

BACKGROUND TO ASSESSMENT OF ENVIRONMENTAL EFFECTS

PURPOSE

This document is provided:

- by way of background to an application to continue to divert and discharge water and to modify a watercourse, by providing an assessment of effects of the associated activities that gave rise to the current diversion and discharge; and
- to provide a full explanation of the facts necessary to determine whether any further enforcement response is required in respect of the activities that were undertaken without knowing that they required resource consent.

An application for consent to divert and discharge was rejected under Section 88 of the RMA (Resource Management Act), but that rejection has been objected to under s357. This document is now provided to support the further application for consent in an attempt to make it unnecessary to determine the objection.

INTRODUCTION

A full description of the works undertaken is provided below, but a brief summary is provided by way of introduction.

Originally field drainage water from the north of the Wilson property flowed to the south via a farm drain that had been dug by Mr & Mrs Wilson's predecessors in title some ten years previously. As far as Mr Wilson is aware, no consent was obtained for this drain. There does not seem to be any record of such an authorisation. As a result, he believed none had been required and that none would be required to redirect it. He saw considerable benefit in redirecting the path of the drain to a new course running across the north of his property and then turning south to discharge into a seepage pond. This would not only reduce the opportunity for runoff-borne contaminants to enter water from his land, but it would provide for any water that would be discharged to the Hinds River to be treated by first entering a pond in which any sediment still left could settle out and then filtering sub-surface to the Hinds River at a point some 2km upstream of the existing discharge to the Hinds River. That would introduce cleaner water into a greater reach of the river than previously.

Acting on his belief that no consent was required, he dug a new drain along that alignment. The methodology used is described in detail below and shows that he was very careful to undertake the works in a way that would avoid or limit to the absolute minimum the risk of any discharges of contaminant to surface water. When it was complete the field drainage water was then diverted to this new drain and now discharges into the seepage pond. Gravel was dug from a shallow scrape to the west and together with material from the newly constructed drain, was used to fill a section of the old drain. The location chosen was well away from any waterways and avoided the risk of any contaminants infiltrating groundwater via the excavation.

He now accepts that extraction of material required to fill a section of the old drain would have required a land use consent and that it is possible that the discharge of construction phase stormwater may well have required a resource consent, however given that the seepage pond would retain any construction sediment, it is questionable if there was a contravention of Rule 5.94A of the Canterbury Land and Water Plan.

The applicant believes that the drain was a farm drain not covered by Section 13 of the RMA. However over the course of the compliance investigation and in pre-application discussions,

Environment Canterbury stated that it has defined this water course as a “modified river” and not an “artificial drain”. Ms Aitken (ECan Senior Consent Planner) has by email of 3 April 2019 provided the following explanation:-

“Though intermittent at times, the water course is spring fed and a pre-existing flowing surface waterbody existed on the site which is visible from historic aerial photographs that show a natural meandering pattern leading to the Hinds River. You can see this channel on Map 2A on page 4 of the Background to the AEE you submitted. A pre-existing natural watercourse may have been extensively modified is still an intermittently flowing waterbody of freshwater within the definition of a river. ”

The complete email is copied to Appendix Three.

This would mean that consent would have been required to dig the new drain and to fill in the section of the old one, in order to avoid contravening s13. The Applicant has agreed also to seek resource consents to do activities that would on ECan’s view otherwise also contravene s13. This approach is taken to avoid the need to determine whether the waterway is an artificial drain (the Applicant’s view) or a modified watercourse (ECan’s view). The applicant will comply with the consent if granted, as if the waterway is something that meets the definition of “river” for the purposes of s13.

It is understood that the matter first came to ECan’s attention following a query from Mr Ian Lowe, who owns the land to the north of the works. He has been consulted and has provided his written approval to the continued diversion and discharge of water as per the application. Copy in Appendix Three.

The details of consultation undertaken are also provided in this document.

