into Coastal Environments ('Clean Version')

CRC190445 – CSNDC Applicant's Conditions 8 April 2019 ('Track Change Version')

CRC190445

CSNDC APPLICANT'S CONDITIONS 8 APRIL 2019

	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)**	**8 February 2019 Conditions** **(this is the version ~~now~~ proposed by the applicant on 8 February 2019 and includes all those amendments that were at that stage agreed between CCC and CRC staff following the adjournment of the hearing. All amendments are shown in green text)**	**8 April 2019 – Final Conditions** **(~~this is the version now~~Final version of conditions proposed by the applicant. ~~and includes all those amendments a~~Agreed between CCC and CRC reporting staff following ~~the adjournment of the hearing~~8 February 2019. All amendments since 8 February 2019 are shown in tracked changes)**
	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.	**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.	**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.
	area of disturbance means an area where site clearance or earthworks are actively taking place and where the land has not been stabilised.	**area of disturbance** means an area where site clearance or earthworks are actively taking place and where the land has not been stabilised.	**area of disturbance** means an area where site clearance or earthworks are actively taking place and where the land has not been stabilised.
			Banks Peninsula means the area within Banks Peninsula as defined by the operative Christchurch District Plan (or successor).
			Best Practicable Option is as defined in~~under~~ the Resource Management Act 1991.
	CSNDC means the Christchurch City Council Comprehensive Stormwater Network Discharge Consent.	~~**CSNDC** means the Christchurch City Council Comprehensive Stormwater Network Discharge Consent.~~	
	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.	**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 these conditions ~~this resource consent~~ as Schedule 2.	**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 these conditions as Schedule 2.
	critical duration means the time taken during a storm event for peak water levels to be reached in the receiving waters	**critical duration** means the time taken during a storm event for peak water levels to be reached in the receiving waters	**critical duration** means the time taken during a storm event for peak water levels to be reached in the receiving waters.
	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.	**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.	**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.
	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.	**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.	**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.
	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.	**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.	**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.

	EMP means Environmental Monitoring Programme.	**EMP** means Environmental Monitoring Programme.	**EMP** means Environmental Monitoring Programme.
	existing site means any site that discharges its stormwater into the CCC stormwater network at the date of commencement of this resource consent.	**existing site** means any site that discharges its stormwater into the CCC stormwater network at the date of commencement of this resource consent.	**existing site** means any site that discharges its stormwater into the stormwater network at the date of commencement of this resource consent.
	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.	**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.	**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% AEP design storm event.
	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, at a larger scale than a device, 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 **method** ~~means~~ of holding or attenuating stormwater, at a larger scale than a device, 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.	**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.	**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 that is to be used for urban purposes, for example ~~(~~construction of residential or industrial subdivision, buildings, roads and associated services~~)~~.	**greenfield** means agricultural, forest or grass land ~~previously undeveloped~~ that is to be used for urban purposes, for example construction of residential or industrial subdivision, buildings, roads and associated services.
	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.).	**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.	**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.	**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.	**Industry Liaison Group** means a group of representatives from various industries**, which will include the Oil Industry Environmental Working Group, Lyttelton Port Company and Ravensdown Limited,** invited by Christchurch City Council to attend an annual meeting to discuss stormwater discharges under this resource consent.
	LWRP means Canterbury Land and Water Regional Plan.	**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.	**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.	**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 **% AEP** ~~percent annual exceedance probability~~ design storm event.
	QMCI means Quantitative Macroinvertebrate Community Index.	**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.	**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 **resource** 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.	**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.

		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: • 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.	**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: • Residential Banks Peninsula • Residential Small Settlement • Residential Large Lot • Commercial Banks Peninsula • Open Space Metropolitan Facilities • Specific Purpose (Lyttelton Port) • Industrial General • Specific Purpose (School) • Specific Purpose (Cemetery) • Open Space Community Parks.
	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.	**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.	**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.	**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.	**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** means runoff **water and entrained contaminants arising** from **precipitation on the external surface of any structure or any land modified by human action, and that has** ~~rainfall that has~~ been ~~collected,~~ channelled, diverted, intensified or accelerated by human ~~modification~~ **intervention.** ~~of the land surface or runoff from the external surface of any structure as a result of precipitation and may contain contaminants.~~ Stormwater 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	**stormwater network** means 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 **includes** any device or facility for the treatment of stormwater **owned or operated by the Christchurch City Council**, prior to a discharge to land, groundwater or surface water. ~~It~~ **Stormwater network** excludes any ~~drainage~~ system that has been constructed for the primary purpose of collection, conveyance or discharge of ~~drainage~~ **ground**water.

		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.	
		Sub-catchment means part of a catchment.	**Sub-catchment** means part of a catchment.
	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.	**surface water** means water in rivers, watercourses and artificial waterbodies, 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[1]."	**~~S~~WIM** means the ~~Joint Stormwater Management Issues Working~~Water Issues Management Group, or its successor. The ~~S~~WIM 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[1]~~ 'Joint Christchurch City Council and Environment Canterbury Stormwater Management Protocol (March 2006, Revised September 2008 and November 2010)'.	**TSS** means Total Suspended Solids.
	TSS means Total Suspended Solids.	**TSS** means Total Suspended Solids.	**WIM** means the Water Issues Management Group, or its successor. The WIM 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 'Joint Christchurch City Council and Environment Canterbury Stormwater Management Protocol (March 2006, Revised September 2008 and November 2010)'.

	ACTIVITY **Purpose and Location**	**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.	**Except where excluded under Condition 2, t**his consent authorises the discharge of stormwater onto or into land or into surface water 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.
	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. **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.**	~~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.~~ ~~**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.**~~	
	Exclusions	**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:	This consent excludes discharges ~~from~~:
	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	(a) **Emanating** ~~Stormwater networks~~ **from land within Banks Peninsula that is** 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 ~~in~~to the Coastal Marine Area; and	(b) **From** ~~**P**~~**p**rivate stormwater **systems** ~~networks~~ that bypass the ~~Christchurch City Council~~ stormwater network **(owned and operated by Christchurch City Council)** 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	(c) **Emanating from** ~~**H**~~**h**ardstand 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 *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.*	(d) **From** ~~A~~**a**ny ~~new~~ activity **not existing at the commencement of this resource consent** ~~on a site, or~~ re-development, ~~of a site,~~ or development **site** ~~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 *Advice Note: The identification of unacceptable high risk will be in the manner required by the Memorandum of* ***Understanding for Stormwater Discharges in Christchurch City (2014), or successor document,*** *between the* ***Christchurch City*** *Council~~s~~* ***and Canterbury Regional Council*** *until a risk matrix is finalised* ***under condition 3 below****.*
		e. Any stage of development with a total area of disturbance exceeding 5 hectares on flat land or 1 hectare on hill land, and;	(e) **Emanating from** ~~A~~**a**ny stage of **a** development **site** 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.~~	(f) **From** ~~A~~**a**ny site listed on the attached Schedule 1 'Sites excluded from the Christchurch City Council Comprehensive Stormwater Network Discharge Consent'**:** (i) at commencement of this **resource** 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**.**~~,~~
		Transitional Arrangements	**Transitional Arrangements**
3	Discharge **into the Christchurch City Council stormwater network** 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**, 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:**	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:	Discharge into the ~~Christchurch City Council~~ stormwater network from the sites excluded by Condition**s** 2(d), (2)(e) 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 discharge poses an unacceptably high risk of surface water or groundwater contamination. The transitional arrangements are:
	(a) **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;** **(b)** **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;**	(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; (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: 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;	(a) Within 6 months of the commencement of this **resource** consent, the Consent Holder **shall** ~~will~~ engage with the Canterbury Regional Council to obtain full details of all of the consented discharges excluded from this consent until 2025, including information on site activities, conditions and compliance records; (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 **where information has been provided under Condition 3(a), and those discharges described in Condition 2(d) and 2(e)**. The risk matrix shall be developed as follows:

	(c) **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:** **(i)** **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);** **(ii)** **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;** **(iii)** **a description of site specific monitoring plans for particular sites rated high in the risk matrix;** **(iv)** **a description of the process that the Consent Holder will 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.**	ii. The Consent Holder shall invite the Industry Liaison Group to provide comment within 2 months; 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; 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; v. Any changes to the draft risk matrix shall be provided to the Industry Liaison Group for feedback no less than 2 months prior to being submitted to Canterbury Regional Council. (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: (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; (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	(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; (ii) The Consent Holder shall invite the Industry Liaison Group to provide comment within 2 months **of providing the draft risk matrix to them for comment**; (iii) Within 3 months of receiving the comment referenced in Condition 3(**b**~~c~~)(ii), the Consent Holder shall prepare a memo and/or revised risk matrix addressing **that comment** ~~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; (iv) Within one month of the meeting held under Condition 3(~~c~~**b**)(iii), the Consent Holder shall circulate minutes, including points of agreement and disagreement between the parties; (v) Any changes to the draft risk matrix shall be provided to the Industry Liaison Group for feedback no less than 2 months prior to being submitted to Canterbury Regional Council. (c) Within 3 years of the commencement of this consent, the Consent Holder 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: (i) a description of the regulatory methods that will be used by the Consent Holder to ensure that previously excluded discharges will be subject to standards that achieve required environmental outcomes as described in Condition 3(e); (ii) the risk matrix prepared under Condition 3(b); (iii) a description of site-specific monitoring plans for particular sites ~~at~~ **from** 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 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; (d) if as a result of the risk matrix and process set out in Condition 3**(b)** it is determined that the discharge poses an

		on the attached Schedule 1; **(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**.**	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; (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.
	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.	*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.*	*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, **following the surrender or** ~~at the~~ expiry of discharge permits for the sites noted above, or from 1 January 2025, whichever is the latest.*
	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.	***~~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.~~***	
	Stormwater Management Plans	**Stormwater Management Plans**	**Stormwater Management Plans**
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.	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.~~
		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.	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.

	Table 1: SMP Programme				**Table 1: SMP Programme**				**Table 1: SMP Programme**		
	Catchment	**Date SMP Operative**	**Date Submitted to Canterbury Regional Council**	**Date for 10 Year Review**	**~~Catchment~~ SMP Area**	**Date SMP Operative**	**Date Submitted to Canterbury Regional Council**	**~~Date for 10 Year Review~~**	**SMP Area**	**Date SMP Operative**	**Date Submitted to Canterbury Regional Council**

	Ōtākaro/ Avon River Area Christchurch		30 June 2015	30 June 2025	Ōtākaro/ Avon River Area Christchurch		~~30 June 2015~~ Within 36 months of the commencement of this consent	~~30 June 2025~~	Ōtākaro/ Avon River Area Christchurch		Within 36 months of the commencement of this consent
	Pūharakekenui/ Styx River Area Christchurch	30 June 2014		30 June 2034	Pūharakekenui/ Styx River Area Christchurch	30 June 2014		~~30 June 2034~~	Pūharakekenui/ Styx River Area Christchurch	30 June 2014	
	Huritini/ Halswell River Area Christchurch	30 June 2016		30 June 2016	Huritini/ Halswell River Area Christchurch	30 June 2016		~~30 June 2016~~	Huritīni / Halswell River Area Christchurch	30 June 2016	
	Ōpāwaho/ Heathcote River Area Christchurch		30 June 2019	30 June 2029	Ōpāwaho/ Heathcote River Area Christchurch		~~30 June 2019~~ Within 18 months of the commencement of this consent	~~30 June 2029~~	Ōpāwaho/ Heathcote River Area Christchurch		Within 18 months of the commencement of this consent
	Estuary and Coastal Area Christchurch		20 December 2019	20 December 2029	Estuary and Coastal Area Christchurch		~~20 December 2019~~ Within 24 months of the commencement of this consent	~~20 December 2029~~	Estuary and Coastal Area Christchurch		Within 24 months of the commencement of this consent
	Outer Area Christchurch		30 June 2020	30 June 2030	Outer Area Christchurch		~~30 June 2020~~ Within 30 months of the commencement of this consent	~~30 June 2030~~	Outer Area Christchurch		Within 30 months of the commencement of this consent
	Te Pātaka o Pākaihautū/ Banks Peninsula Settlements		20 December 2020	20 December 2030	Te Pātaka o Pākaihautū/ Banks Peninsula Settlements		~~20 December 2020~~ Within 36 months of the commencement of this consent	~~20 December 2030~~	Te Pātaka o Rākaihautū/ Banks Peninsula Settlements		Within 36 months of the commencement of this consent
5	The purpose of the SMPs is to:				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;				(a) Contribute to meeting the overall contaminant load reduction standards set in Condition 16A and 16B; (b) Set ~~the contaminant load reduction targets required to be developed and set in each SMP and describe how they are to be achieved~~ A **a** contaminant load reduction target(s)**,** ~~for that catchment derived from modelling~~**, for each catchment in that SMP area in order to demonstrate the commitment of the Consent Holder to the improvement of stormwater discharge quality over time**; (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;
	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;				(d) Provide for discharge of stormwater to land infiltration systems where reasonably practicable **as the means** ~~so as~~ to demonstrate **that** ~~the means by which the~~ stormwater contribution to groundwater and spring-fed stream flows will **be maintained** ~~continue~~;		

	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.	(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~~ **will** 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 **% AEP** ~~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.	(f) ~~Describe~~ **Plan** the works **required to mitigate** ~~associated with the mitigation of~~ the effects of stormwater discharges ~~within each SMP~~ **to the extent required by this resource consent**.
	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.	(g) Implement the conditions of this consent as they apply to each catchment, **including the best practicable option for weed management in the Pūharakekenui/Styx River as determined under Condition 38(x)**.
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:	SMPs submitted to Canterbury Regional Council after the commencement of this **resource** consent shall include but not be limited to the following information:
	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;	(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;	(b) A definition of the extent of the stormwater infrastructure, that forms the stormwater network within the **SMP area** ~~catchment~~ for the purposes of this consent;
		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.	(c) A contaminant load reduction target**(s) for each catchment within that SMP area and a** ~~A~~ **description of the process and considerations used in setting the** contaminant load reduction target(s) **required by Condition 5(b)** ~~for that catchment The~~ **using the best reasonably practicable model or method and input data;**~~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.~~
	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): i. Relevant objectives, policies, standards and rules in the Christchurch District Plan; ii. Relevant bylaws; iii. Relevant strategies, codes, standards and guidelines;	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)~~: i. Relevant objectives, policies, standards and rules in the Christchurch District Plan; ii. Relevant bylaws; and iii. Relevant strategies, codes, standards and guidelines.	(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 shall include: (i) Relevant objectives, policies, standards and rules in the Christchurch District Plan; (ii) Relevant bylaws; and (iii) Relevant strategies, codes, standards and guidelines.

