IN THE MATTER OF THE	Resource Management Act 1991
AND	
IN THE MATTER OF	Resource consent application **CRC093881** and **CRC0092611** by Christchurch City Council for Water Permits and Discharge Permits to divert and discharge water onto land and into water
BETWEEN	**CHRISTCHURCH CITY COUNCIL** **Applicant**
AND	**CANTERBURY REGIONAL COUNCIL** **Respondent**

DECISION OF HEARINGS COMMISSIONERS
R.W BATTY AND S. A. MCGARRY
18th February 2010

Heard on the 7th December 2009, at the Holiday Inn, Oxford Terrace, Christchurch.

Representations and Appearances

Applicant:

Mr J. Winchester, legal counsel

Mr R. Eastman, civil engineer (Christchurch City Council)

Mr V. Wong, civil engineer (Christchurch City Council)

Ms J. Keller, environmental planner

Submitters:

Mr A. Drysdale, on behalf of Ihutai Trust

Mr D. Lee, 288 Sparks Road

Miss H. Thacker

Mr W. Lewis, on behalf of Cashmere Rural Landowners Incorporated

Section 42A reporting officer:

Mr B. Hamilton, environmental planner (Beca Carter Hollings & Ferner Ltd)

Ms A. Pratt, environmental engineer (Beca Infrastructure Ltd)

It is the decision of the Canterbury Regional Council, pursuant to sections 104, 104B, 104D, 105, 107 and 108, and subject to Part 2 of the Resource Management Act 1991, that the Christchurch City Council be granted Water Permit and Discharge Permit CRC092611 to divert and discharge water onto land and into water, and Water Permit and Discharge CRC093881 to divert and discharge water into water, for duration of 35 years, subject to conditions set out in Annexure 1.

BACKGROUND AND PROCEDURAL MATTERS

1. This is the decision of Hearings Commissioners Bob Batty (Chair) and Sharon McGarry, appointed by the Canterbury Regional Council (herein referred to as "ECan") to hear and decide an application by the Christchurch City Council, City Programme Group (herein referred to as "CCC" or "the applicant") to divert and discharge water onto land and into water from 103.7 hectares (ha) of existing and future residential and commercial development in Halswell.

2. The applicant currently holds Discharge Permit CRC041098 to discharge stormwater (and associated contaminants) from 46.48 ha of the "Aidanfield" subdivision and 20.8 ha of Old Halswell into the CCC drainage network (Dunbars Drain) and ultimately into the Cashmere Stream. The existing stormwater system utilises a detention basin (refereed to as the "Bishop's Green Basin") to hold stormwater, and the conditions of consent includes "Flood Management Protocol 'B'" requiring that the discharge cease when the flood water level in Henderson's Basin reaches reduced level (RL) 17.9 metres (m) above sea level. This existing consent was granted on a short term basis for 5 years to allow sufficient time for the CCC to implement an area wide surface water management scheme and expires on 8th August 2010.

3. The New Zealand Transport Agency (NZTA) currently holds Discharge Permit CRC092047 to discharge stormwater (and contaminants) into water associated with the upgrade and construction works at the intersection of State Highway (SH) 75 and Dunbars Road. This consent was granted for 5 years and expires on 23rd February 2014. The construction works have been recently completed and this application seeks to include the ongoing discharge of stormwater from the road.

4. This application seeks to replace Discharge Permit CRC041098 and Discharge Permit CRC092047.

5. The stormwater system proposed in this application utilises the existing Bishop's Green Basin and two large new retention basins referred to as the "Douglas Clifford Basins". Construction of the Douglas Clifford Basins has been completed

"off-line" from the CCC drainage network and is waiting to be commissioned following stabilisation with vegetative cover and resource consent to authorise the discharge.

6. The Douglas Clifford Basins are identified in another resource consent application (CRC091721) that has been lodged by the applicant to discharge water (and contaminants) into water and onto land from the current and future stormwater as identified in the Intergrated Catchment Management Plan (ICMP) for the south-west area of Christchurch. The catchment of the ICMP is approximately 8,000 ha, and the Douglas Clifford Basins are identified as within the "Sparks Road – Henderson's Basin stormwater management area" and part of the "HE19b Dunbars Drain sub-catchment". Resource consent application CRC091721 was scheduled to be heard in February 2010, but is currently on hold pending questions regarding public notification.

7. It is recorded that we (Hearings Commissioners McGarry and Batty) have also been appointed to hear and decide the area wide ICMP resource consent application.

8. The application to discharge water onto land was initially lodged on 23rd February 2009. However, after receiving further information, it was determined that further resource consent to divert and discharge water into water was also required. This further application was lodged on 12th May 2009.

9. A hearing for this application was initially scheduled on 16th November 2009, but was postponed at the applicant's request. The re-scheduled hearing commenced at 9.30am on Monday 7th December 2009 and evidence was heard over one and a half days.

10. We undertook a site visit on Wednesday 8th December 2009, and were accompanied by Mr Eastman (on half of the applicant) and Mr Drysdale (on behalf of the submitters).

11. The hearing was closed on 28th January 2010, following completion of our deliberations.

12. The application was lodged prior to 1st October 2009, and is therefore not subject to the Resource Management (Simplifying and Streamlining) Amendment Act 2009.

13. Prior to the hearing, a report was produced pursuant to section 42A of the Resource Management Act 1991 (herein referred to as "the Act" or "RMA") by ECan's reporting officer, Mr Brent Hamilton. The section 42A report provided an analysis of the matters requiring consideration and recommended the consents sought be granted subject to appropriate consent conditions, for a duration of 35 years. Included with the report was a technical review of the application by Ms Angela Pratt, an environmental engineer, and comment on water quality issues by Ms Michelle Stevenson, a surface water scientist for ECan.

THE APPLICATION

14. The 103.7 ha application site is centred at the corner of Halswell and Dunbars Road, and includes approximately 53.9 ha of the "Aidanfield" subdivision development, 38.7 ha (approximately half) of the existing "Old Halswell" development area, 2.4 ha of SH75, 4 ha of the proposed "Te Repo" subdivision development, and 4.7 ha of land utilised for stormwater basins. The application area is collectively referred to as the "Douglas Clifford Catchment".