	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): 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 ~~/or in~~ areas with high contaminant loads;	e. Mitigation methods to achieve compliance with the conditions of this consent including the requirement to improve discharge water quality under Condition~~s~~ 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: 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;	(e) Mitigation methods to achieve compliance with the conditions of this **resource** consent including the requirement to improve discharge water quality under Condition 20, 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: (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;
	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**	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;	(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 **mitigation facilities or** ~~treatment~~ devices and any contaminated land;
	f. Identification of areas reserved for future development;	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;	(g) Identification of areas **planned** ~~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;
	g. Identification of areas subject to known flood hazards;	h. Identification of areas subject to known flood hazards;	(h) Identification of areas subject to known flood hazards;
	h. An interpretation of environmental & cultural monitoring and how this information has been used to develop water quality mitigation methods and practices;	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;	(i) A description of ~~the results of environmental and cultural~~ **how environmental** monitoring **and assessment of tangata whenua values** ~~and how this information~~ ha**ve** been used to develop water quality mitigation methods and practices;
	i. Results from and interpretation of water quantity and quality modelling**, including identification of sub-catchments with high levels of contaminants;**	j. Results from and interpretation of water quantity and quality modelling, including identification of sub-catchments with high levels of contaminants;	(j) Results from and interpretation of water quantity and quality modelling, including identification of sub-catchments with high levels of contaminants;
	j. Mapping of existing information from Canterbury Regional Council and the Consent Holder showing locations where discrete spring vents occur;	k. Mapping of existing information from Canterbury Regional Council and the Consent Holder showing locations where discrete spring vents occur;	(k) Mapping of existing information from Canterbury Regional Council and the Consent Holder showing locations where discrete spring vents occur;
	j. Consideration of any effects of the diversion and discharge of stormwater on baseflow in streams and springs;	**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;	(l) Consideration of any effects of the diversion and discharge of stormwater on baseflow in 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;
	k. A cultural impact assessment;	m. A cultural impact assessment;	(m) A cultural impact assessment;
	l. A summary of outcomes resulting from any collaboration with papatipu rūnanga on SMP development;	n. A summary of outcomes resulting from any collaboration with papatipu rūnanga on SMP development;	(n) A summary of outcomes resulting from any collaboration with papatipu rūnanga on SMP development;

	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;	(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. Assessment and description of any additional or new modelling, monitoring and mitigation methods;	(p) Assessment and description of any additional or new modelling, monitoring and mitigation methods **being implemented by the Consent Holder**;
	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;	(q) A summary of feedback obtained in accordance with Condition 7 and if / how that feedback has been incorporated into the SMP;
	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;	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;	(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;
	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;	s. Identification of key locations in addition to those identified in Schedule 7 where modelled assessments of water levels and/or volumes 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;	(s) Identification of key locations in addition to those identified in Schedule 7 where modelled assessments of water levels and/or volumes 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;
	r. Assessment of the risk of bird strike for any large public facilities within 3 kilometres of the airport;	t. 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 Council~~ies~~ within 3 kilometres of the airport;	(t) Procedures, to be developed in consultation with Christchurch International Airport Limited, for the management of the risk of bird strike for any facility owned or managed by the Christchurch City Council within 3 kilometres of the airport;
	s. A description of any relevant options assessments undertaken; and	u. A description of any relevant options assessments undertaken to identify the drivers behind mitigation measures selected; ~~and~~	(u) A description of any relevant options assessments undertaken to identify the drivers behind mitigation measures selected; and
	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	v. An assessment of the potential change to the overall water balance for the SMP ~~to the management~~ area arising from the change in pervious area and the stormwater management systems proposed ~~that are~~; and	(v) An assessment of the potential change to the overall water balance for the SMP area arising from the change in pervious area and the stormwater management systems proposed.
7	Prior to submitting a SMP or any amendment to a SMP**, other than one making minor changes and corrections,** to the Canterbury Regional Council, the Consent Holder shall ~~**provide a draft copy to the following parties inviting feedback within a timeframe of not less than 40 working days**~~:	Prior to submitting a SMP or any reviewed SMP, or amendment to a SMP to the Canterbury Regional Council, other than one agreed with Canterbury Regional Council as making minor changes and corrections, ~~to the Canterbury Regional Council,~~ the Consent Holder shall:	Prior to submitting a SMP or any reviewed SMP, or amendment to a SMP to the Canterbury Regional Council, other than one agreed with Canterbury Regional Council as making minor changes and corrections, the Consent Holder shall:
	a. In early development stages for a possible SMP, provide a briefing and invite comments from: **i. papatipu rūnanga;** **ii. The relevant Zone Committee(s) (or successor organisation); and** **iii. The relevant Community Board(s) (or successor organisation); and** **iv. Department of Conservation**	a. In early development stages for a possible SMP, provide a briefing to and invite comments from: **i.** papatipu rūnanga; **ii.** The relevant Zone Committee(s) (or successor organisation); ~~and~~ **iii.** The relevant Community Board(s) (or successor organisation); and **iv.** The Department of Conservation	(a) In the early development stages for a possible SMP, provide a briefing to and invite comments from: (i) papatipu rūnanga; (ii) The relevant Zone Committee(s) (or successor organisation); (iii) The relevant Community Board(s) (or successor organisation); and (iv) The Department of Conservation**.**

	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: **i.** papatipu rūnanga; **ii.** The relevant Zone Committee(s) (or successor organisation); and **iii.** he relevant Community Board(s) (or successor organisation); **iv.** **Department of Conservation.**	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: **i.** papatipu rūnanga; **ii.** The relevant Zone Committee(s) (or successor organisation); ~~and~~ **iii.** The relevant Community Board(s) (or successor organisation); and **iv.** The Department of Conservation.	(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: (i) papatipu rūnanga; (ii) The relevant Zone Committee(s) (or successor organisation); (iii) The relevant Community Board(s) (or successor organisation); and (iv) The Department of Conservation.
		Stormwater Technical Peer Review Panel	**Stormwater Technical Peer Review Panel**
8	**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.**	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.~~ 8. The Consent Holder shall establish, at its own cost, the Stormwater TPRP, which is to: 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. *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.*	~~8A~~**8** The Consent Holder shall establish, at its own cost, the **Stormwater Technical Review Panel (**Stormwater TPRP**)**, **for the purpose of** ~~which is to~~ providing scientific and technical review of: a) **The draft risk matrix required by Condition 3(b) of this resource consent and any subsequent amendments of the risk matrix; and** b) ~~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 c) ~~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, **j, k**, ~~m, n, o~~ and **p - q**) 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. 8A The Consent Holder **shall**~~will~~: a) **Obtain a review of the draft risk matrix from the Stormwater TPRP, and attach a copy of the review to the draft risk matrix provided to the Canterbury Regional Council; and** b) 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 provide a description within the SMP of the Consent Holder's response to that review; and c) **Obtain a review of the relevant feasibility study or investigation from the Stormwater TPRP, and a**ttach a copy of the review to the relevant feasibility study or investigation provided to Canterbury Regional Council.

			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.
		9A. The Stormwater TPRP shall be established within six months of commencement of this resource consent.	~~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).	~~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: i. Stormwater engineering and hydrological/flood modelling; ii. Freshwater and coastal water quality and ecology; iii. Hydrogeology; iv. Contaminated site/land management; v. Erosion and sediment control; and vi. Mātauranga Māori and mahinga kai.	9A The Consent Holder **shall** ~~may~~ appoint ~~up to six~~ independent Stormwater TPRP members with expertise which could include but not be limited to the following: (i) Stormwater engineering and hydrological/flood modelling; (ii) Freshwater and coastal water quality and ecology; (iii) Hydrogeology; (iv) Contaminated site/land management; (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.	9B 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.	9C The Consent Holder shall provide any administrative support necessary for the Stormwater TPRP to carry out its functions.
	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.	*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.*	*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.*
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.	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.~~
~~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	~~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.~~	

	their timing for implementation.		
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: 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.	11 The Consent Holder shall amend the SMPs as it considers necessary to respond to: (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 **including those that**~~as a~~ result ~~of~~**from** the **LWRP** sub-regional **chapter development** process; (e) The use of new technologies, new opportunities for additional **mitigation** ~~treatment~~ (such as for infill areas or retro-fit) or new constraints on **the implementation of mitigation** ~~treatment~~ due to changed**s in** developer plans; and (f) New environmental data and research including updated international and national best practice technologies.
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~~ 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~~.	12 Any amendments to SMPs, other than those agreed with Canterbury Regional Council as making minor changes and corrections, **shall** ~~will~~ not replace the previous version until the amendments have been certified by the Canterbury Regional Council as containing the matters required by Condition 6 and as being consistent with the purpose of SMPs in Condition 5.
	Implementation Plan	**Implementation Plan**	**Implementation Plan**
12	**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: **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** **b.** **~~Un~~pdated to give effect to new SMPs within 12 months of new SMPs becoming operative;** **c.** **Reviewed by the Consent Holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and** **d.** **~~ to give effect to the SMPs and Be~~** made available to Canterbury Regional Council and papatipu rūnanga on request. **~~This plan shall be reviewed by the Consent Holder every 3 years, with reference to the Christchurch City Council Long Term Plan.~~**	13. The purpose of an Implementation Plan is to give effect to certified SMPs and to include the matters set out in condition ~~13~~14. An Implementation Plan shall be: **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~~; **b.** updated to give effect to new, reviewed or amended SMPs within 12 months of new SMPs being certified~~coming operative~~; **c.** reviewed by the Consent Holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and **d.** be made available to Canterbury Regional Council and papatipu rūnanga on request.	13. The purpose of an Implementation Plan is to give effect to certified SMPs and to include the matters set out in Condition 14. An Implementation Plan shall be: (a) Prepared by the Consent Holder, through engagement with papatipu rūnanga under Condition 15(a), and with the Department of Conservation, within 18 months after the commencement of this **resource** consent; (b) Updated to give effect to new, reviewed or amended SMPs within 12 months of ~~new~~ SMPs being certified; (c) Reviewed by the Consent Holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and (d) ~~Be m~~**M**ade available to Canterbury Regional Council and papatipu rūnanga on request.
13	The Implementation Plan shall include but not be limited to:	14. 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;	(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;	(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;	(c) A plan for regulatory, investigative, educational and preventative activities or programmes relating to stormwater discharges, including activities undertaken under Conditions 37 and 38; and
	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.	(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**	**Engagement with Papatipu Rūnanga**
15	The Consent Holder shall engage with papatipu rūnanga:	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~~;	(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;
	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;	(b) At concept design stage for the installation of stormwater treatment facilities and devices with regard to wāhi tapu and taonga;
	a. 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;	(c) By providing quarterly reports to Mahaanui Kurataiao Ltd on stormwater developments, projects and monitoring under this resource consent;
	c. By providing the outcomes of Condition 49 and 50 on responses to modelling;	d. By ~~providing the outcomes of~~ the engagement required by Conditions 49 and 50 on responses to modelling;	(d) By the engagement required by Conditions 49**, 49A** and 50 on responses to modelling;
	b. By providing the outcomes of Condition 51 on responses to monitoring.	e. By providing the ~~outcomes of~~investigation report required by Condition 51 on responses to monitoring.	(e) By providing the investigation report required by Condition 51 on responses to monitoring; and
	d. ~~d.~~ 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.	(f) By holding an annual meeting with Mahaanui Kurataiao Ltd to discuss stormwater works under this **resource** consent, and papatipu rūnanga input predicted for the next 12-month period.

	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.	*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.*	*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 **resource** 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.*
	STANDARDS AND RESTRICTIONS **Stormwater Contaminant Load Modelling**	**STANDARDS AND RESTRICTIONS** **Stormwater Contaminant Load Modelling**	**STANDARDS AND RESTRICTIONS** **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:	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.	~~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.~~
		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.	16~~B~~**A** 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.
		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.	16~~C~~**B** 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.

Table 2: Reductions in stormwater contaminant load

	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
		(as at 2023)	(as at 2028)	(as at 2043)	(as at 2053)
TSS	12 %	21 %	25 %	27 %	29 %
Total Zinc	10 %	15 %	18 %	20 %	21 %

Table 2: Christchurch-wide ~~Reductions in~~ stormwater contaminant load reduction standards ~~load~~

	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~~
		(as at 2023)	(as at 2028)	(as at 2043)	~~(as at 2053)~~
TSS	12 %	21 %	25 %	27 %	~~29 %~~
Total Zinc	10 %	15 %	18 %	20 %	~~21 %~~

Table 2: Christchurch-wide stormwater contaminant load reduction standards

	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
		(as at 2023)	(as at 2028)	(as at 2043)
TSS	12 %	21 %	25 %	27 %
Total Zinc	10 %	15 %	18 %	20 %

	Total Copper	16 %	23 %	28 %	30 %	31 %	**Total Copper**	16 %	23 %	28 %	30 %	~~31 %~~	**Total Copper**	16 %	23 %	28 %	30 %			
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.*~~													
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.						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.							
	Advice note: *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.* *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.*						*Advice note:* *The C-CLM is the primary means of assessing the City-wide standards for 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.* ~~*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.*~~						*Advice note: The C-CLM is the primary means of assessing the City-wide standards for 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.*					
	Water Quality and Quantity Standards						**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.						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.						The Consent Holder shall use 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; and (c) Water quantity. The mitigation of effects shall be measured against achievement of the Receiving Environment Objective and Attribute Target Levels monitoring described in Schedule 7.					
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.~~											

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.~~	
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.	~~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 for Canterbury* or successor document for all development sites prior to commencement of stripping of vegetation or earthworks on the site.~~
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.	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.
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.	The Consent Holder shall provide retrofit water quality and quantity mitigation for existing development where practicable.
			25A Until the commencement of the targeted trial required by Condition 38(w), when the dry weather base flow water level in the Pūharakekenui/Styx River is at or above Reduced Level 10.1m Christchurch Drainage Datum, as measured at the Lower Pūharakekenui/Styx water level gauge, the consent holder shall ensure that the Pūharakekenui/Styx River is the next river from which weed is harvested and that this will commence no later than 40 days following the measurement date.
	Design of Facilities and Devices	**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.	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); and (b) Other national and international best practice design criteria ~~that~~ **adopted by the Christchurch City Council** ~~may become available~~ over the duration of this resource consent. **26A** ~~c.~~ **To ensure the risk of bird strike is minimised**, the following design requirements shall apply to facilities within 3 kilometres of Christchurch International Airport ~~to ensure the risk of bird strike is minimised~~: (i) ~~s~~Stormwater infiltration basins **shall** ~~to~~ fully drain within 48 hours of the cessation of a 2% AEP stormwater event;

			(ii) ~~ensure there is~~ Sufficient rapid soakage overflow capacity **shall be provided** to minimise the ponding of stormwater outside of the infiltration area(s); and (iii) **Landscape design shall** limit attractiveness to birds through ~~landscaping design and~~ the use of suitable non-bird attracting species.
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.	The Consent Holder shall ensure that all stormwater quality mitigation facilities and devices servicing greenfield development after commencement of this **resource** 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~~.	For all water quality mitigation facilities and devices constructed after commencement of this **resource** consent to service re-development, or retrofit water quality mitigation facilities for existing development, the Consent Holder shall design facilities to treat as much of the first flush as reasonably practicable.
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.	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 1**3**~~2~~.
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:	Christchurch City Council stormwater infiltration facilities constructed after the commencement of the **resource** 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:
	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.	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 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;	(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 square metres (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 **LWRP** ~~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.
	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;	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;	(b) Infiltration devices for larger discharges than those described in a) above shall maintain a separation distance of 2,000 metres when located up- gradient of domestic and community drinking water supply wells; and infiltration devices shall maintain a separation distance of 500 metres 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~~	(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 have a less than minor adverse effect on domestic and community drinking water supply wells.
	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.	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.	(d) Within 24 months of this **resource** consent 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 **shall** ~~will~~ be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance for certification that it will have a less than minor adverse effect on 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.	Christchurch City Council stormwater mitigation facilities constructed after the commencement of this **resource** 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.	Christchurch City Council stormwater mitigation facilities constructed after commencement of this **resource** 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.	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 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.	All Christchurch City Council stormwater mitigation facilities and devices constructed after commencement of this **resource** 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**	~~**Other Actions by the Consent Holder**~~ **Stormwater Quality Investigations**
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).	The Consent Holder shall investigate and implement methods to improve the management of stormwater quality and **assess and** reduce stormwater effects on the receiving environment (Stormwater Quality Investigation **Programme**).
36	The purpose of the stormwater quality investigation is to:	The purpose of the stormwater quality investigation is to:	The purpose of the Stormwater Quality Investigation **Programme** is to:
	a. Monitor the performance of selected stormwater treatment facilities and devices;	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;	(b) Assess the potential for the application of new technologies and management strategies; and

	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.	(c) Investigate water quality improvement strategies and options using various models, monitoring and techniques.
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~~:	The Consent Holder shall undertake the actions set out in Table 3 for the investigation required by Condition 35:

	Table 3: Stormwater Quality Investigation			**Table 3: Stormwater Quality Investigation**			**Table 3: Stormwater Quality Investigation Programme**		
	Stormwater Quality Investigation Actions	Action Start Date	Action Completion Date	**Stormwater Quality Investigation Actions**	Action Start Date	Action Completion Date	**Stormwater Quality Investigation Actions**	Action Start Date	Action Completion Date
	a. ~~**Conduct a study to**~~ ~~i~~ Investigate the feasibility of developing an instream contaminant concentration model. Consideration to be given to: - How applicable the model will be to - (i) Water quality management generally (ii) the resource consent specifically - Timelines - Costs - What data CCC would need to collect	Dec – 18	Oct-19	**a.** Investigate the feasibility of developing an instream contaminant concentration model. Consideration to be given to: - How applicable the model will be to - (i) Water quality management generally (ii) the resource consent specifically - Timelines - Costs - What data CCC would need to collect	~~Dec – 18~~ Within 6 months of the commencement of the resource consent	~~Oct-19~~ Within 1 year of the commencement of the resource consent	**a.** Investigate the feasibility of developing an instream contaminant concentration model. Consideration **shall** ~~to~~ be given to: i. How applicable the model will be to - • Water quality management generally • the resource consent specifically ii. Timelines iii. Costs iv. What data CCC would need to collect	Within 6 months of the commencement of the resource consent	Within **18 months** ~~1 year~~ of the commencement of the resource consent
	b. Develop instream contaminant concentration model if the Consent Holder considers that the feasibility study in a. provides sufficient merit.	Nov-19	Nov-21	**b.** Develop instream contaminant concentration model if the Consent Holder considers that the feasibility study in a. provides sufficient merit.	~~Nov-19~~ Within 1 year of the commencement of the resource consent	~~Nov-21~~ Within 3 years of the commencement of the resource consent	**b.** Develop instream contaminant concentration model if the Consent Holder considers that the feasibility study in (a) provides sufficient merit.	Within **2** ~~1~~ year**s** of the commencement of the resource consent	Within 3 years of the commencement of the resource consent
	c. If the instream contaminant concentration model is developed, carry out investigations and monitoring to validate and refine assumptions within the model, to improve the accuracy of model predictions.	Feb-22	Ongoing	**c.** If the instream contaminant concentration model is developed, carry out investigations and monitoring to validate and refine assumptions within the model, to improve the accuracy of model predictions.	~~Feb-22~~ Within 4 years of the commencement of the resource consent	Ongoing	**c.** If the instream contaminant concentration model is developed, carry out investigations and monitoring to validate and refine assumptions within the model, to improve the accuracy of model predictions.	Within 4 years of the commencement of the resource consent	Ongoing

	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. 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.	Dec – 18	Jun -20	**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. 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.	~~Dec – 18~~ Within 12 months of the commencement of the resource consent	~~Jun -20~~ Within 3 years of the commencement of the resource consent	**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. Consideration **shall** ~~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.	Within 12 months of the commencement of the resource consent	Within 3 years of the commencement of the resource consent
	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	Jul-20	Ongoing	**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	~~Jul-20~~ Within 3 years of the commencement of the resource consent	Ongoing	**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	Within 3 years of the commencement of the resource consent	Ongoing
	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	**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.	Within 1 year of the commencement of the resource consent	Ongoing
	g. ~~**Conduct a study to il**~~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	**g.** Investigate the feasibility of techniques for remediating adverse effects of stormwater sediment discharges on receiving environments. This **shall** ~~will~~ include consideration of sediment cover of the bed, and copper, lead, zinc and PAHs contamination.	Within 1 year of the commencement of the resource consent	Within 3 years of the commencement of the resource consent

	h. ~~**Instigate a remediation programme if**~~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	**h.** If the Consent Holder determines that it is feasible, instigate an instream sediment remediation programme.	Within 3 years of the commencement of the resource consent	Ongoing
	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	**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.	Within 6 months of the commencement of the resource consent	Ongoing
	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.			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.			**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.		
	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**	**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	**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.	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:	**Other Actions** The Consent Holder shall ~~also~~ undertake the actions set out in Table 4 ~~below~~ **for the purposes of improved stormwater management through: source control methods; communication, education and awareness; and Pūharakekenui/Styx River channel weed**

								management.		
	Table 4: Other Actions by Consent Holder			**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		**Other Actions**	Activity Start Date	Activity Completion Date
	Source Control			**Source Control**				**Source Control**		
	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**.	Feb-19	Dec-19	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.	~~Feb-19~~ Within 6 months of the commencement of the resource consent	~~Dec-19~~ Within 1 year of the commencement of the resource consent		**a.** Lodge a submission to central government seeking national measures and industry standards to reduce the discharge of contaminants including zinc and copper from metal roofs, car tyres and brake **linings** ~~pads~~.	Within 6 months of the commencement of the resource consent	Within 1 year of the commencement of the resource consent
	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		**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~~).	Within 6 months of the commencement of the resource consent	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**~~C~~arry 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		**c.** If the Consent Holder determines that the cost/benefit analysis **under Item (b)** shows that it is warranted, carry out trials for increased targeted/selective street sweeping and sump cleaning.	Within 1 year of the commencement of the resource consent	Within 3 years of the commencement of the resource consent
	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		**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~~).	Within 6 months of the commencement of the resource consent	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**~~C~~arry out trials for alternate methods of stormwater treatment and discharge ~~**if Council resolves to do so under 4 above**~~ **Add new item (and renumber subsequent items accordingly):**	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		**e.** If the Consent Holder determines that the cost/benefit analysis **under Item (d)** shows that it is warranted, carry out trials for alternate methods of stormwater treatment and discharge.	Within ~~1~~**2** year of the commencement of the resource consent	Within ~~3~~**4** 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~~ 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.			**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	**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.	Within 2 years of the commencement of the resource consent	Ongoing
	h. If the Consent Holder ~~considers~~ **determines** it warranted as a result of the trials in item 5 3 **above**, increased frequency of sump cleaning at selected locations.	Jul-20	Ongoing	**h.** If the Consent Holder determines it warranted as a result of the trials in item c above, increased frequency of sump cleaning at selected locations.	~~Jul-20~~ Within 2 years of the commencement of the resource	Ongoing	**h.** If the Consent Holder determines it warranted as a result of the trials in Item (c) above, increased frequency of sump cleaning at selected locations.	Within 2 years of the commencement of the resource	Ongoing
	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.	Jul-19	Ongoing	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.	~~Jul-19~~ Within 6 months of the commencement of the resource consent	Ongoing	**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.	Within 6 months of the commencement of the resource consent	Ongoing
	i. Operational inspection of a sample of stormwater treatment and/or retention devices on non-industrial sites.	Jul-20	Ongoing	j. Operational inspection of a sample of stormwater treatment and/or retention devices on non-industrial sites.	~~Jul-20~~ Within 2 years of the commencement of the resource consent	Ongoing	**j. 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.** ~~Operational inspection of a sample of stormwater treatment and/or retention devices on non-industrial sites.~~	Within 2 years of the commencement of the resource consent	Ongoing
							k. Conduct a cost/benefit analysis of options to further improve source control that considers: i. allocation of staff/resources to undertake industrial site audits; ii. expected contamination risk and	Within 6 months of the commencement of the resource consent	Within 18 months of the commencement of the resource consent

						possible risk reduction of industrial sites; and iii. other source control measures in **as required by** Condition 38.		
						l. Apply, through agreement between the Consent Holder and Canterbury Regional Council, the results of the cost/benefit analysis **under Item 38(k)** to prioritise source control measures in SMPs and **the** ~~in~~ Implementation Plan and to determine the number of audits conducted under Condition 41(b).	Within 2 years of the commencement of the resource consent	Ongoing
Communication, Education and Awareness **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. Possible initiatives of the community water engagement programme are: • 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	**Communication, Education and Awareness** **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. Possible initiatives of the community water engagement programme are: • 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~~ Within 6 months of the commencement of the resource consent	Ongoing	**Communication, Education and Awareness** **~~k~~ m.** Make reasonable endeavours to establish a community water engagement programme involving Council, Canterbury Regional Council, Ngai Tahu, Department of Conservation, Ministry for the Environment, 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. Possible initiatives of the community water engagement programme are: i. 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);~~.~~ ii. Implement a sustainable behaviour change programme. Actions aimed at stopping contaminants getting into the stormwater network, such as: sediment, litter, bacterial contaminants;~~.~~ iii. Undertaking a wider educational programme for schools. iv. Educating dog owners about effects of faecal matter; and v. Seeking industry behaviour change.	Within 6 months of the commencement of the resource consent	Ongoing
			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.			~~**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.~~		
			m. Conduct a cost/benefit analysis of options to further improve source control that considers:	within 6 months of	Within 18 months of	~~**m.** Conduct a cost/benefit analysis of options to further improve source control~~	~~within 6 months of the~~	~~Within 18 months of the~~