15. Stormwater from the application site will be directed via sumps and swales into the Bishop's Green (existing) and Douglas Clifford (new) detention basins, before discharge into Dunbars Drain.

16. The combined capacity of the detention basins have sufficient storage and an outlet design to ensure peak discharge rates are no more than that which would have been expected from the same catchment area at 1991 development levels, for all storm events up to and including a two percent (%) annual exceedance probability (AEP) event (50 year return period storm event).

17. Stormwater treatment is provided for by detaining the "first flush" (first 25 millimetres (mm) of rainfall) of stormwater within the Douglas Clifford basin for 24

hours. Standard maintenance, soil monitoring and reporting conditions are proposed.

NOTIFICATION AND SUBMISSIONS

18. The application was publicly notified in the Christchurch Press on Saturday 5th September 2009, as follows:

> ***Applicant: Christchurch City Council***
>
> ***Address: PO BOX 237, Christchurch***
>
> ***Attention: Roy Eastman***
>
> *The Christchurch City Council have applied for resource consents relating to a stormwater treatment and detention system for 103.7 hectares of existing and future residential and commercial development approximately centred at the corner of Halswell and Dunbars Road, Halswell. The following consents have been applied for:*
>
> *CRC092611 – To discharge stormwater to land and water from 92.5 ha of existing areas of Old Halswell and Aidanfield, an adjacent 2.5 ha portion of State Highway 75 along Halswell Road, 4 hectares of proposed new development, and 4.7 ha associated with a new stormwater system described as the Douglas Clifford Basins. Stormwater will be directed via existing and new stormwater treatment and detention systems to Dunbars Drain at or about map reference NZMS 260 M37:7551-3730.*
>
> *CRC093881 – To divert and discharge shallow groundwater via the Douglas Clifford Stormwater system to Dunbars Drain at or about map reference NZMS 260 M37:7551-3730.*
>
> *Dunbars Drain flows into Cashmere Stream.*
>
> *A consent duration of 35 years is sought for each of the above consents.*

19. In addition to the public notice, approximately 40 individual parties were served notice of the application.

20. The application received a total of 93 submissions (including 92 submissions received within the statutory timeframe and 1 late submission which was granted by waiver pursuant to section 37 of the Act); 3 submissions were in support of the application and 88 submissions were in opposition; and 10 submitters indicating they wished to be heard at a hearing.

21. The main issues and concerns raised by submitters in opposition to the application were accurately summarised in "Appendix C" of the section 42A report.

THE HEARING

Applicant's case

22. **Mr James Winchester**, legal counsel for the applicant, conducted the applicant's case and called three witnesses. Mr Winchester presented legal submissions outlining background to the application and the relevant statutory framework. In summary, Mr Winchester made the following main points:

- Although the consents required for the Douglas Clifford Basins are part of a long-term plan for the management of stormwater throughout the south-west of Christchurch, they are sought on a stand alone basis;
- The site is ideally located for the proposed use, and will deliver considerable improvements on existing stormwater disposal, in particular through improved treatment of stormwater and enhanced water quantity management during storm events;
- The proposed system has been well designed, is simple and effective, and is a tried and true approach to stormwater management;
- An extra 16% of storage capacity has been built in to the basins in order to provide for uncertainties associated with rainfall and climate change;
- The end result of the proposal is likely to be a net environmental benefit;
- The overall status of the activity is non-complying activity and a duration of 35 years is sought;
- Although there is a potential overlap with the ICMP application, there is no material inconsistency between the approach taken for the respective applications;
- If consent is granted, the implications of this proposal will need to be factored into the wider discharge consent, rather than *vice versa;*
- In terms of section 105, the receiving environment is not in a natural state, there is a functional need for the proposal to be located in the current location, there are no significant effects arising from the proposal, and other possible alternative methods are not practical;
- Similar issues in relation to Henderson's Basin have been considered by the Environment Court in *Thacker v Christchurch City Council,* EnvC (C026/09) in the context of Variation 48 to the City Plan, and the Court

found the CCC's flood management approach is responsible and appropriate;

- The proposal passes both tests set out in Section 104D of the Act;
- There is no dispute that, after "reasonable mixing", the discharges are not likely to give rise to any of the specified effects set out in section 107(1);
- Overall the proposal is consistent with the relevant objectives, policies and rules of the relevant statutory documents, and the evidence indicates any effect of the proposal are no more than minor (and in fact are likely to result in a net environmental benefit);
- The consents should be granted with minor amendments to the recommended conditions of consent;
- The existing discharge consents (Aidanfield and NZTA) will be surrendered on commissioning of the new stormwater system (written confirmation from NZTA provided);
- There is no requirement for a discharge to air associated with the stormwater system;
- Effects on property values are not a relevant consideration in determining whether consent should be granted; and
- The CCC considers the analysis and the conclusions in the section 42A report are accurate.

23. In support of his legal submissions, Mr Winchester called Mr Wong, Mr Eastman and Ms Keller.

24. **Mr Victor Wong** is hydrological and hydraulic modeller employed by CCC, with Bachelor of Engineering (Civil) and Masters in Civil Engineering degrees, and five years experience in stormwater/surface water modelling. Mr Wong gave evidence explaining modelling undertaken and details of the Douglas Clifford Detention Basin model. He explained the purpose of the modelling is to give guidance for the design of the basins (including capacity and outlet control), confirmed the design was for a 50 year return period (2% AEP) 36 hour duration storm event (considered to be the critical storm event for the Heathcote River), and noted the final volume capacity had increased to approximately 68,640m^3, to allow for climate change.

25. **Mr Roy Eastman** is a team leader employed by CCC, with Bachelor of Engineering (Civil), and 33 years experience in civil and structural works, investigation, design and construction. Mr Eastman presented evidence that outlined the CCC's surface water management philosophy for Christchurch, and described the proposal, the consideration of alternatives, issues raised in submissions and the section 42A report, modelling input values and results, and proposed conditions of consent. He provided us with copies of the following information: landscape plans for the Douglas Clifford Detention Basin; a map of the Douglas Clifford Catchment; a site plan of the Douglas Clifford Detention Basin; groundwater level monitoring data for 2006-2008; results of modelling undertaken for various storm events (and durations) using different infiltration rates; and a comparison of the results of modelling undertaken for predicting water levels in Henderson's Basin and the Heathcote River for the 1991 developed scenario, the 2002 developed scenario, and the 2002 developed scenario, with full mitigation of the Aidanfield development.