				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.	the commencement of the resource consent	the commencement of the resource consent	~~that considers:~~ ~~i. allocation of staff/resources to undertake industrial site audits;~~ ~~ii. expected contamination risk and possible risk reduction of industrial sites;~~ ~~and~~ ~~iii. other source control measures in Condition 38.~~	~~commencement of the resource consent~~	~~commencement of the resource consent~~
				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).	within 2 years of the commencement of the resource consent	Ongoing	~~**n.** Apply, through agreement between the Consent Holder and Canterbury Regional Council, the results of the cost/benefit analysis~~ **~~under Item 38(m)~~** ~~to prioritise source control measures in SMPs and~~ **~~the~~** ~~in Implementation Plan and to determine the number of audits conducted under Condition 41(b).~~	~~within 2 years of the commencement of the resource consent~~	~~Ongoing~~
				p. The Consent Holder shall invite the river care groups that it is 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: 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.	Within 1 year of the commencement of the resource consent	Ongoing	**n.** The Consent Holder shall **convene** ~~invite~~ the ~~river care groups that it is aware of to~~ **nominate** have representatives **for** on a River Care Liaison Group ~~and~~ **shall** ~~will convene~~ meetings~~s~~ at least once annually. At each meeting the **Consent Holder shall update the** River Care Liaison Group **and receive feedback** ~~shall be updated by the Consent Holder~~ on matters relating to the exercise of this **resource** consent, including but not limited to: 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; and iv. Compliance and monitoring results as reported under Condition 53.	Within 1 year of the commencement of the resource consent	Ongoing
							o. Minutes of the River Care Liaison Group Meeting shall be circulated by the Consent Holder to the River Care Liaison Group within four weeks of the meeting.		
				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: 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	**p.** The Consent Holder shall **convene the** ~~invite industry groups to~~ **nominate** ~~have representatives~~ **for** ~~on an~~ Industry Liaison Group ~~and shall convene~~ meeting~~s~~ at least once annually. At each meeting the **Consent Holder shall update the** Industry Liaison Group **and receive feedback** ~~shall be updated by the Consent Holder~~ on matters relating to the exercise of this **resource** consent, including but not limited to: i. development of the risk matrix required under Condition 3 (**b**~~c~~) (ii); ii. implementation of the industrial site audit process under Condition 41; iii. any new technologies in stormwater contaminant reduction or preventative measures; and	Within 1 year of the commencement of the resource consent	Ongoing

						iv. Compliance and monitoring results as reported under Condition 53.		
						q. Minutes of the Industry Liaison Group Meeting shall be circulated by the Consent Holder to the Industry Liaison Group within four weeks of the meeting.		
			Pūharakekenui/Styx River Weed Management			**Pūharakekenui/Styx River Weed Management**		
						r. Investigate the degree to which various options in river channel weed (macrophyte) management practices mitigate flood effects on the Pūharakekenui/Styx River under a range of river flow scenarios. Factors to be considered shall include: **i. International weed management practices in similar settings; and** **ii. the factors which promote or suppress growth of the specific prolific weed species in the Pūharakekenui/Styx River, including sediments, dry weather flows, stormwater discharges covered by the resource consent, other discharges, shading and climatic factors.**	**Within 6 months of the commencement of the resource consent**	**Within 18 months of the commencement of the resource consent**
						s. Based on the results of the investigation under ~~outcome of~~ Condition 38 (~~p~~ r), and through engagement with Canterbury Regional Council, the Consent Holder shall identify the best practicable options for mitigating flooding through river channel weed management. Factors to be considered shall ~~to~~ include: **i. A range of river flow scenarios including dry weather (spring-fed) flows and storm flows where operational/maintenance management will be beneficial;** **ii. A range of river channel operational/maintenance management scenarios;** **iii. Flooding effects including level, extent and duration;** **iv. Available technical knowledge;** **v. Potential for practical implementation of options;** **vi. Costs for implementing options;** **vii. Available regulatory mechanisms;** **viii. Consideration of ecological effects; and** **ix. Consideration of overlapping powers and responsibilities between Canterbury Regional Council and Christchurch City Council under other legislation.**	**Within 2 years of the commencement of the resource consent**	**Within 3 years of the commencement of the resource consent**

							t. Conduct a cost/benefit analysis of the identified best practicable options for carrying out a targeted trial for achieving reduced flooding from changes in the weed management of the Pūharakekenui/Styx River.	Within 3 years of the commencement of the resource consent	Within 4 years of the commencement of the resource consent
							u. Determine the best approach to incorporating the variable weed condition within the Pūharakekenui/Styx River hydraulic model and resulting design flood scenarios.	Within 3 years of the commencement of the resource consent	Within 4 years of the commencement of the resource consent
							v. Test the Pūharakekenui/Styx River model calibration against other storm events, as they arise, to calibrate/validate model sensitivity to varying weed conditions.	Within 3 years of the commencement of the resource consent	Within 4 years of the commencement of the resource consent
							w. Apply, through engagement with the Canterbury Regional Council, the results of the cost/benefit analysis in a targeted trial for the selected best practicable options for weed management of the Pūharakekenui/Styx River river channel.	Within 4 years of the commencement of the resource consent	Within 5 years of the commencement of the resource consent
							x. If the Consent Holder determines it warranted as a result of the trials in item 38(u) above, implement the selected best practicable option within the Pūharakekenui/Styx River Area SMP.	Within 5.5 years of the commencement of the resource consent	ongoing
	Erosion and Sediment Control			**Erosion and Sediment Control**			**Erosion and Sediment Control**		
39	A~~n~~ **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 *Erosion and Sediment Control Toolbox for Canterbury (or successor).*			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 *Erosion and Sediment Control Toolbox for Canterbury (or successor).*			**The Consent Holder shall use reasonably practicable measures to ensure that a** ~~A~~ site-specific Erosion and Sediment Control Plan (ESCP) ~~shall~~ be prepared and implemented **as a means of ensuring the mitigation of the effects of** ~~for the~~ construction phase stormwater discharge from any development **site** ~~area~~ in ~~general~~ accordance with **the** ~~Canterbury Regional Council's~~ *Erosion and Sediment Control Toolbox for Canterbury* (or successor **document**) **prior to commencement of stripping of vegetation or earthworks**.		
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.			Copies of ESCPs submitted to or prepared by/for the Consent Holder shall be made available **to the Canterbury Regional Council** on request.		
	Add 3 new conditions: ***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.*** ***The purpose of the SDMP is to manage discharges of***			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. 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			**40A** The Consent Holder shall develop a Sediment Discharge Management Plan (SDMP) and present it ~~for certification~~ to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, within twelve months of the operative date of this **resource** consent**, for c**~~C~~ertification **that it** ~~SDMP~~ is consistent with the purpose and required content of the SDMP. **40B** The purpose of the SDMP is to manage discharges of stormwater from development sites to mitigate adverse effects on water clarity and aquatic biota as far as is reasonably practicable, which will be measured against the fine sediment and TSS Attribute Target Levels		

	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. ***The SDMP shall include, but not be limited to, the following means to achieve the purpose:*** ***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 for discharges into the network from individual sites;*** ***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.*** **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.**	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~~. The SDMP shall include, but not be limited to, the following means to achieve the purpose: 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 ~~on~~ 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. 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.	for waterways and coastal areas within Schedules 4 and 5. **40C** The **required content of the** SDMP shall include, but not be limited to, the following means to achieve the purpose: (i) A risk matrix to determine TSS limits for the discharge of stormwater into the ~~Christchurch City Council~~ stormwater network **under this resource consent** 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 Consent Holder's process to monitor sites and monitor management of sites to ensure TSS limits are achieved; and (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. **40D** The Consent Holder may review and amend the SDMP so as to better achieve the purpose of the **SDMP** ~~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.
	Industrial Site Management	**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:	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;	(a) Maintain a desktop-based identification of industrial sites, **that** rank**s** ~~ing~~ sites for risk relative to stormwater discharge and identifi**es** ~~y~~ the industrial sites that pose the highest risk;

	b. Audit a**t 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:** **i Sites with known or suspected contamination or risk;** **ii Re-audits of previously mitigated sites;** **iii Sites undergoing re-developments.** **~~rolling list of at least 10 of the highest risk sites in the city and report progress on an annual basis~~**;	b. Audit at least 15 sites per year, of which at least 10 are sites ~~are~~ agreed with the Canterbury Regional Council. ~~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:~~ ~~iv Sites with known or suspected contamination or risk;~~ ~~v Re-audits of previously mitigated sites;~~ ~~vi Sites undergoing re-developments.~~ 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). ~~c. of which~~The 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:~~ ~~i Sites with known or suspected contamination or risk;~~ ~~ii Re-audits of previously mitigated sites;~~ ~~Sites undergoing re-developments~~	(b) Audit at least 15 sites per year, of which at least 10 are sites agreed with the Canterbury Regional Council; (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(l);
	~~**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.**~~ 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.**	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.	(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 i~~Inform the site owner and operator and notify the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance ~~of that concern~~ **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: Regional Leader – Monitoring and Compliance of that concern; and~~
	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.**	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~~ add~~ed~~ the site to Schedule 1.	41A If the Consent Holder considers, following further engagement with the site operator and the Canterbury Regional Council, that the site is not appropriately mitigating that unacceptably high risk, the Consent Holder may, upon agreement with Canterbury Regional Council, add the site to Schedule 1.
	MONITORING AND REPORTING	**MONITORING AND REPORTING**	**MONITORING AND REPORTING**
	Environmental Monitoring Programme	**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.	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.	The Consent Holder may review and amend the EMP for the purposes of improved monitoring and / or to better determine whether the Receiving Environment Objectives and Attribute Target Levels are being met.

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.	Any amendments to the EMP shall not replace the previous version until the EMP has been certified by the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance as complying with the requirements of Condition 42.
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 ~~2023~~2020. 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.	(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 be reviewed every five years, with the first review being undertaken **within 2 years of the commencement of this resource consent** ~~2020~~. (c) Hardness modified values shall be calculated using the *ANZECC (2000)* methodology 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 shall be incorporated into the **certified** EMP as an amendment, in accordance with Condition 43.
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.	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 **shall** ~~will~~ be incorporated into the **certified** 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 Heath 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 Heath 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.	The Attribute Target Levels in Schedules 4 and 5 for the Waterway Cultural Health Index, Marine Cultural Heath 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 shall be incorporated into the EMP **and presented by the Consent Holder** as an amendment **for certification**, in accordance with Condition ~~43~~ **44,** within 24 months of the commencement of this resource consent. Once these scores, sites and monitoring methods are confirmed, **monitoring of** mana whenua values ~~monitoring~~ shall commence.
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.	The water quantity/flood model(s) for the Pūharakekenui/ Styx, Ōtākaro/ Avon, Ōpāwaho/ Heathcote ~~River~~ and Huritīni / Halswell Rivers shall be updated as necessary to reflect changes in development patterns or modelling parameters **at least** every 5 years **following the commencement of this resource consent** ~~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 **on a 5-yearly basis following commencement of this resource consent**.
	Responses to Modelling	**Responses to ~~Modelling~~ C-CLM**	**Responses to ~~C-CLM~~ Contaminant Load Modelling**

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:	Where the **modelling** ~~C-CLM~~ results **reported in accordance with Condition 18** show that the percentage contaminant reductions required by the standards in Table 2 in Condition 16, ~~are not met the Consent Holder will be in breach of this consent~~; and/or by the targets derived under each catchment-specific SMP, are not met, the Consent Holder **shall** ~~will~~ undertake the following:
	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;	(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;	(b) Assess whether 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);	(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 **implementation of** correction / remediation **options** (if necessary); and
	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.	(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.
		Responses to Flood Modelling	**Responses to Flood Modelling**
49A		Where the flood modelling results show that the attribute target levels in Schedule 7 are not met, the Consent Holder shall:	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;	(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;	(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);	(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 **implementation of** correction / remediation **options** (if necessary); and
		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.	(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	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 ~~S~~WIM 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	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 WIM 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

	implement any actions or changes identified as necessary by the SWIM group, or successor group, through the consultation.	necessary by the ~~S~~WIM group, or successor group, through the consultation.	group, or successor group, through the consultation.
	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.	*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.*	*Advice note: Discussions should be undertaken with the Canterbury Regional Council prior to and following investigations, to try ~~and~~ **to** establish agreed approaches prior to submitting the report.*
	Responses to Monitoring	**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:	If the monitoring results identify that the 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:
	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. **Engage with Environment Canterbury about and** ~~P~~**p**erform 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**;	~~the Consent Holder shall:~~ ~~c.~~ **a.** Engage with ~~Environment Canterbury~~ the Canterbury Regional Council about conducting~~, and Pperform~~ 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;	(a) Engage with the Canterbury Regional Council about conducting an investigation into whether this is due to the effects of stormwater discharges authorised under this resource consent, with site investigations prioritised for areas with high levels of contaminants, or with sensitive or high value receiving environments;
	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).	(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)~~.~~
	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.	(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 or not; (ii) An assessment of options for correction/remediation if effects are likely due to stormwater discharges authorised under this resource consent; (iii) A timeline of implementation of corrective action/remediation if effects are a result of discharges authorised under this resource consent;

	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 (~~e~~**c**) above, the Consent Holder shall consult with the ~~S~~WIM 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	(d) 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 (c) above, the Consent Holder shall consult with the WIM 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;
	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;	**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;	(e) The sites triggering an investigation for a given monitoring year shall be identified in the annual report referred to in Condition 53, and the subsequent investigation report shall be provided with the following annual monitoring report twelve months later; and
	h. 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(~~f~~**d**) above.	(f) Implement any actions or changes identified as necessary by the ~~S~~WIM group, or successor group, through the consultation under Condition 51(d) above.
			Advice note: Discussions should be undertaken with the Canterbury Regional Council prior to and following investigations, to try to establish agreed approaches prior to submitting the report.
	Reporting	**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.	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:	The Consent Holder shall provide an annual report to the Canterbury Regional Council, Attention: 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 **following the calendar year reported on**. **The first annual report shall cover the calendar year following the commencement of this resource consent.** This report shall also be made available on the Christchurch City Council website and~~. The report~~ shall include, where appropriate:
	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**;	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;	(a) A summary of the outcomes of monitoring, investigations and other actions, in accordance with Conditions 20, ~~21, 22,~~ 37, 38, 42**,** ~~and the one-off report required by Condition~~ 47**, and the 5-yearly report required under Condition 48**. 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 and contaminant load reduction targets set within SMPs, including any amendments to the model and consequential changes to expected contaminant load reductions;	(b) A summary of the C-CLM results and contaminant load reduction targets set within SMPs, including any amendments to the model and consequential changes to expected contaminant load reductions;
	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;	(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;	(d) A summary of Canterbury Regional Council records of consent compliance and where any non-compliances of this **resource** 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;	(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;	(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;	(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;	(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;	(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;	(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 **in accordance with Condition 41,** 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;	(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;
	l. Reporting of the alignment of the consent with the Christchurch West Melton sub-regional section.	l. Reporting of the alignment of the consent with the Christchurch West Melton sub-regional section of the Canterbury Land and Water Regional Plan;	(l) Reporting of the alignment of the consent with the Christchurch West Melton sub-regional section of the Canterbury **LWRP** ~~Land and Water Regional Plan~~;
	m. Any changes to the regulatory framework that may warrant changes to the SMPs.	m. Any changes to the regulatory framework that may warrant changes to the SMPs; and	(m) Any changes to the regulatory framework that may warrant changes to the SMPs; and
	n. **Any complaints or monitoring regarding springs.**	n. ~~Any complaints or monitoring regarding springs.~~ Any complaints or observations received by the Consent Holder regarding spring flow and/or quality.	(n) Any complaints or observations received by the Consent Holder regarding spring flow and/or quality.
	ADMINISTRATION AND DURATION	**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.	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 **resource** 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:	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 **resource** 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;	(a) Dealing with any adverse effect on the environment which may arise from the exercise of this **resource** 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.	(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.	(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 **LWRP** ~~Land and Water Regional Plan~~ within five years of the notification of the sub-regional section;
		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~~	(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; ~~and~~
		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.	(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.
56	The duration of the consent is 25 years.	~~The duration of the consent is 25 years.~~	
#		Prior to the exercise of this resource consent, the following resource consents shall be surrendered: a. CRC120223 b. CRC131249	Prior to the exercise of this resource consent, the following resource consents shall be surrendered: (a) CRC120223; and (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.	If this **resource** consent is not ~~exercised~~ **given effect to** before 30 June 202~~1~~**4**, then it shall lapse in accordance with Section 125 of the Resource Management Act 1991.

	References 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. 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. Canterbury Regional Council (2012). Regional Coastal Environment Plan for the Canterbury Region – Volume 1 (amended 20 September 2012). Canterbury Regional Council. Canterbury Regional Council (**2017**~~**8**~~). Canterbury Land and Water Regional Plan - Volume 1 (~~**August 2017**~~**May 2018**). Canterbury Regional Council, Christchurch. Harding, J.S., 2005. Impacts of metals and mining on stream communities, in *Metal Contaminants in New Zealand*, T.A. Moore, A. Black, J.A. Centeno, J.S. Harding & D.A. Trumm (Editors), p. 343-357. Resolutionz press, Christchurch. Ryan, P.A., 1991. Environmental effects of sediment on New Zealand streams: a review. *New Zealand Journal of Marine and Freshwater Research 25:* 207- 221. **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.**	**References** 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. 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. 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. Canterbury Regional Council (2012). Regional Coastal Environment Plan for the Canterbury Region – Volume 1 (amended 20 September 2012). Canterbury Regional Council. Canterbury Regional Council (2017~~8~~). Canterbury Land and Water Regional Plan - Volume 1 (~~August 2017~~May 2018). Canterbury Regional Council, Christchurch. Harding, J.S., 2005. Impacts of metals and mining on stream communities, in *Metal Contaminants in New Zealand*, T.A. Moore, A. Black, J.A. Centeno, J.S. Harding & D.A. Trumm (Editors), p. 343-357. Resolutionz press, Christchurch. Ryan, P.A., 1991. Environmental effects of sediment on New Zealand streams: a review. *New Zealand Journal of Marine and Freshwater Research 25:* 207- 221. **Stuart, L.S., Simpson, S. L., Batley, G.E. & Chariton, A.A. (2~~00~~013). 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.**	**References** 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. 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. **Christchurch City Council & Canterbury Regional Council 2014. Memorandum of Understanding for Stormwater Discharges in Christchurch City.** 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. ~~Canterbury Regional Council (2012). Regional Coastal Environment Plan for the Canterbury Region – Volume 1 (amended 20 September 2012). Canterbury Regional Council.~~ ~~Canterbury Regional Council (20178). Canterbury Land and Water Regional Plan - Volume 1 (August 2017May 2018). Canterbury Regional Council, Christchurch.~~ Harding, J.S., 2005. Impacts of metals and mining on stream communities, in *Metal Contaminants in New Zealand*, T.A. Moore, A. Black, J.A. Centeno, J.S. Harding & D.A. Trumm (Editors), p. 343-357. Resolutionz press, Christchurch. Ryan, P.A., 1991. Environmental effects of sediment on New Zealand streams: a review. *New Zealand Journal of Marine and Freshwater Research 25:* 207- 221. ~~**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.**~~

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

* 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 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~~**~~Ecological values are at acceptable levels~~Adverse effects on ecological values do not occur due to stormwater inputs**	QMCI	Lower limit QMCI scores: • 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~~7~~**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~~**Adverse effects on water clarity and aquatic biota do not occur due to sediment inputs**	Fine sediment (<2 mm diameter) percent cover of stream bed TSS concentrations in surface water	Upper limit fine sediment percent cover of stream bed: • 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 **in surface water**	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. The~~se~~ **sediment cover** 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~~7~~**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~~**Adverse effects on aquatic biota do not occur due to copper, lead and zinc inputs in surface water**	Zinc, copper and lead concentrations in surface water	Upper limit concentration of dissolved zinc: • Ōtākaro/ Avon River catchment: 0.0297 mg/L • Ōpāwaho/ Heathcote River catchment: 0.04526 mg/L • **Cashmere Stream: 0.00724 mg/L** • Huritini/ Halswell River catchment: 0.01919 mg/L • Pūharakekenui/ Styx River catchment: 0.01214 mg/L • Ōtukaikino River catchment: 0.00868 mg/L • Linwood Canal: 0.146 mg/L • Banks Peninsula catchments: TBC-A Upper limit concentration of dissolved copper: • Ōtākaro/ Avon River catchment: 0.00356 mg/L • Ōpāwaho/ Heathcote River catchment: 0.00543 mg/L • **Cashmere Stream: 0.00302 mg/L** • Huritīni / Halswell River catchment: 0.00336 mg/L • Pūharakekenui/ Styx River catchment: 0.00212 mg/L • Ōtukaikino 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~~**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
		Upper limit concentration of dissolved lead: • Ōtākaro/ Avon River catchment: 0.01554 mg/L • Ōpāwaho/ Heathcote River catchment: 0.02916 mg/L • **Cashmere Stream: 0.00521 mg/L** • Huritīni / Halswell River catchment: 0.01257 mg/L • Pūharakekenui/ Styx River catchment: 0.00634 mg/L • Ōtukaikino River catchment: 0.00384 mg/L • Linwood Canal: 0.167 mg/L • Banks Peninsula catchments: TBC-A No statistically significant increase in copper, lead and zinc concentrations	
~~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**	Total macrophyte and filamentous algae (>20 mm length) cover of stream bed	Upper limit total macrophyte cover of the stream bed: • Spring-fed – plains – urban waterways: 60% • Spring-fed – plains waterways: 50% • Banks Peninsula waterways: 30% Upper limit filamentous algae cover of the stream bed: • Spring-fed – plains – urban waterways: 30% • Spring-fed – plains waterways: 30% • Banks Peninsula waterways: 20%	Macrophyte and algae cover are indicators of the quality of aquatic habitat. Targets are taken from Table 1a of the LWRP (Canterbury Regional Council, 2017~~8~~). Improvement towards these targets can be achieved by reduction in nutrient concentrations and riparian planting to shade the waterways.
~~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**	Zinc, copper~~, and~~ lead **and PAHs** concentrations in instream sediment	Upper limit concentration of total recoverable metals for all classifications: • 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 **No statistically significant increase in copper, lead, zinc and Total PAHs**	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.
~~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**	Waterway Cultural Health Index and State of Takiwā scores	Lower limit averaged Waterway Cultural Health Index and State of Takiwā scores for all classifications: • Spring-fed – plains – urban waterways: TBC-B • Spring-fed – plains waterways: TBC-B Banks Peninsula waterways: TBC-B	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.

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~~**Adverse effects on water clarity and aquatic biota do not occur due to sediment inputs**	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)~~. **There is no guideline available for this parameter, so no change in concentrations is proposed to be conservative.** 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~~**Adverse effects on aquatic biota do not occur due to copper, lead and zinc inputs in surface water**	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): • Copper: ~~0.005~~ **0.0013** mg/L • Lead: ~~0.005~~ **0.0044** mg/L • Zinc: ~~0.05~~ **0.015** mg/L No statistically significant increase in copper, lead and zinc concentrations ~~**(with the exception of the Operational Area of the Port of Lyttelton)**~~	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.~~ **These targets are taken from the ANZECC (2000) guidelines for the protection of 95% of species.** The~~is~~ **Operational Area of the Port of Lyttelton** ~~area~~ is affected by direct discharges from boats that will make monitoring of the effects of stormwater difficult**, therefore the targets are not applicable to this area**. These targets will be achieved by reducing contaminant loads.
~~Enhance mana whenua coastal values~~~~**Mana whenua coastal values are at acceptable levels**~~**Adverse effects on Mana Whenua values do not occur due to stormwater inputs**	Marine Cultural Health Index and State of Takiwā scores	Minimum averaged Marine Cultural Heath Index and State of Takiwā scores for all classes: • 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
Protect drinking water quality	Copper, lead, zinc and *Escherichia coli* concentrations in drinking water	Concentration to not exceed: • Dissolved Copper: 0.5 mg/L • Dissolved Lead: 0.0025 mg/L • Dissolved Zinc:0.375 mg/L No statistically significant increase in the concentration of *Escherichia coli* at drinking water supply wells	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 *E.coli* 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.
Avoid widespread adverse effects on shallow groundwater quality	Electrical conductivity in groundwater	• 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 **any general** changes in **groundwater quality related to recharge**~~metals (particularly copper, lead, zinc)~~.

Schedule 7: Receiving Environment Attribute Target Levels for Water Quantity

MODELLED CATCHMENTS

Objective for the management of stormwater quantity:

To mitigate the risk of inundation, damage to downstream property or infrastructure or human safety through management of stormwater run-off volumes and peak flows. The degree of mitigation will be measured against the attribute target levels for each receiving environment.

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.

Receiving Environment	Monitoring Location	Baseline Year	Maximum Increase (mm)
Ōtākaro/ Avon River	Gloucester Street Bridge	2014	50
Pūharakekenui/ Styx River	Harbour Road Bridge	2012	120 ~~00 +/- 20%~~
Ōpāwaho/ Heathcote River	Ferniehurst Street	1991	30
Huritīni / Halswell River	Minsons Drain confluence*	2016	0

NON-MODELLED CATCHMENTS

Receiving Environment	Attribute Target Level	Basis for Target	Notes
Ōtukaikino 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 **until such time as a monitoring location can be set during review of the SMP**	As measured through the CCC discharge authorisation compliance process for Resource and Building Consents **until such time as an Baseline Year can be set during review of the SMP**	CCC ~~does not monitor or model flooding in the Otukaikino River~~ **has just begun monitoring the Ōtūkaikino at Dickeys Road Bridge. Council does not currently model flooding in the Ōtūkaikino River.** Flooding occurs primarily due to backwater effects in the Waimakariri River. Therefore, a best practice approach to mitigation of development will be implemented **until such time as Maximum Increase can be set during review of the SMP.**
Banks Peninsula (Various)	Discharges from all new greenfield development within settlement areas of Te Pātaka o Rākaihautū/ 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 Rākaihautū/ 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.**

CRC190445 – A Comprehensive Resource Consent to Discharge Stormwater from within Christchurch City onto or into Land, into Water and into Coastal Environments ('Clean Version')

CRC190445 A Comprehensive Resource Consent to Discharge Stormwater from within Christchurch City onto or into Land, into Water and into Coastal Environments

*Advisory Note: The following conditions for the Christchurch City Comprehensive Stormwater Network Discharge Consent have been prepared according to the agreed practices of the Joint Christchurch City Council & Canterbury Regional Council Stormwater Management Protocol, Report U10/12 (**the Protocol**). The Protocol establishes how Canterbury Regional Council and Christchurch City Council will work together to achieve integrated catchment wide stormwater management in Christchurch. The Protocol records the understanding between Canterbury Regional Council and Christchurch City Council but does not create legal obligations that are enforceable by either party. Appendix 4 of the Protocol sets out responsibilities pertaining to compliance and operations and notes the role of the Water Issues Management **(WIM)** Group in any enforcement matters.*

For the purpose of this consent the following definitions and abbreviations apply to all conditions:

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.

area of disturbance means an area where site clearance or earthworks are actively taking place and where the land has not been stabilised.

Banks Peninsula means the area within Banks Peninsula as defined by the operative Christchurch District Plan (or successor).

Best Practicable Option is as defined under the Resource Management Act 1991.

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 these conditions as Schedule 5.

critical duration means the time taken during a storm event for peak water levels to be reached in the receiving waters.

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.

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.

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.

EMP means Environmental Monitoring Programme.

existing site means any site that discharges its stormwater into the stormwater network at the date of commencement of this resource consent.

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% AEP design storm event.

facility means a constructed method of holding or attenuating stormwater, at a larger scale than a device, 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.

flat land means any land where the average slope across the site is 5 degrees or less.

greenfield means agricultural, forest or grass land that is to be used for urban purposes, for example construction of residential or industrial subdivision, buildings, roads and associated services.

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.

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, which will include the Oil Industry Environmental Working Group, Lyttelton Port Company and

Ravensdown Limited, invited by Christchurch City Council to attend an annual meeting to discuss stormwater discharges under this resource consent.

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.

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% AEP design storm event.

QMCI means Quantitative Macroinvertebrate Community Index.

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 resource 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.

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:

- 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.

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.

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.

stormwater means runoff water and entrained contaminants arising from precipitation on the external surface of any structure or any land modified by human action, and that has been channelled, diverted, intensified or accelerated by human intervention. Stormwater excludes discharges of groundwater, spilled or deliberately released hazardous substances and/or washdown activities.

stormwater network means a network owned or operated by the Christchurch City Council of pipes, swales, drains, kerbs and channels that collects stormwater, and includes any device or facility owned or operated by the Christchurch City Council for the treatment of stormwater, prior to a discharge to land, groundwater or surface water. Stormwater network excludes any system that has been constructed for the primary purpose of collection, conveyance or discharge of groundwater.