26. In conclusion, Mr Eastman was of the opinion the proposal is a conservative, robust, easily managed and simple mitigation system, that is within the bounds of affordability and is consistent with the CCC's best practice for the mitigation of additional stormwater from the application site, and that any environmental impacts are either adequately mitigated or minor.

27. **Ms Jeanine Keller** is a self employed environmental planner, with Bachelor of Science (Botany and Zoology, and Plant Ecology) degrees, and over 10 years experience in resource management. Ms Keller's evidence outlined the proposal, consents required, the statutory context and approach, environmental effects, policy and planning instruments, issues raised submissions and the section 42A report, and proposed consent conditions. In summary, Ms Keller was of the opinion the proposal will result in an improvement to water quality in the receiving waters and that overall the environmental effects will be no more than minor. She considered the proposal is consistent with the statutory plans and the purpose and principles of the Act, and that consent should be granted subject to the recommended conditions of consent, as amended by the applicant.

Submissions in Support

28. There were no submitters in support of the application in attendance at the hearing.

Submissions in Opposition

29. **Mr Alex Drysdale** is the recently retired chairman of the Ihutai Trust. Mr Drysdale gave evidence in opposition to the application, and read the Ihutai Trust's original submission, tabled photographs taken on the day of the hearing (7th December 2009), and referred us to ECan reports U07/42 and R09/8. Mr Drysdale expressed concern at insufficient silt trapping during construction and during normal operation, and emphasised the need to ensure particles of fine clay (which are easily blown and mobilised in water) are not discharge into the receiving waters. In relation to the photographs tabled, Mr Drysdale stated they demonstrated the applicant's inability to control site runoff and poor site management by stockpiling soil along the drain.

30. **Mr Warren Lewis** gave evidence in opposition to the application on behalf of Cashmere Rural Landowners Incorporated (CRL) who own approximately 16 properties within the Cashmere Natural Ponding Basins and the Cashmere Floodplain area. Mr Lewis is primarily concerned that the retention basins are undersized and will not provide adequate mitigation in 50 year return period storm event (or even smaller events). Mr Lewis outlined: background to the formation of CRL; flooding in the Heathcote River, Henderson's Basin, Cashmere Stream and Cashmere Stream Floodplain; CCC's "Heathcote River Floodplain Management Strategy" (November 1998); Variation 48 of the City Plan; relevant planning instruments in ECan's Regional Policy Statement (RPS) and the Proposed Natural Resources Regional Plan (PNRRP); and recent storm events.

31. Mr Lewis was of the opinion that CCC and ECan should not allow any extra floodwater into the Cashmere Stream and the Heathcote River as the waterways are already under capacity and flood on an average of once a year at present. He suggested in the past detention basins have been undersized by a factor of 2.7 and that this is evident by the fact many overflow in 1 or 2 year return period events. He was of the view that the modelling underestimates the "real" situation

because it uses low infiltration values for undeveloped land, too high infiltration rates for developed land, and too low value for the percentage of impervious land.

32. In order to prevent any increase in flooding in Henderson's Basin, Mr Lewis seeks to have "full mitigation" by requiring the detention basins to be designed for a 200 year return period storm event, and detaining water for 80 hours before discharge. To give effect to this, he seeks a combined detention capacity of at least 80,000 m^3, a restriction of outflow (discharge rate) to 0.2 m^3 per second until the water level in Henderson's Basin drops below RL18 m above sea level, a controlled spillway for extreme events, and no increase flooding in Henderson's Basin from 1991 levels for all storm events including a 200 year return event.

33. **Mr David Lee** gave evidence in opposition to the application on behalf of his family and Sparks Road Garden Ltd. Mr Lee presented a lengthy written submission detailing concern over the proposed method of water treatment, the existing state of the Cashmere Stream, alternative methods of treatment and discharge, Variation 48, existing infrastructure, and impacts of the proposal on Sparks Road Garden Ltd. He acknowledged he was the proponent of "pro forma" submissions received and emphasised other submitters concerns. Mr Lee expressed serious concern his extremely fertile growing land would be acquired by the CCC to implement the proposed area wide stormwater system and emphasised the need for us to defer this application and hear it in context with the wider ICMP consent.

34. **Miss Helen Thacker** owns 18 ha of land on Sparks Road in Henderson's Basin and gave evidence in opposition to the application. Miss Thacker is concerned that this application is only a small part of a much bigger picture and was of the view the application should be considered in relation to the wider area and Henderson's Basin. She expressed support for Mr Lee's submission and the need to the clear the outlets of Henderson's Basin so water get away.

Section 42A Report

35. **Mr Brent Hamilton,** a environmental planner for Beca with a Bachelor of Science (Geography), and over 6 years experience in resource management, tabled his section 42A report (dated 16th November 2009), an Addendum to the report (dated

7th December 2009) by Ms Pratt, and an revised suite of recommended conditions of consent.

36. **Ms Angela Pratt** spoke to her report and commented on the evidence presented by the applicant. In summary, Ms Pratt made the following main points:

- Concerns raised regarding the need for under drainage in the basins (due to insufficient fall) have been addressed by proposed dense wetland planting;
- It is not entirely clear whether runoff from the basin area has been included in the calculations and modelling undertaken;
- The Mannings (n) values in the evidence appear to be reversed;
- It accepted that the proposal will benefit existing flooding;
- It is agreed that groundwater levels in the location of the basins is high and the flow rate will be low, however it is accepted as this will not compromise the "live" storage available;
- The flow rate over the weir appears to be acceptable but this need to be monitored after a storm event;
- In relation to the percentage of impervious areas, it is important to note that in longer term storm events all areas become "connected";
- The evidence presented clarifies assumed infiltration rates used in the modelling, and it is noted all three scenarios are below the proposed 68,000 m^3 capacity; and
- Although it is accepted by all parties that the critical storm duration is 36 hours, the applicant has not specifically addressed the effect on the duration of flooding in Henderson's Basin.