Sub-catchment means part of a catchment.

surface water means water in rivers, watercourses and artificial waterbodies, lakes, wetlands, springs, or coastal waters, but excludes groundwater and atmospheric water.

TSS means Total Suspended Solids.

WIM means the Water Issues Management Group, or its successor. The WIM 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 'Joint Christchurch City Council and Environment Canterbury Stormwater Management Protocol (March 2006, Revised September 2008 and November 2010)'.

ACTIVITY

Purpose and Location

1. Except where excluded under Condition 2, this consent authorises the discharge of stormwater onto or into land or into surface water which:

    (a) is generated from within the territorial boundaries of Christchurch City Council; or

    (b) enters the stormwater network from outside the Christchurch City Council boundary.

Exclusions

2. This consent excludes discharges:

    (a) Emanating from land within Banks Peninsula that is outside the Settlement Areas of Banks Peninsula; and

    (b) From private stormwater systems that bypass the stormwater network (owned and operated by Christchurch City Council) and discharge into the Coastal Marine Area; and

    (c) Emanating from 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) From any activity not existing at the commencement of this resource consent, re-development, or development site 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

Advice Note: The identification of unacceptable high risk will be in the manner required by the Memorandum of Understanding for Stormwater Discharges in Christchurch City (2014), or successor document, between the Christchurch City Council and Canterbury Regional Council until a risk matrix is finalised under Condition 3 below.

(e) Emanating from any stage of a development site with a total area of disturbance exceeding 5 hectares on flat land or 1 hectare on hill land; and

(f) From 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 resource 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 47.

Transitional Arrangements

3. Discharge into the stormwater network from the sites excluded by Conditions 2(d), 2(e) 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 47, the Consent Holder determines that the discharge poses an unacceptably high risk of surface water or groundwater contamination. The transitional arrangements are:

(a) Within 6 months of the commencement of this resource consent, the Consent Holder shall engage with the Canterbury Regional Council to obtain full details of all of the consented discharges excluded from this consent until 2025, including information on site activities, conditions and compliance records;

(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 where information has been provided under Condition 3(a), and those discharges described in Condition 2(d) and 2(e). The risk matrix shall be developed as follows:

(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;

(ii) The Consent Holder shall invite the Industry Liaison Group to provide comment within 2 months of providing the draft risk matrix to them for comment;

(iii) Within 3 months of receiving the comment referenced in Condition 3(b)(ii), the Consent Holder shall prepare a memo and/or revised risk matrix

addressing that comment and circulate it to the Industry Liaison Group along with an invitation to an Industry Liaison Group meeting;

(iv) Within one month of the meeting held under Condition 3(b)(iii), the Consent Holder shall circulate minutes, including points of agreement and disagreement between the parties;

(v) Any changes to the draft risk matrix shall be provided to the Industry Liaison Group for feedback no less than 2 months prior to being submitted to Canterbury Regional Council.

(c) Within 3 years of the commencement of this consent, the Consent Holder 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:

(i) a description of the regulatory methods that will be used by the Consent Holder to ensure that previously excluded discharges will be subject to standards that achieve required environmental outcomes as described in Condition 3(e);

(ii) the risk matrix prepared under Condition 3(b);

(iii) a description of site-specific monitoring plans for particular sites from 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 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;

(d) if as a result of the risk matrix and process set out in Condition 3(b) 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;

(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.

Advice note: Discharge into the stormwater network will still require approval from Christchurch City Council, as owner and operator of the stormwater network, following the surrender or expiry of discharge permits for the sites noted above, or from 1 January 2025, whichever is the latest.

Stormwater Management Plans

4. 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 7 and is consistent with the purpose of SMPs in Condition 6.

5. 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.

Table 1: SMP Programme

SMP Area	Date SMP Operative	Date Submitted to Canterbury Regional Council
Ōtākaro/ Avon River Area Christchurch		Within 36 months of the commencement of this consent
Pūharakekenui/ Styx River Area Christchurch	30 June 2014	
Huritīni / Halswell River Area Christchurch	30 June 2016	
Ōpāwaho/ Heathcote River Area Christchurch		Within 18 months of the commencement of this consent
Estuary and Coastal Area Christchurch		Within 24 months of the commencement of this consent
Outer Area Christchurch		Within 30 months of the commencement of this consent
Te Pātaka o Rākaihautū / Banks Peninsula Settlements		Within 36 months of the commencement of this consent

6. The purpose of the SMPs is to:

   (a) Contribute to meeting the overall contaminant load reduction standards set in Condition 19 and 20;

   (b) Set a contaminant load reduction target(s), for each catchment in that SMP area in order to demonstrate the commitment of the Consent Holder to the improvement of stormwater discharge quality over time;

   (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 7 to 10;

(d) Provide for discharge of stormwater to land infiltration systems where reasonably practicable as the means to demonstrate that stormwater contribution to groundwater and spring-fed stream flows will be maintained;

(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 will 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% AEP Event;

(f) Plan the works required to mitigate the effects of stormwater discharges to the extent required by this resource consent;

(g) Implement the conditions of this consent as they apply to each catchment, including the best practicable option for weed management in the Pūharakekenui/Styx River as determined under Schedule 4(x).

7. SMPs submitted to Canterbury Regional Council after the commencement of this resource consent shall include but not be limited to the information set out in Schedule 2.

8. Prior to submitting a SMP or any reviewed SMP, or amendment to a SMP to the Canterbury Regional Council, other than one agreed with Canterbury Regional Council as making minor changes and corrections, the Consent Holder shall:

(a) In early development stages for a possible SMP, provide a briefing to and invite comments from:

(i) papatipu rūnanga;

(ii) The relevant Zone Committee(s) (or successor organisation);

(iii) The relevant Community Board(s) (or successor organisation); and

(iv) The Department of Conservation.

(b) Following completion of a draft SMP, provide a draft copy to the following parties inviting feedback within a timeframe of not less than 40 working days:

(i) papatipu rūnanga;

(ii) The relevant Zone Committee(s) (or successor organisation);

(iii) The relevant Community Board(s) (or successor organisation); and

(iv) The Department of Conservation.

9. The Consent Holder shall amend the SMPs as it considers necessary to respond to:

(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 56-59;

(c) Outcomes of investigations and trials carried out under Conditions 39 and 40 and Schedules 3 and 4;

(d) Any changes to relevant national, and/or regional planning documents including those that result from the LWRP sub-regional chapter development process;

(e) The use of new technologies, new opportunities for additional mitigation (such as for infill areas or retro-fit) or new constraints on the implementation of mitigation due to changes in developer plans; and

(f) New environmental data and research including updated international and national best practice technologies.

10. Any amendments to SMPs, other than those agreed with Canterbury Regional Council as making minor changes and corrections, shall not replace the previous version until the amendments have been certified by the Canterbury Regional Council as containing the matters required by Condition 7 and as being consistent with the purpose of SMPs in Condition 6.

Implementation Plan

11. The purpose of an Implementation Plan is to give effect to certified SMPs and to include the matters set out in Condition 12. An Implementation Plan shall be:

(a) Prepared by the Consent Holder, through engagement with papatipu rūnanga under Condition 13(a), and with the Department of Conservation, within 18 months after the commencement of this resource consent;

(b) Updated to give effect to new, reviewed or amended SMPs within 12 months of SMPs being certified;

(c) Reviewed by the Consent Holder every 3 years, with reference to the Christchurch City Council Long Term Plan; and

(d) Made available to Canterbury Regional Council and papatipu rūnanga on request.

12. The Implementation Plan shall include but not be limited to:

(a) A list and map of proposed stormwater mitigation methods and devices;

(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 39 and 40 and Schedules 3 and 4;

(d) Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan.

Engagement with Papatipu Rūnanga

13. The Consent Holder shall engage with papatipu rūnanga:

(a) In the development and review of the SMPs required under Conditions 4 and 8, and other amendment to SMPs, and the development of the Implementation Plan required under Conditions 11 and 12;

(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;

(d) By the engagement required by Conditions 56 to 58 on responses to modelling;

(e) By providing the investigation report required by Condition 59 on responses to monitoring; and

(f) By holding an annual meeting with Mahaanui Kurataiao Ltd to discuss stormwater works under this resource consent, and papatipu rūnanga input predicted for the next 12 month period.

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 resource 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.

Stormwater Technical Peer Review Panel

14. The Consent Holder shall establish, at its own cost, the Stormwater Technical Review Panel (**Stormwater TPRP**), for the purpose of providing scientific and technical review of:

    (a) The draft risk matrix required by Condition 3(b) of this resource consent and any subsequent amendments of the risk matrix; and

    (b) Each Draft SMP, including those being reviewed as required under Condition 4 and 5 of this resource consent or being amended under Condition 9, and provide technical advice to the Consent Holder as to whether it is fit for purpose and meets the requirements of Conditions 6 and 7 of this resource consent; and

    (c) The scope of the feasibility studies and investigations required by Condition 39 and Schedule 3 (actions a - h) and Condition 40 and Schedule 4 (actions d, e, j, k, r and s) 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.

15. The Consent Holder shall:

    (a) Obtain a review of the draft risk matrix from the Stormwater TPRP, and attach a copy of the review to the draft risk matrix provided to the Canterbury Regional Council; and

(b) Obtain a review of the draft SMP from the Stormwater TPRP, attach a copy of the review to the draft SMP, and provide a description within the SMP of the Consent Holder's response to that review; and

(c) Obtain a review of the relevant feasibility study or investigation from the Stormwater TPRP, and attach a copy of the review to the relevant feasibility study or investigation provided to Canterbury Regional Council.

Advice Note: The technical reviews under Condition 14 shall be provided by the relevant experts from the Stormwater TPRP and not the whole panel.

16. The Consent Holder shall appoint independent Stormwater TPRP members with expertise which could include but not be limited to the following:

    (i) Stormwater engineering and hydrological/flood modelling;

    (ii) Freshwater and coastal water quality and ecology;

    (iii) Hydrogeology;

    (iv) Contaminated site/land management;

    (v) Erosion and sediment control; and

    (vi) Mātauranga Māori and mahinga kai.

17. 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.

18. The Consent Holder shall provide any administrative support necessary for the Stormwater TPRP to carry out its functions.

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.

STANDARDS AND RESTRICTIONS

Stormwater Contaminant Load Modelling

19. 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 5.

20. 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.

Table 2: Reductions in stormwater contaminant load

	Contaminant load compared to no treatment as at 2018	5 years from 2018 compared to no treatment (as at 2023)	10 years from 2018 compared to no treatment (as at 2028)	25 years from 2018 compared to no treatment (as at 2043)
TSS	12 %	21 %	25 %	27 %
Total Zinc	10 %	15 %	18 %	20 %
Total Copper	16 %	23 %	28 %	30 %

21. 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 19 and targets developed through the SMPs are being met.

    Advice note: The C-CLM is the primary means of assessing the City-wide standards for 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.

Water Quality and Quantity Standards

22. 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 6.

23. The Consent Holder shall use 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 7 and 8;

    (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 9; and

    (c) water quantity. The mitigation of effects shall be measured against achievement of the Receiving Environment Objective and Attribute Target Levels monitoring described in Schedule 10.

24. 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.

25. The Consent Holder shall provide retrofit water quality and quantity mitigation for existing development where practicable.

26. Until the commencement of the targeted trial required by Schedule 4(w), when the dry weather base flow water level in the Pūharakekenui/Styx River is at or above Reduced Level 10.1m Christchurch Drainage Datum, as measured at the Lower Pūharakekenui /Styx water level gauge, the Consent Holder shall ensure that the Pūharakekenui /Styx River is the next river from which weed is harvested and that this will commence no later than 40 days following the measurement date.

Design of Facilities and Devices

27. 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); and

    (b) Other national and international best practice design criteria adopted by the Christchurch City Council over the duration of this resource consent.

28. To ensure the risk of bird strike is minimised, the following design requirements shall apply to facilities within 3 kilometres of Christchurch International Airport:

        (i) Stormwater infiltration basins shall fully drain within 48 hours of the cessation of a 2% AEP stormwater event;

        (ii) Sufficient rapid soakage overflow capacity shall be provided to minimise the ponding of stormwater outside of the infiltration area(s); and

        (iii) Landscape design shall limit attractiveness to birds through the use of suitable non-bird attracting species.

29. The Consent Holder shall ensure that all stormwater quality mitigation facilities and devices servicing greenfield development after commencement of this resource consent are designed to treat the first flush.

30. For all water quality mitigation facilities and devices constructed after commencement of this resource consent to service re-development, or retrofit water quality mitigation facilities for existing development, the Consent Holder shall design facilities to treat as much of the first flush as reasonably practicable.

31. 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 11.

32. Christchurch City Council stormwater infiltration facilities constructed after the commencement of the resource 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:

    (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 square metres (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 LWRP, unless, in the case of private drinking water bores, the Consent Holder has made a reticulated water supply available to the property.

(b) Infiltration devices for larger discharges than those described in (a) above shall maintain a separation distance of 2,000 metres when located up-gradient of domestic and community drinking water supply wells; and infiltration devices shall maintain a separation distance of 500 metres 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 by the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance that it will have a less than minor adverse effect on domestic and community drinking water supply wells.

(d) Within 24 months of this resource consent 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 shall be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance for certification that it will have a less than minor adverse effect on domestic and community drinking water supply wells.

33. Christchurch City Council stormwater mitigation facilities constructed after the commencement of this resource consent shall have secondary flow paths to the downstream stormwater network.

34. Christchurch City Council stormwater mitigation facilities constructed after commencement of this resource consent shall include best practice features designed to capture and contain as much as reasonably practicable any spills of contaminants entering the stormwater facility.

35. 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 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.

36. All Christchurch City Council stormwater mitigation facilities and devices constructed after commencement of this resource consent shall have an Operations and Maintenance Manual which shall be made available on request.

Stormwater Quality Investigations

37. The Consent Holder shall investigate and implement methods to improve the management of stormwater quality and assess and reduce stormwater effects on the receiving environment (Stormwater Quality Investigation Programme).