37. **Mr Hamilton** drew our attention to the key issues outlined the section 42A report and discussed the recommended conditions of consent. In summary, he made the following main points:

- The application should be considered as a non-complying activity under Rule WQL61, as it is partially over the "Community Drinking Water Supply Protection Zone" identified in the PNRRP;
- In terms of section 105, the receiving environment should be considered to be moderately to highly sensitive to the quantity and quality of water discharged;

- The relief sought by Mr Lewis is similar to the Flood Management Protocol 'B' required on the existing Aidanfield discharge permit and it unclear why this has not been carried through to this proposal;
- Contrary to points made by submitters, the proposal does not appear to rely on mitigation provided by the ICMP consent application;
- The decision on Plan Change 1 to the RPS is a relevant consideration;
- It is accepted the applicant has considered alternative methods of discharge; and
- The consents sought should be granted subject to revised recommended conditions of consent.

Applicant's Right of Reply

38. Mr Winchester requested the opportunity to provide a verbal right of reply. In summary, he and Mr Eastman made the following main points:
    - Any change to the calculations to include the runoff from the area of the basins is so small it would be within the margins of error;
    - A CCC study of impervious areas within Adianfield indicated 55% impervious area and 10% backyard (e.g. paving), of which half was assumed to be connected;
    - Assumed infiltration rates of 2-5 mm are reasonably conservative, given actual testing showed all infiltration rates to be at least 5 mm, with an average of 10 mm;
    - The actual increase in total additional storm volume is 42,000 m^3 and given the proposed discharge rate, this will be gone in two hours;
    - In terms of the wider area, discharge to land is the preferred option if it is possible;
    - "Total Storm Detention" is only possible if water can be discharged onto ground, and in this case would require 110,000 m^3 of storage;
    - The proposal will not increase flood levels in Henderson's Basin, and any effect on the duration of flooding is minor;
    - Henderson's Basin is a natural depression which has always been there, but over time it has been drained;

- A system that relies on closing valves requires dedicated staff and this is considered to be costly and unnecessary as Henderson's Basin would be flooding anyway;
- The proposed basins need to go dry in 7 days or the vegetation will die off;
- The proposal's design is based on better information e.g. impervious areas were previously assumed to be 35% (now assumed to be 56%), the critical storm duration was considered to be an 18 hours (now 36 hours), and actual infiltration rates have been tested;
- Better information has resulted in revised calculations for required storage from approximately 412 m^3/ha for the Aidanfield development to 650 m^3/ha for this proposal;
- The Flood Management Protocol 'B' requirement on the existing consent is a problem as the outlet is shut off and the basin is full;
- The applicant is entitled to proceed with the ICMP in "bite sized chunks" and the Hearings Panel does not have any power to defer this application unless the applicant consents and it does not;
- The applicant has applied for all the necessary consents for this proposal and the Hearings Panel must determine it on its merits;
- The photographs presented by Mr Drysdale relate to the NZTA consent;
- Mr Lewis is concerned with past practice and wider issues, and these can not be remedied through this application;
- The modelling undertaken shows there will be no impact on flood levels in Henderson's Basin;
- The CCC are balancing a number of values in the receiving waterways and they can not be made to be completely uniform channels;
- The decision on Plan Change 1 to the RPS includes a new policy requiring planning to achieve a solution to enable limited development within the catchment of Henderson's Basin; and
- The applicant would prefer a two tiered approach to monitoring contaminant levels to give more meaningful results.

ASSESSMENT

39. In assessing this application, we have considered the application and assessment of environmental effects (AEE), the section 42A report and Addendum, all submissions received and the evidence presented during.

Status of the Application

40. The starting point for our assessment of the application is to determine the status of the proposal. There is agreement between the applicant and the reporting officer that the application should be considered as a **non-complying activity** under Rule WQL61 of the PNRRP. We agree.

Statutory Considerations

41. In terms of our responsibilities for giving consideration to the application, we are required to have regard to the matters listed in sections 104, 104B, 104D, 105 and 107 of the Act.

42. Specifically, under sections 104B and 104D, where an applicant has sought consent for a non-complying activity, we may grant or refuse the resource consent, and (if granted) may impose conditions under section 108. However, we are limited in that we may only grant a resource consent for a non-complying activity if we are satisfied that **either**:

    (a) the adverse effects on the environment (other than any effect to which section 104(3)(b) applies), will be minor; **or**

    (b) the application is for an activity that will not be contrary to the objectives and policies of the relevant plans.

43. For non-complying activities, even where one or both of the threshold tests in section 104D(1) is met, we still retain an overall discretion as to whether to grant resource consent. That discretion is to be exercised having regard to the criteria set out in section 104. In that respect, and subject to Part 2 of the Act, which contains the Act's purpose and principles, we are able to have regard to:

    (a) Any actual and potential effects (including reasonably foreseeable effects) on the environment of allowing the activity;

(b) Any relevant provisions of a plan or **proposed plan**; and

(c) Any other matters the consent authority considers relevant and reasonably necessary to determine the application.

44. In terms of section 105, when considering a section 15 (discharge permit) matter, we are required to have regard to:

(a) The nature of the discharge and the sensitivity of the receiving environment to adverse effects; and

(b) The applicant's reason for the proposed choice; and

(c) Any possible alternative methods of discharge, including discharge to any other receiving environment.

45. In terms of section 107, we are prevented from granting a discharge permit allowing any discharge into a receiving environment which would, after reasonable mixing, give rise to any of the effects set out in section 107(1)(c)-(g).

Actual and Potential Effects on the Environment

46. The potential effects on the environment were assessed in the section 42A report using the following categories:

- Effects on Groundwater Quality;
- Cumulative Effects on Soil Quality;
- Effects on Surface Water Quantity;
- Effects on Surface Water Quality;
- Effects on Sediment Quality;
- Effects on Freshwater Ecological Values;
- Effects on Other Ecological Values;
- Effects on Amenity and Recreational Values;
- Effects on Cultural Values; and
- Effects on Planning and Existing Consents.
- Cumulative Stormwater Effects

47. We have considered these categories and are of the view that "Effects on Planning and Existing Consents" can not be considered as environmental effects under section 104(1)(a). However, we consider these matters can be assessed under section 104(1)(c).

48. For the purpose of making our assessment we will use the above categories of actual and potential environmental effects.

Effects on Groundwater Quality

49. The proposal has the potential to adversely affect groundwater quality through loss of water through the base of the detention basins. Given that the basins are partially located over the Community Drinking Water Supply Protection Zone, it is critical that the proposal does not contaminate groundwater.

50. We note the applicant does not intend to discharge water to ground, but that at times some seepage (infiltration) will occur, and that at times groundwater will be above ground level (in the lowest part of the basins).

51. Overall, we concur with the reporting officer and the applicant that given the poor drainage and the fact the basins will be vegetated (with grass and dense wetland planting in the low flow channels) any potential adverse effect on groundwater quality is likely to be minor.

Cumulative Effects on Soil Quality

52. The proposal has the potential to adversely affect soil quality through the accumulation of contaminants in the base of the detention basins.

53. The applicant proposes periodic monitoring soil contamination levels in the detention basins, and removing and replacing soil if certain contaminant trigger levels are reached over the life of the consent. Mr Eastman stated that CCC monitoring of other treatment/detention basins in use over the last 15-20 years, had shown little accumulation of contaminants.

54. We note Mr Hamilton's assessment that any adverse effect on soils is likely to be minor, and that it is important that the grass cover and wetland vegetation be maintained in a healthy and uniform state to mitigate any potential contamination.

55. In having regard to the evidence presented, we concur that any adverse effect on soil quality is likely to be minor.

Effects on Surface Water Quantity

56. The proposal has the potential to adversely affect the quantity of water in the receiving environment. It is accepted by all parties that the Cashmere Stream and Heathcote River intermittently flood, and back up into Henderson's Basin and the Cashmere Floodplain. In this regard, the receiving environment is considered to be highly sensitive to any additional discharges of water.

57. Submitters in opposition to the application have expressed concern the proposal will exacerbate existing flood levels in Henderson's Basin and will increase the duration of flooding.

58. The objective of the CCC's "Heathcote River Floodplain Management Strategy" (November 1998), is to reduce and maintain flood levels in Henderson's Basin to pre 1991 levels. In order to measure compliance with this objective the CCC has developed a complex model which estimates flood levels in the Heathcote River and Henderson's Basin catchment.

59. In response to a number of matters highlighted in the section 42A report relating to the modelling undertaken, the applicant provided further details on the input values used in the modelling and relationship between the Douglas Clifford Basins and the wider catchment. Mr Eastman emphasised the modelling undertaken confirmed there would be no increase in peak flood levels in Henderson's Basin and that given the relatively small increase in water volume (43,000 m^3 from this proposal) there would be a no more than minor effect on the duration of flooding.

60. While Mr Lewis acknowledged the potential benefits of the proposal, he emphasised the need to "fully mitigate" stormwater flows. Mr Lewis emphasised that during a 36 hour/ 50 year storm event the RL18 m flood level is reached in Henderson's Basin after 7 hours, and that water levels only fall below this level after 80 hours. In recognising the behaviour of the catchment, he was of the opinion that in order to have no effect on flood levels in Henderson's Basin, any "extra" water must be detained for 80 hours before discharge.

61. Mr Hamilton and Ms Pratt considered they were satisfied the applicant had provided the further information requested in the section 42A report, and concurred

with the applicant's conclusions that the proposal is likely to have a positive effect on existing flooding in the receiving environment.

62. We note the applicant has modified critical input values (e.g. infiltration rates and impervious area percentages), and consider these to be close to those put forward by Mr Lewis. We consider the storage capacity sought by Mr Lewis (80,000 m^3) is not too dissimilar to the design capacity (68,000 m^3), and note the difference is likely to be from assumed infiltration rates and consideration of depression storage.

63. The critical point of difference between the applicant and Mr Lewis appears to be in relation to control of the outlet and the rate of discharge. Mr Lewis seeks no discharge from the basins (except over the spillway) until after 80 hours, by using a floating outlet (with the same level of head whether full or empty) with a uniform discharge rate of 0.2 m^3/second.

64. In recognising difficulties with the existing Flood Management Protocol 'B', the applicant seeks a simple outlet design that does not require a person to control it and a rate of discharge that is only limited to less than pre-development levels. Mr Eastman emphasised there was little benefit to retaining flows for 80 hours as Henderson's Basin would be flooded anyway.

65. In having regard to the evidence presented, we accept the applicant's assessments are reasonably conservative and take into account climate change. In considering that the proposal will attenuate stormwater flows from previous development (that is not currently attenuated), we accept there is likely to be a positive effect on the magnitude of flooding in the receiving environment.

66. In relation to any adverse effect on the duration of flooding in Henderson's Basin, we accept the evidence of Mr Eastman that *in this case* given the relatively small volume additional of stormwater, any effect on the duration of flooding is likely to be minor.

Effects on Surface Water Quality

67. The proposal has the potential to adversely affect water quality in receiving waters. There was agreement between the parties that given the existing ecological value of the Cashmere Stream the receiving environment should be considered to be moderately sensitive to the quality of the discharge.

68. To mitigate any adverse effects on water quality in the Cashmere Stream the applicant proposes to treat the "first flush" (first 25 mm of rainfall) of stormwater within the swale along Dunbars Road and retain this volume within the Douglas Clifford Basins for 24 hours.

69. Submitters have raised concerns regarding the proposed method of treatment and the potential discharge of fine silt particles.

70. Mr Hamilton and Ms Pratt considered the level of water treatment proposed to be consistent with recognised best practice methods. They were of the view that given some of the stormwater to be included is currently discharged untreated, there would likely be an improvement in water quality in the receiving waters from the proposal. Mr Hamilton stated monitoring the quality of the discharge would be appropriate and that the 95% level of protection for toxicants would be appropriate for the Cashmere Stream.

71. In having regard to the evidence presented, we are of the view the proposal is likely to have a positive effect on water quality in the Cashmere Stream. We concur with Mr Hamilton and Ms Pratt that it is appropriate to monitor the discharge using trigger levels based on 95% level of protection for toxicants.

Effects on Sediment Quality

72. In having regard to the evidence presented and the discussion above regarding stormwater treatment, we are of the view the proposal is likely to have a positive effect on sediment quality in the Cashmere Stream.