38. The purpose of the Stormwater Quality Investigation Programme is to:

(a) Monitor the performance of selected stormwater treatment facilities and devices;

(b) Assess the potential for the application of new technologies and management strategies; and

(c) Investigate using various models and techniques of water quality improvement strategies and options.

39. The Consent Holder shall undertake the actions set out in Schedule 3 for the investigation required by Condition 37.

Other Actions

40. The Consent Holder shall undertake the actions set out in Schedule 4 for the purposes of improved stormwater management through: source control methods; communication, education and awareness; and Pūharakekenui/Styx River channel weed management.

Erosion and Sediment Control

41. The Consent Holder shall use reasonably practicable measures to ensure that a site specific Erosion and Sediment Control Plan (**ESCP**) be prepared and implemented as a means of ensuring the mitigation of the effects of construction phase stormwater discharge from any development site in accordance with the *Erosion and Sediment Control Toolbox for Canterbury* (or successor document) prior to commencement of stripping of vegetation or earthworks.

42. Copies of ESCPs submitted to or prepared by/for the Consent Holder shall be made available to the Canterbury Regional Council on request.

43. The Consent Holder shall develop a Sediment Discharge Management Plan (**SDMP**) and present it to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance within twelve months of the operative date of this resource consent, for certification that it is consistent with the purpose and required content of the SDMP.

44. The purpose of the SDMP is to manage discharges of stormwater from development sites to mitigate adverse effects on water clarity and aquatic biota as far as is reasonably practicable, which will be measured against the fine sediment and TSS Attribute Target Levels for waterways and coastal areas within Schedules 7 and 8.

45. The required content of the SDMP shall include, but not be limited to, the following means to achieve the purpose:

(a) A risk matrix to determine TSS limits for the discharge of stormwater into the stormwater network under this resource consent 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;

(b) 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;

(c) A description of the Consent Holder's process to monitor sites and monitor management of sites to ensure TSS limits are achieved;

(d) 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.

46. The Consent Holder may review and amend the SDMP so as to better achieve the purpose of the SDMP 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.

Industrial Site Management

47. The Consent Holder shall, in collaboration with the Canterbury Regional Council:

(a) Maintain a desktop-based identification of industrial sites, that ranks sites for risk relative to stormwater discharge and identifies the industrial sites that pose the highest risk;

(b) Audit at least 15 sites per year, of which at least 10 are sites agreed with the Canterbury Regional Council;

(c) Vary the annual number of site audits in Condition 47(b) if agreed by the Canterbury Regional Council under Schedule 4(l);

(d) Inform the site owner and operator and notify the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance if the audit process and monitoring of a site determines that the site is presenting an unacceptably high risk to the receiving environment.

48. If the Consent Holder considers, following further engagement with the site operator and the Canterbury Regional Council, that the site is not appropriately mitigating that unacceptably high risk, the Consent Holder may, upon agreement with Canterbury Regional Council, add the site to Schedule 1.

MONITORING AND REPORTING

Environmental Monitoring Programme

49. 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.

50. The Consent Holder may review and amend the EMP for the purposes of improved monitoring and / or to better determine whether the Receiving Environment Objectives and Attribute Target Levels are being met.

51. Any amendments to the EMP shall not replace the previous version until the EMP has been certified by the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance as complying with the requirements of Condition 49.

52. (a) The Attribute Target Levels in Schedule 7 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 be reviewed every five years, with the first review being undertaken within 2 years of the commencement of this resource consent.

(c) Hardness modified values shall be calculated using the *ANZECC (2000)* methodology 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 shall be incorporated into the certified EMP as an amendment, in accordance with Condition 50.

53. The Attribute Target Levels in Schedules 7 to 8 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 shall be incorporated into the certified EMP as an amendment, certified in accordance with Condition 50.

54. The Attribute Target Levels in Schedules 7 and 8 for the Waterway Cultural Health Index, Marine Cultural Heath 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 shall be incorporated into the EMP and presented by the Consent Holder as an amendment for certification, in accordance with Condition 51 within 24 months of the commencement of this resource consent. Once these scores, sites and monitoring methods are confirmed, monitoring of mana whenua values shall commence.

55. The water quantity/flood model(s) for the Pūharakekenui/ Styx, Ōtākaro/ Avon, Ōpāwaho/ Heathcote and Huritīni / Halswell Rivers shall be updated as necessary to reflect changes in development patterns or modelling parameters at least every 5 years following the commencement of this resource consent. The results of model updates and a description of how they demonstrate compliance with Schedule 10 shall be included in the annual report required under Condition 61 on a 5-yearly basis following commencement of this resource consent.

Responses to Contaminant Load Modelling

56. Where the modelling results reported in accordance with Condition 21 show that the percentage contaminant reductions required by the standards in Table 2 in Condition 19, and/or by the targets derived under each catchment-specific SMP are not met, the Consent Holder shall undertake the following:

(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 best practicable options to mitigate the adverse effects of stormwater 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 implementation of correction / remediation options (if necessary); and

(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.

Responses to Flood Modelling

57. Where the flood modelling results show that the attribute target levels in Schedule 10 are not met, the Consent Holder shall:

    (a) Investigate the reasons for not achieving the attribute target levels within Schedule 10 and describe what measures will be implemented (if necessary) to meet the attribute target levels within Schedule 10;

    (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 implementation of correction / remediation options (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.

58. If, upon submittal of the report, where required by Condition 56 or 57, agreement between Christchurch City Council and Canterbury Regional Council cannot be reached regarding any aspects, the Consent Holder shall consult with the WIM 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.

Advice note: Discussions should be undertaken with the Canterbury Regional Council prior to and following investigations, to try to establish agreed approaches prior to submitting the report.

Responses to Monitoring

59. If the monitoring results identify that the TSS, copper, lead and zinc Attribute Target Levels in surface water, as set out in Schedules 7 and 8, and Escherichia coli, copper, lead and zinc in groundwater, as set out in Schedule 9, are not being met, the Consent Holder shall:

    (a) Engage with the Canterbury Regional Council about conducting an investigation into whether this is due to the effects of stormwater discharges authorised under this resource consent, with site investigations prioritised for areas with high levels of contaminants, or with sensitive or high value receiving environments;

    (b) Carry out an investigation if required under Condition 59(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);

(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 or not;

(ii) An assessment of options for correction/remediation if effects are likely due to stormwater discharges authorised under this resource consent;

(iii) A timeline of implementation of corrective action/remediation if effects are a result of discharges authorised under this resource consent;

(d) 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 (c) above, the Consent Holder Shall consult with the WIM 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;

(e) The sites triggering an investigation for a given monitoring year shall be identified in the annual report referred to in Condition 61, and the subsequent investigation report shall be provided with the following annual monitoring report twelve months later; and

(f) Implement any actions or changes identified as necessary by the WIM group, or successor group, through the consultation under (d) above.

Advice note: Discussions should be undertaken with the Canterbury Regional Council prior to and following investigations, to try to establish agreed approaches prior to submitting the report.

Reporting

60. 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.

61. The Consent Holder shall provide an annual report to the Canterbury Regional Council, Attention: 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 following the calendar year reported on. The first annual report shall cover the calendar year following the commencement of this resource consent. This report shall also be made available on the Christchurch City Council website and shall include, where appropriate:

(a) A summary of the outcomes of monitoring, investigations and other actions, in accordance with Conditions 23, 39, 40, 49, 54, and the 5-yearly report required under Condition 55. 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 results and contaminant load reduction targets set within SMPs, including any amendments to the model and consequential changes to expected contaminant load reductions;

(c) A summary of any discussions, consultation or responses carried out under Conditions 56 - 59;

(d) A summary of Canterbury Regional Council records of consent compliance and where any non-compliances of this resource consent occurred;

(e) A summary of flood modelling results (if applicable) for development in greenfield areas;

(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;

(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 mana whenua values;

(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 in accordance with Condition 47, that have been initiated to inform the Consent Holder on stormwater management effectiveness;

(l) Reporting of the alignment of the consent with the Christchurch West Melton sub-regional section of the Canterbury LWRP;

(m) Any changes to the regulatory framework that may warrant changes to the SMPs; and

(n) Any complaints or observations received by the Consent Holder regarding spring flow and/or quality.

ADMINISTRATION

62. 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 resource consent.

63. 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 resource consent for the purposes of:

(a) Dealing with any adverse effect on the environment which may arise from the exercise of this resource consent;

(b) Complying with the requirements of a relevant rule in an operative regional plan;

(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 LWRP within five years of the notification of the sub-regional section;

(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;

(e) To provide alternative standards for the expected city-wide percentage contaminant load reductions in Condition 19, 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.

64. Prior to the exercise of this resource consent, the following resource consents shall be surrendered:

(a) CRC120223

(b) CRC131249.

65. If this resource consent is not given effect to before 30 June 2024, then it shall lapse in accordance with Section 125 of the Resource Management Act 1991.

Attachments

Schedule 1: Sites excluded from the Christchurch City Council Comprehensive Discharge Consent

Schedule 2: Condition 7 - Matters to be included within SMPs

Schedule 3: Stormwater Quality Investigation Programme

Schedule 4: Other Actions by Consent Holder

Schedule 5: Christchurch Contaminant Load Model

Schedule 6: General City Conditions – Water Quality and Quantity

Schedule 7: Receiving Environment Objectives and Attribute Target Levels for Waterways

Schedule 8: Receiving Environment Objectives and Attribute Target Levels for Coastal Waters

Schedule 9: Receiving Environment Objectives and Attribute Target Levels for Groundwater and Springs

Schedule 10: Receiving Environment Objectives and Attribute Target Levels for Water Quantity

Schedule 1: Sites Excluded from the Comprehensive Stormwater Network 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: Condition 7 - Matters to be included within SMPs

(a) Specific guidelines for implementation of stormwater management to achieve the purpose of SMPs;

(b) A definition of the extent of the stormwater infrastructure, that forms the stormwater network within the SMP area for the purposes of this consent;

(c) A contaminant load reduction target(s) for each catchment within that SMP area and a description of the process and considerations used in setting the contaminant load reduction target(s) required by Condition 6(b) using the best reasonably practicable model or method and input data;

(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 shall include:

  (i) Relevant objectives, policies, standards and rules in the Christchurch District Plan;

  (ii) Relevant bylaws; and

  (iii) Relevant strategies, codes, standards and guidelines;

(e) Mitigation methods to achieve compliance with the conditions of this resource consent including the requirement to improve discharge water quality under Condition 23, 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 19. These methods shall include:

  (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;

(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 mitigation facilities or devices and any contaminated land;

(g) Identification of areas planned 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;

(h) Identification of areas subject to known flood hazards;

(i) A description of how environmental monitoring and assessment of tangata whenua values have been used to develop water quality mitigation methods and practices;

(j) Results from and interpretation of water quantity and quality modelling, including identification of sub-catchments with high levels of contaminants;

(k) Mapping of existing information from Canterbury Regional Council and the Consent Holder showing locations where discrete spring vents occur;

(l) Consideration of any effects of the diversion and discharge of stormwater on baseflow in 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;

(m) A cultural impact assessment;

(n) A summary of outcomes resulting from any collaboration with papatipu rūnanga on SMP development;

(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) Assessment and description of any additional or new modelling, monitoring and mitigation methods being implemented by the Consent Holder;

(q) A summary of feedback obtained in accordance with Condition 8 and if / how that feedback has been incorporated into the SMP;

(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;

(s) Identification of key locations in addition to those identified in Schedule 10 where modelled assessments of water levels and/or volumes 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 55;

(t) Procedures, to be developed in consultation with Christchurch International Airport Limited, for the management of the risk of bird strike for any facility owned or managed by the Christchurch City Council within 3 kilometres of the airport;

(u) A description of any relevant options assessments undertaken to identify the drivers behind mitigation measures selected; and

(v) An assessment of the potential change to the overall water balance for the SMP area arising from the change in pervious area and the stormwater management systems proposed.

Schedule 3 - Stormwater Quality Investigation Programme

Stormwater Quality Investigation Actions	Action Start Date	Action Completion Date
a. Investigate the feasibility of developing an instream contaminant concentration model. Consideration shall be given to: (i) How applicable the model will be to - • Water quality management generally • The resource consent specifically (ii) Timelines (iii) Costs (iv) What data CCC would need to collect	Within 6 months of the commencement of the resource consent	Within 18 months of the commencement of the resource consent
b. Develop instream contaminant concentration model if the Consent Holder feasibility study in (a) provides sufficient merit.	Within 2 years of the commencement of the resource consent	Within 3 years of the commencement of the resource consent
c. If the instream contaminant concentration model is developed, carry out investigations and monitoring to validate and refine assumptions within the model, to improve the accuracy of model predictions.	Within 4 years of the commencement of the resource consent	Ongoing
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. Consideration shall 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.	Within 12 months of the commencement of the resource consent	Within 3 years of the commencement of the resource consent
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”,	Within 3 years of the commencement of the resource consent	Ongoing

into the receiving environment to assist model development and 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.	Within 1 year of the commencement of the resource consent	Ongoing
g. Investigate the feasibility of techniques for remediating adverse effects of stormwater sediment discharges on receiving environments. This shall include consideration of sediment cover of the bed, and copper, lead, zinc and PAHs contamination.	Within 1 year of the commencement of the resource consent	Within 3 years of the commencement of the resource consent
h. If the Consent Holder determines that it is feasible, instigate an instream sediment remediation programme.	Within 3 years of the commencement of the resource consent	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.	Within 6 months of the commencement of the resource consent	Ongoing
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.		
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.	Within 6 months of the commencement of the resource consent	Ongoing

Schedule 4: Other Actions by Consent Holder

Other Actions	Activity Start Date	Activity Completion Date
Source Control		
a. Lodge a submission to central government seeking national measures and industry standards to reduce the discharge of contaminants including zinc and copper from metal roofs, car tyres and brake linings.	Within 6 months of the commencement of the resource consent	Within 1 year of the commencement of the resource consent
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).	Within 6 months of the commencement of the resource consent	Within 1 year of the commencement of the resource consent
c. If the Consent Holder Determines that the cost/benefit analysis under Item (b) shows that it is warranted, carry out trials for increased targeted/selective street sweeping and sump cleaning.	Within 1 year of the commencement of the resource consent	Within 3 years of the commencement of the resource consent
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).	Within 6 months of the commencement of the resource consent	Within 18 months of the commencement of the resource consent
e. If the Consent Holder determines that the cost/benefit analysis under Item (d) shows that it is warranted, carry out trials for alternate methods of stormwater treatment and discharge.	Within 2 years of the commencement of the resource consent	Within 4 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 and review of SMPs, IDS and WWDG.		
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.	Within 2 years of the commencement of the resource consent	Ongoing
h. If the Consent Holder determines it warranted as a result of the trials in Item (c) above, increased frequency of sump cleaning at selected locations.	Within 2 years of the commencement of the resource	Ongoing
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	Within 6 months of the commencement of	Ongoing

commencing and throughout the construction process.	the resource consent	
j. 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.	Within 2 years of the commencement of the resource consent	Ongoing
k. Conduct a cost/benefit analysis of options to further improve source control that considers: (i) allocation of staff/resources to undertake industrial site audits; (ii) expected contamination risk and possible risk reduction of industrial sites; and (iii) other source control measures in Schedule 3 as required by Condition 39.	Within 6 months of the commencement of the resource consent	Within 18 months of the commencement of the resource consent
l. Apply, through agreement between the Consent Holder and Canterbury Regional Council, the results of the cost/benefit analysis under Item (k) above to prioritise source control measures in SMPs and the Implementation Plan and to determine the number of audits conducted under Condition 47(b).	Within 2 years of the commencement of the resource consent	Ongoing
Communication, Education and Awareness		
m. 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. Possible initiatives of the community water engagement programme are: (i) 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). (ii) Implement a sustainable behaviour change programme. Actions aimed at stopping contaminants getting into the stormwater network, such as: sediment, litter, bacterial contaminants. (iii) Undertaking a wider educational programme for schools. (iv) Educating dog owners about effects of faecal matter. (v) Seeking industry behaviour change.	Within 6 months of the commencement of the resource consent	Ongoing
n. The Consent Holder shall convene the River Care Liaison Group meeting at least once annually. At	Within 1 year of the	Ongoing

each meeting the Consent Holder shall update the River Care Liaison Group and receive feedback on matters relating to the exercise of this resource consent, including but not limited to: (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; and (iv) Compliance and monitoring results as reported under Condition 61.	commencement of the resource consent	
o. Minutes of the River Care Liaison Group Meeting shall be circulated by the Consent Holder to the River Care Liaison Group within four weeks of the meeting.		
p. The Consent Holder shall convene the Industry Liaison Group meeting at least once annually. At each meeting the Consent Holder shall update the Industry Liaison Group and receive feedback on matters relating to the exercise of this resource consent, including but not limited to: (i) development of the risk matrix required under Condition 3(b) (ii); (ii) implementation of the industrial site audit process under Condition 47; (iii) any new technologies in stormwater contaminant reduction or preventative measures; and (iv) Compliance and monitoring results as reported under Condition 61.	Within 1 year of the commencement of the resource consent	Ongoing
q. Minutes of the Industry Liaison Group Meeting shall be circulated by the Consent Holder to the Industry Liaison Group within four weeks of the meeting.		
Puharakekenui/Styx River Weed Management		
r. Investigate the degree to which various options in river channel weed (macrophyte) management practices mitigate flood effects on the Pūharakekenui/Styx River under a range of river flow scenarios. Factors to be considered shall include: (i) International weed management practices in similar settings; and (ii) the factors which promote or suppress growth of the specific prolific weed species in the Pūharakekenui/Styx River, including sediments, dry weather flows, stormwater discharges covered by the resource consent, other discharges, shading and climatic factors.	Within 6 months of the commencement of the resource consent	Within 18 months of the commencement of the resource consent
s. Based on the results of the investigation under Condition 39(r), and through engagement with Canterbury Regional Council, the Consent Holder	Within 2 years of the commencement of	Within 3 years of the commencement of

shall identify the best practicable options for mitigating flooding through river channel weed management. Factors to be considered shall include: (i) A range of river flow scenarios including dry weather (spring-fed) flows and storm flows where operational/maintenance management will be beneficial; (ii) A range of river channel operational/maintenance management scenarios; (iii) Flooding effects including level, extent and duration; (iv) Available technical knowledge; (v) Potential for practical implementation of options; (vi) Costs for implementing options; (vii) Available regulatory mechanisms; (viii) Consideration of ecological effects; and (ix) Consideration of overlapping powers and responsibilities between Canterbury Regional Council and Christchurch City Council under other legislation.	the resource consent	the resource consent
t. Conduct a cost/benefit analysis of the identified best practicable options for carrying out a targeted trial for achieving reduced flooding from changes in the weed management of the Pūharakekenui/Styx River.	Within 3 years of the commencement of the resource consent	Within 4 years of the commencement of the resource consent
u. Determine the best approach to incorporating the variable weed condition within the Pūharakekenui/Styx River hydraulic model and resulting design flood scenarios.	Within 3 years of the commencement of the resource consent	Within 4 years of the commencement of the resource consent
v. Test the Pūharakekenui/Styx River model calibration against other storm events, as they arise, to calibrate/validate model sensitivity to varying weed conditions.	Within 3 years of the commencement of the resource consent	Within 4 years of the commencement of the resource consent
w. Apply, through engagement with the Canterbury Regional Council, the results of the cost/benefit analysis in a targeted trial for the selected best practicable options for weed management of the Pūharakekenui/Styx River river channel.	Within 4 years of the commencement of the resource consent	Within 5 years of the commencement of the resource consent
x. If the Consent Holder determines it warranted as a result of the trials in Item 39(u) above, implement the selected best practicable option within the Pūharakekenui/Styx River Area SMP.	Within 5.5 years of the commencement of the resource consent	ongoing

Schedule 5: Christchurch Contaminant Load Model Report

C-CLM Modelling
Report 2018 - Best P

Schedule 6: 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** Total area of disturbance does not exceed 1,000m^2	**LARGE SITES** 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	No discharge onto or into land where average site slope exceeds 5 degrees Sumps collecting runoff from new hardstand areas shall be fitted with submerged or trapped outlets wherever practicable An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required for sites in the flat** On-site rain water storage is required for new and redevelopment sites on the hills	No discharge onto or into land where average site slope exceeds 5 degrees First flush treatment is required for stormwater runoff from new hardstand areas in excess of 150m^2 and buildings with copper or uncoated galvanised metal roofs or guttering/spouting* An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required for sites in the flat** On-site rain water storage is required for new and redevelopment sites on the hills
From new / re-development **non-residential** roof and hardstand areas	No discharge onto or into land where average site slope exceeds 5 degrees First flush treatment is required for stormwater runoff from new hardstand areas in excess of 150m^2, buildings with copper or uncoated galvanised roofs or guttering/spouting and high-use sites An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required** Site management and spill procedures required for sites that engage in hazardous activities***	No discharge onto or into land where average site slope exceeds 5 degrees First flush treatment is required for stormwater runoff from new hardstand areas in excess of 150m^2, buildings with copper or uncoated galvanised roofs or guttering/spouting and high-use sites An assessment of water quantity effects and provision of on-site stormwater storage or network upgrade may be required** Site management and spill procedures required for sites that engage in hazardous activities***

* 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 the 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 7: 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 51.*
- *TBC-B = To Be Confirmed following engagement with papatipu rūnanga, through an update to the EMP, in accordance with Condition 53.*

Objective	Attribute	Attribute Target Level	Basis for Target
Adverse effects on ecological values do not occur due to stormwater inputs	QMCI	Lower limit QMCI scores: • 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, 2018). 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.
Adverse effects on water clarity and aquatic biota do not occur due to sediment inputs	Fine sediment (<2 mm diameter) percent cover of stream bed TSS concentrations in surface water	Upper limit fine sediment percent cover of stream bed: • 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 No statistically significant increase in TSS concentrations in surface water	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. The sediment cover 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, 2018). 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.
Adverse effects on aquatic biota do not occur due to copper, lead and zinc inputs in surface water	Zinc, copper and lead concentrations in surface water	Upper limit concentration of dissolved zinc: • Ōtākaro/ Avon River catchment: 0.0297 mg/L • Ōpāwaho/ Heathcote River catchment: 0.04526 mg/L • Cashmere Stream: 0.00724 mg/L • Huritīni / 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	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). 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
		Upper limit concentration of dissolved copper: • Ōtākaro/ Avon River catchment: 0.00356 mg/L • Ōpāwaho/ Heathcote River catchment: 0.00543 mg/L • Cashmere Stream: 0.00302 mg/L • Huritīni / 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 Upper limit concentration of dissolved lead: • Ōtākaro/ Avon River catchment: 0.01554 mg/L • Ōpāwaho/ Heathcote River catchment: 0.02916 mg/L • Cashmere Stream: 0.00521 mg/L • Huritīni / 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 No statistically significant increase in copper, lead and zinc concentrations	
Excessive growth of macrophytes and filamentous algae does not occur due to nutrient inputs	Total macrophyte and filamentous algae (>20 mm length) cover of stream bed	Upper limit total macrophyte cover of the stream bed: • Spring-fed – plains – urban waterways: 60% • Spring-fed – plains waterways: 50% • Banks Peninsula waterways: 30% Upper limit filamentous algae cover of the stream bed:	Macrophyte and algae cover are indicators of the quality of aquatic habitat. Targets are taken from Table 1a of the LWRP (Canterbury Regional Council, 2018). Improvement towards these targets can be achieved by reduction in nutrient concentrations and riparian planting to shade the waterways.

Objective	Attribute	Attribute Target Level	Basis for Target
		• Spring-fed – plains – urban waterways: 30% • Spring-fed – plains waterways: 30% • Banks Peninsula waterways: 20%	
Adverse effects on aquatic biota do not occur due to zinc, copper, lead and PAHs in instream sediment	Zinc, copper, lead and PAHs concentrations in instream sediment	Upper limit concentration of total recoverable metals for all classifications: • 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 No statistically significant increase in copper, lead, zinc and Total PAHs	Meta Metals can bind to sediment and remain in waterways, potentially negatively affecting biota. These trigger values are based on the ANZECC guidelines (ANZECC, 2018). These targets can be achieved through reducing contaminant loads and instream sediment removal.
Adverse effects on Mana Whenua values do not occur due to stormwater inputs	Waterway Cultural Health Index and State of Takiwā scores	Lower limit averaged Waterway Cultural Health Index and State of Takiwā scores for all classifications: • Spring-fed – plains – urban waterways: TBC-B • Spring-fed – plains waterways: TBC-B Banks Peninsula waterways: TBC-B	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.

Schedule 8: 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 53.*

Objective	Attribute	Attribute Target Level	Basis for Target
Adverse effects on water clarity and aquatic biota do not occur due to sediment inputs	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. 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. There is no guideline available for this parameter, so no change in concentrations is proposed to be conservative. The target will be achieved by reducing contaminant loads (particularly using erosion and sediment control measures).
Adverse effects on aquatic biota do not occur due to copper, lead and zinc inputs in surface water	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): • Copper: 0.0013 mg/L • Lead: 0.0044 mg/L • Zinc: 0.015 mg/L No statistically significant increase in copper, lead and zinc concentrations	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). These targets are taken from the ANZECC (2000) guidelines for the protection of 95% of species. The Operational Area of the Port of Lyttelton is affected by direct discharges from boats that will make monitoring of the effects of stormwater difficult, therefore the targets are not applicable to this area. These targets will be achieved by reducing contaminant loads.
Adverse effects on Mana Whenua values do not occur due to stormwater inputs	Marine Cultural Health Index and State of Takiwā scores	Minimum averaged Marine Cultural Heath Index and State of Takiwā scores for all classes: • 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 9: 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
Protect drinking water quality	Copper, lead, zinc and *Escherichia coli* concentrations in drinking water	Concentration to not exceed: • Dissolved Copper: 0.5 mg/L • Dissolved Lead: 0.0025 mg/L • Dissolved Zinc:0.375 mg/L No statistically significant increase in the concentration of *Escherichia coli* at drinking water supply wells	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 *E.coli* 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.
Avoid widespread adverse effects on shallow groundwater quality	Electrical conductivity in groundwater	• 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 any general changes in groundwater quality related to recharge.

Schedule 10: Receiving Environment Attribute Target Levels for Water Quantity

MODELLED CATCHMENTS

Objective for the management of stormwater quantity:

To mitigate the risk of inundation, damage to downstream property or infrastructure or human safety through management of stormwater run-off volumes and peak flows. The degree of mitigation will be measured against the attribute target levels for each receiving environment.

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.

Receiving Environment	Monitoring Location	Baseline Year	Maximum Increase (mm)
Ōtākaro/ Avon River	Gloucester Street Bridge	2014	50
Pūharakekenui/ Styx River	Harbour Road Bridge	2012	120
Ōpāwaho/ Heathcote River	Ferniehurst Street	1991	30
Huritīni/ Halswell River	Minsons Drain confluence*	2016	0

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 until such time as a monitoring location can be set during review of the SMP	As measured through the CCC discharge authorisation compliance process for Resource and Building Consents until such time as an Baseline Year can be set during review of the SMP	CCC has just begun monitoring the Ōtūkaikino at Dickeys Road Bridge. Council does not currently model flooding in the Ōtūkaikino River. Flooding occurs primarily due to backwater effects in the Waimakariri River. Therefore, a best practice approach to mitigation of development will be implemented until such time as Maximum Increase can be set during review of the SMP.

Banks Peninsula (Various)	Discharges from all new greenfield development within settlement areas of Te Pātaka o Rākaihautū/ 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 Rākaihautū/ 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 Huritīni/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.

References

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.

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