Effects on Freshwater Ecological Values

73. In having regard to the evidence presented and the discussion above regarding stormwater treatment, we are of the view the proposal is likely to have a positive effect on freshwater ecological values in the Cashmere Stream. We agree with Mr

Hamilton that there is no need to undertake any ecological monitoring in the receiving environment.

Effects on Amenity and Recreational Values

74. Mr Lee raised concern that the proposed basins would cause health problems and that contaminants would be released into the air by the wind.

75. We note there is no problem with dust or contamination with the existing Bishop's Green Basin and that the open space is used for recreational purposes. We accept that given the design of the basins, the area is likely to be used for recreational purposes, and see no reason to have any concerns regarding their use when they are dry. Given the basins will be maintained with grass cover, we do not accept the evidence of Mr Lee that contaminants will be released to the air causing adverse health effects.

76. In having regard to the evidence presented, we are of the view that the proposal will not adversely affect amenity, recreational and landscape values.

Effects on Cultural Values

77. The evidence before us indicates the proposal will have positive effects on water quality and ecological values. We therefore consider the proposal will not adversely affect cultural values.

Cumulative Stormwater Effects

78. No specific information was presented regarding the potential cumulative effect of this application and this concerns us. We consider it is the cumulative effect of each ad hoc application, made in isolation that has led us to this point where existing flood levels continue to increase above 1991 levels. Although Mr Eastman assured us *this application* will not increase flood levels, he admitted previous stormwater system installed by developers (such as at Adianfield and Milns Court) have been shown to be undersized and are inadequate for fully mitigating flows from short duration, intense rainfall events.

79. In considering this particular discharge, Mr Eastman emphasised the relatively small "additional volume" to be discharged, the significant increase in storage

capacity achieved (through this upgrade) and the benefits of including existing discharges that are currently unattenuated.

80. We are aware that there are likely to be a number of future applications for stormwater discharges into the Henderson's Basin Area arising from consented stages of urban subdivision as well as future development in this area of the City. We are seriously concerned that although an individual application of this type may be deemed by itself to have only a minor effect on overall flood levels the cumulative effect of all these (foreseeable) discharges may be anticipated to significantly increase flood levels. We consider ongoing incremental increases in flood levels to be unacceptable and contrary to the primary objective of the Flood Management Strategy, which is to reduce flood levels to 1991 levels.

81. In this regard, we are acutely aware of Plan Change 1 to the RPS and the existence of further (limited) Greenfield within the Henderson's Basin and Heathcote River catchment and the fundamental requirement to ensure each discharge is fully mitigated.

82. We are concerned that any continued piecemeal approach to catchment management (such as this application and each individual subdivision) will undermine integrated catchment management and good resource management practice, and be likely to result in poor environmental outcomes. Without assessing the effects on a catchment wide basis, we consider there is too much uncertainty to be satisfied that the cumulative effect of consents to applications of this type on existing flood levels will necessarily be minor.

Summary

83. Overall, we consider the actual and potential adverse effects on the environment from this particular proposal are likely to be minor. While we can not be certain that the cumulative effect of this application will be minor, we accept the additional volume in this case is relatively small, and that the inclusion and upgrade of existing discharges will mitigate any adverse effect. Although we consider the applicant has not demonstrated that the cumulative effect of the discharge on existing flooding will be minor, we accept that in this case there is little additional water discharged into the catchment.

Other Matters

84. Potential effects on planning and other existing consents were discussed by Mr Hamilton in the Section 42A report, and submitters raised concern that this application is one small part of the wider ICMP application.

85. Mr Hamilton was of the view the proposal does not rely on any mitigation provided in the ICMP application and could be considered on its own merits.

86. Mr Winchester submitted that we have no power to defer the application and that it must be considered on its merits.

87. We have seriously considered whether this application should be dealt with in isolation to the ICMP application, and acknowledge that submitters have valid and legitimate concerns regarding how this application may 'fit' within the wider management of stormwater in this catchment.

88. We are of the view that given the topography (flatness) and sensitivity of the wider catchment, the intergrated management of stormwater provision is critical to reducing and maintaining reduced flood levels. We consider an overall plan to stormwater management is fundamentally important in achieving positive environmental outcomes, and see any continuation of a piecemeal (drain by drain) approach as being inappropriate and against good resource management practice.

89. In recognising the existing stormwater system requires immediate work and in some cases remediation, we have determined to impose a condition that allows the conditions of this consent to be reviewed when the wider ICMP application is considered. In this regard, this application must not bee seen to set a standard approach for the wider catchment, and this proposal's continued consistency and compatibility with the ICMP will need to be demonstrated when that application is progressed.

Planning Provisions

90. An analysis of the relevant objectives and policies of the RPS and PNRRP was provided in the section 42A report by Ms Hamilton and by Ms Keller. We concur

with their analyses and accept the proposal is not contrary to the relevant provisions outlined.

91. The provisions of the TRP offer little guidance and are in effect overtaken by the general criteria of section 104 the Act. In making our assessment we have used the criteria of section 104, and accept in general the methods and approaches taken in the PNRRP.

92. On the basis of the evidence before us, we are of the opinion that with the imposition of appropriate consent conditions, the proposal is not likely to be contrary to the objectives and policies of the RPS and PNRRP. The limitations of section 104D can therefore be satisfied in this instance.

Section 105 and 107 Considerations

93. In making our assessment, we are required to have regard to the matters set out in section 105 and 107 of the Act. We are satisfied with the applicant's reasons for the proposed choice and accept that other methods of discharge have been considered. We accept the evidence of Mr Hamilton that the existing receiving environment should be considered as moderately to highly sensitive to the quality and quantity of water discharged, and are satisfied the level of mitigation proposed is appropriate.

94. On the basis of the evidence presented, we accept that, after reasonable mixing the discharge is unlikely to give rise to any of the effects set out in section 107(1)(c)-(g) of the Act.

Part 2 of the Act

95. All the considerations we have described are subject to Part 2 of the Act. In accordance with Part 2, we consider that overall the proposal is consistent with the purpose of the Act and the principles of the sustainable management of natural and physical resources, as defined in section 5.

96. In considering the application, we are mindful of the importance sustaining water for future generations, safeguarding the life-supporting capacity of water, and avoiding remedying or mitigating adverse environmental effects.

97. In recognising and providing for the matters of national importance, set out in section 6, we consider that overall the proposal is consistent with these.

98. In having particular regard to section 7 matters, we are satisfied that water quality will be maintained in the receiving environment.

99. In forming our opinion, section 8 requires us to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). We have no information to suggest that the proposal activity would offend these principles.

Summary

100. As previously discussed, we have assessed the proposal as a non-complying activity, and find that on the basis of the evidence presented that any potential adverse effects are likely to be less than minor, and that the proposal is not contrary to the relevant provisions of the TRP, RPS and PNRRP. We therefore concur with the applicant and the reporting officer that the application meets both threshold tests of section 104D, and that consent can be granted.

Conditions

101. There was a high level of agreement at the hearing between the reporting officer and the applicant regarding appropriate consent conditions. In general, we find the recommended conditions are reasonable and appropriate.

102. To deal with our concerns regarding the systems consistency and compatibility with the wider ICMP application, we have determined to impose an additional condition allowing the consent to be reviewed when any further stormwater discharges into the catchment are considered.

103. We prefer Mr Hamilton's condition regarding water quality monitoring and consider the tiered approach suggested by the applicant as unnecessarily complex and does not deal with suspended solid limits.

104. Overall, we are satisfied that the consent conditions imposed will adequately avoid, remedy and/or mitigate any potential adverse effects on the environment.

Duration

105. There was agreement between the applicant and the reporting officer that the appropriate consent duration is 35 years. In considering the matters set out in 1.3.5 of Chapter 1 of the PNRRP, we are mindful that the proposal involves the development of long-term infrastructure. Having had regard to the evidence, we concur that the appropriate consent duration is 35 years.

Decision

106. **It is the decision of the Canterbury Regional Council, pursuant to sections 104, 104B, 104D, 105, 107 and 108, and subject to Part 2 of the Resource Management Act 1991, that the Christchurch City Council be granted Water Permit and Discharge Permit CRC092611 to divert and discharge water onto land and into water, and Water Permit and Discharge CRC093881 to divert and discharge water into water, for duration of 35 years, subject to conditions set out in Annexure 1.**

Right of Appeal (Section 120)

107. The parties are advised there is a right of appeal to the Environment Court, which must be lodged within 15 working days of this decision.

Dated at Christchurch this 18th day of February 2010

S. McGarry

S.A. McGARRY
Hearings Commissioner

R W Batty

R.W. BATTY
Hearings Commissioner (Chair)

Annexure 1

Water Permit and Discharge Permit CRC092611 - To divert and discharge stormwater and contaminants onto land and into water

Description

(1) The discharge shall be only stormwater generated from:

(a) Roofs,

(b) Roads,

(c) Hardstand areas, and

(d) Pervious areas,

within approximately 103.7 hectares of existing and future residential and commercial development labelled 'Old Halswell & Halswell Road', 'Aidanfield', 'Te Repo Ltd' and 'Douglas Clifford Basins' on Plan CRC092611A, which forms part of this consent.

For the purposes of this consent stormwater may include contaminants such as suspended sediments, nutrients, heavy metals, hydrocarbons and micro-organisms, typical of stormwater discharges from residential and commercial land use. It excludes spilled or deliberately released contaminants or wash down of such contaminants.

(2) Stormwater shall be directed into Dunbars Drain at or about map reference NZMS 260 M37:7551-3730, and discharged into Cashmere Stream at the location shown on Plan CRC092611B.

Stormwater System

(3)

(a) Stormwater shall be directed to the Bishops Green Basin and/or the Douglas Clifford first flush basin as shown on Plan CRC092611C via sumps, pipes and swales prior to discharging into Dunbars Drain.

(b) Stormwater in excess of the capacity of the Douglas Clifford first flush basin shall be directed over an overflow weir to the Douglas Clifford detention basin as shown on Plan CRC092611C.

(4) The Douglas Clifford first flush basin shall:

(a) Have a capacity of at least 9,250 cubic metres;

(b) Have a valve box as shown in the details of Plan CRC092611D which forms part of this consent;

(c) Be designed and operated such that stormwater is released via the valve box over an average of at least 24 hours; and

(d) Be vegetated with grass and/or ground cover plants.

(5) The Bishops Green Basin and Douglas Clifford detention basins:

(a) Shall have a combined capacity of at least 68,000 cubic metres.

(b) Be vegetated with grass and/or ground cover plants

(6) Except for the low flow channels in the inverts of the Bishops Green Basin and Douglas Clifford basins that provide drainage of intermittent high groundwater, the Bishops Green and Douglas Clifford stormwater systems shall function as dry detention basins.

(7) The low flow channel border planting within the first flush and detention basins expected to be wet for extended periods due to shallow groundwater, shall be densely planted with water tolerant plantings as shown on Plan CRC092611E and Plan CRC092611F.

(8) Outlet controls for the stormwater system shall be designed and operated to ensure that the post development peak discharge rate for the 36 hour design storm shall:

(a) Up to, but not including the two percent annual exceedance probability event, not exceed the pre-development 1991 peak discharge rate for these storms, by more than five percent; and

(b) For a two percent annual exceedance probability event, not exceed the pre-development 1991 peak discharge rate for this storm.

Certification

(9) Within 20 working days of the commencement of this consent a certificate signed by a suitably qualified and experienced engineer with stormwater system construction experience shall be submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, to certify that the stormwater system complies with Conditions (2) to (8) of this consent. This engineer shall also sign a statement confirming that they are competent to certify the engineering work.

Maintenance

(10) The stormwater system including the swales, first flush basin, detention basins, over flow weirs, inlet and outlet structures, valve box, and the key sumps shown in Plan CRC092611C, shall be inspected at least once every six months for:

(a) Any accumulated sediment, debris or litter in the key sumps, swales, first flush basin, detention basin, inlet and outlet structures and valve box that is likely to impede the operation of the stormwater system shall be removed immediately following inspection;

(b) Any visible hydrocarbons in key sumps swales and first flush basin shall be removed within five working days of the inspection; and

(c) Any scouring or erosion of the inlets, overflow weir, or the outlets to Dunbars Drain shall be repaired as soon as practicable.

(11) The swales, first flush basin and detention basin shall be:

(a) Maintained so that vegetation or grass is in a healthy and uniform state.

(b) Replanted where erosion or die-off has resulted in significant bare or patchy soil cover that exceeds five percent of the area of the first flush or detention basins.

(c) Mowed regularly or maintained so that grass if present is at a minimum length of 30 millimetres.

(12) Any material removed in accordance with Condition (10) shall be disposed of at a facility authorised to receive such material.

Discharge Requirements

(13) The discharge shall not cause erosion and scour of the bed and banks of Dunbars Drain.

(14) The consent holder shall ensure that the discharges do not, at any time, result in:

(a) The production of oil or grease films;

(b) The production of floatable or suspended materials; or

(c) A change in the visual clarity of greater than 20 percent, as measured by black disc or equivalent method);

within Cashmere Stream.

Stormwater Quality Sampling

(15)

(a) Water samples of the first flush stormwater discharge shall be collected from the discharge point into Dunbars Drain.

(b) Samples shall be collected during at least one rainfall event in every 12 month period between 1st July to 31st June:

(i) During a period, as far as practicable when a discharge of groundwater through the stormwater system is not occurring; and

(ii) Following a period of at least two weeks without more than 5 millimetres of rainfall, based on the closest reliable rain gauge.

(c) Samples shall be collected as soon as practical after the commencement of the discharge to obtain a representative sample of treated first flush concentrations.

(d) At least three samples shall be collected from the discharge for each rainfall event. Each sample shall be collected at no less than five minutes after the previous sample.

(16) The stormwater discharge samples collected under Condition (15) shall be analysed for the following contaminants:

Benzene
Total Lead
Total Zinc
Total Copper
Total Suspended Solids

(17) Stormwater shall be considered to have exceeded a 'Trigger Value' if the mean concentration of a parameter analysed under Condition (16) exceeds the following trigger values:

Contaminant	Trigger Value	Mean (No.3)	Unit
Benzene	9.5[1]		grams per cubic metre
Total (or soluble) Lead	0.034[1]	0.0033	grams per cubic metre
Total (or soluble) Zinc	0.08[1]	0.0558	grams per cubic metre
Total (or soluble) Copper	0.014[1]	0.0038	grams per cubic metre
Total Suspended Solids	60[2]	26.4	grams per cubic metre

(1) ANZECC 2000 95% protection level trigger value x 10 (mixing with Cashmere Stream)
(2) Arbitrary value indicative of high sediment in stormwater to the system or poor system performance

(18) The results of the analyses undertaken in accordance with Conditions (16) shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within ten workings days of receipt of the results by the consent holder.

(19) Should any of the trigger levels as described in Condition (17) be exceeded, the consent holder shall:

(a) Determine if the exceedances are a cause of the discharges of stormwater from the contributing catchment or a cause within the stormwater system; and

(b) Undertake further stormwater quality sampling as described in Condition (15) within two months if practicable should the cause not be identifiable and/or to determine if the exceedance was an infrequent event; and

(c) Identify the risk to the environment from the exceedances; and

(d) Identify and undertake mitigation and actions to prevent further exceedances; and

(e) Provide a report within three months to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, that includes, but is not limited to, the following:

(i) Identification of the source of contaminants.

(ii) The mitigation implemented and actions undertaken.

(iii) An assessment of any potential effects of the discharges.

(iv) Measures undertaken to prevent reoccurrence.

(20)

(a) The frequency of water quality sampling of the first flush stormwater discharge may be extended to at least once every 3 years provided the concentrations of contaminants are below the trigger values listed in Condition (17) for three consecutive years.

(b) Water quality sampling of at least once every year shall resume in the event a contaminant from an annual water quality sample exceeds a trigger value listed in Condition (17), subject to Condition (21).

Management Plan

(21) A management plan for the operation and maintenance of the stormwater systems shall be prepared and submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within one month of granting of this consent, setting out how Conditions (10) to (13) shall be complied with.

(22) Records of inspection, operation and maintenance of the stormwater treatment and disposal system shall be kept. The records shall include, but not limited to information that demonstrates compliance with Conditions (10) to (13) of this consent. Copies of these records shall be provided to the Canterbury Regional Council on request.

Review

(23) The lapsing date for the purpose of Section 125 of the Resource Management Act 1991 shall be 31st March 2015.

(24) The Canterbury Regional Council may at any time serve notice of its intention to review the conditions of this resource consent as a result of any new discharge permit applications that propose to discharge stormwater to, or within, the Henderson's Basin Area shown in the Christchurch City Plan, Volume 3, Part 9, General City Rules, Appendix 3 and labelled as 'Area A (proposed)' on the attached Plan CRC096211G. The purpose of such review would be to consider water quantity cumulative effects on the environment that would be likely to result from the exercise of this consent in combination with new stormwater discharge applications, and to change and/or impose new conditions of consent requiring upgrades, modifications, of components of the stormwater system(s) to reduce cumulative effects on the environment.

(25) The Canterbury Regional Council may, on any of the last five days of October each year, serve notice of its intention to review the conditions of this consent for the purposes of:

(a) Dealing with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or

(b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment; or

(c) Requiring the consent holder to carry out monitoring and reporting instead of, or in addition to, that required by the consent; or

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

(e) Reviewing the trigger values established for parameters specified in conditions of this consent.

Water Permit and Discharge Permit CRC093881 – To divert and discharge water into water

Description

(1) The diversion and discharge shall be only the positive drainage of shallow groundwater associated with the Bishops Green Basin and Douglas Clifford Basin shown on Plan CRC093881A which forms part of this consent.

(2) Shallow groundwater shall be directed into Dunbars Drain at or about map reference NZMS 260 M37:7551-3730 and discharged into Cashmere Stream at the location shown on Plan CRC093881A.

System

(3) Shallow groundwater shall be diverted via low flow swales to the Douglas Clifford first flush basin and directed to and discharged via the stormwater outlet into Dunbars Drain.

Review

(4) The lapsing date for the purpose of Section 125 of the Resource Management Act 1991 shall be 31st March 2015.

(5) The Canterbury Regional Council may, on any of the last five days of April each year, serve notice of its intention to review the conditions of this consent for the purposes of:

(a) Dealing with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or

(b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment; or

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