Background

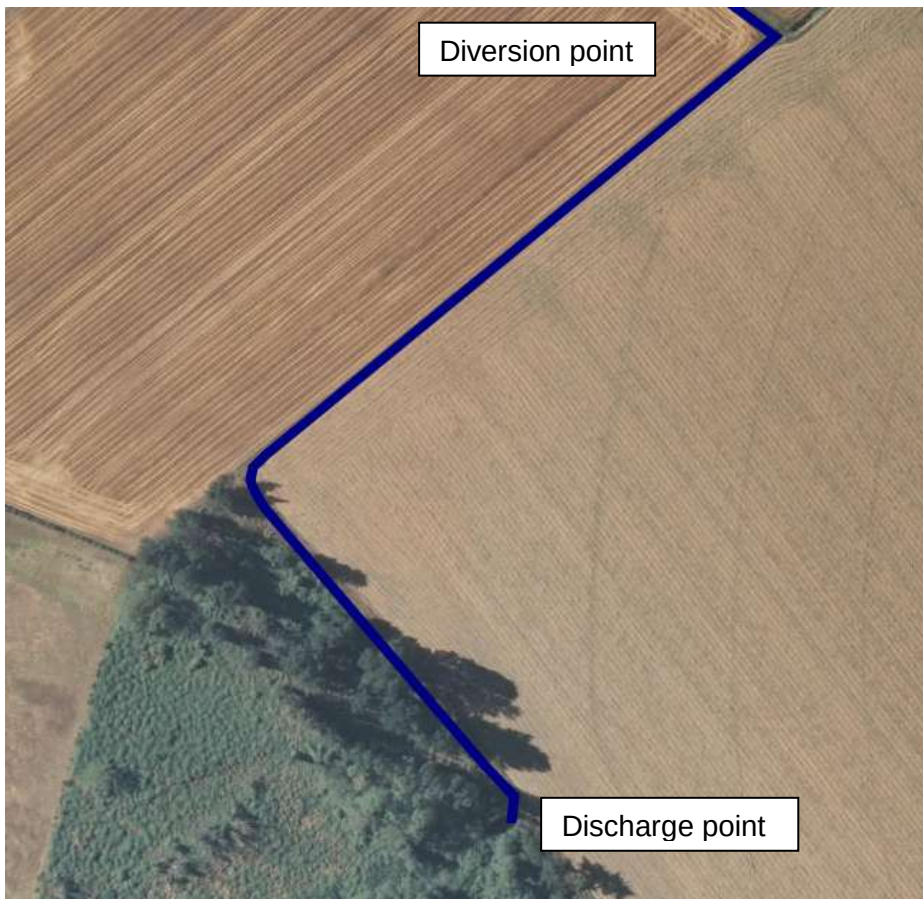
1. Mr and Mrs Wilson own Part Lot 7 DP 1479 and Lots 5 and 6 DP 1479, (proof of ownership is copied to Appendix One). High value irrigated seed and field crops are grown on this land. Map 1A shows the property location.
2. This property is linked with the home farm – Glenmorganvale at 862 Winslow Road, which receives water from the Mayfield Hinds Irrigation Scheme and is covered by its global nutrient discharge consent. The Farm Environment Plan made by RDR includes this property and received an A grade in its 2017 audit.
3. The property is irrigated with groundwater under CRC042712.3, CRC160364 and CRC160365. Originally irrigation water was also taken from the Swamp Road Drain and the Hinds River under CRC990615.2. In 2016 Mr and Mrs Wilson surrendered this consent to reduce affects on surface water. All the property’s needs are now met from deep bores.
4. Consent CRC050355 was issued in 2004 to Mr Raymond Bowden and after the property changed hand it was transferred to Mr and Mrs Wilson as CRC050355.1 in October 2009. This consent allows:

“ -The removal of willow trees on the true left bank of the Hinds River to enable the installation of a centre pivot irrigator and to realign approximately 1.5 kilometres of Swamp Road Drain.”
5. The Swamp Road Drain was realigned to where it currently runs parallel to Swamp Road, prior to the Wilsons taking over the property, Mr Wilson completed the final portion from the House/yards to the railway line.

6. The land to the north of this property has a herringbone of tile drains leading to a farm drain which flowed south east as shown in light blue on Map 2A. In 2005 the farm drain was moved to where it is shown in light green on Map 2A, the bypassed section was filled in. This work was undertaken by a previous owner, without consent. There is also evidence that the drain had been altered prior to this, probably in the 1980s.
7. In mid 2018, Mr Wilson realigned the farm drain as shown in dark blue on Map 2A and Map 1B. The water draining from the land to the north now flows west and then south east ending in a seepage pond from which it seeps through the gravel strata to supplement flows in the Hinds River.
8. Mr Wilson describes the sequence of events as follows
 - New drain dug 14-16 Aug 2018
 - Water diverted down new drain 16 Aug 2018
 - Mud cleaned out of old portion of drain cleaned out to dry 17 Aug 2018
 - Gravel fill in base of old drain 16-19 Sept 2018 (as not enough spoil from the digging of the new drain)
 - Clay and topsoil cover replaced, old drain levelled off and ready for sowing 20-21 Sept 2018.
 - No digging, excavating, filling or cleaning was done in flowing water.
 - The new drain was dug first, then water diverted into it.
 - The old closed portion was left to empty (only took over-night) before cleaning out the mud.
 - We then had a period of very wet days where no work was possible.
 - Once dry again, the fill was placed in the base of the closed portion of drain and then the top soil was finally put back on top.
9. About 360 cubic metres of running gravel was dug from under the pine trees shown on Map 2B (red dot at approx 1485208 – 5128685) from an excavation about 20 X 12 metres by about 1.5 metres deep.
10. The new farm drain was established between 1485416-5128931 and 1485306-5128595, approximately 470 metres, see map 1B..
11. The section of the old farm drain that was filled in ran from 1485416-5128931 to 1485595 – 5129068, approximately 224 metres, see map 2D. The bottom of the drain was filled with excavated gravel and topped off with soil from the new farm drain.
12. Water is now diverted into the new farm drain at 1485416-5128931 and discharges into a seepage pond at 1485306- 5128595, see Map 1B.



Map 1A: Location: Red line outlines the property.



Map 1B: New Farm Drain



Map 2A: Light blue line is farm drain pre 2005, green line is farm drain 2005 to 2018 and dark blue line is farm drain 2018 to date.

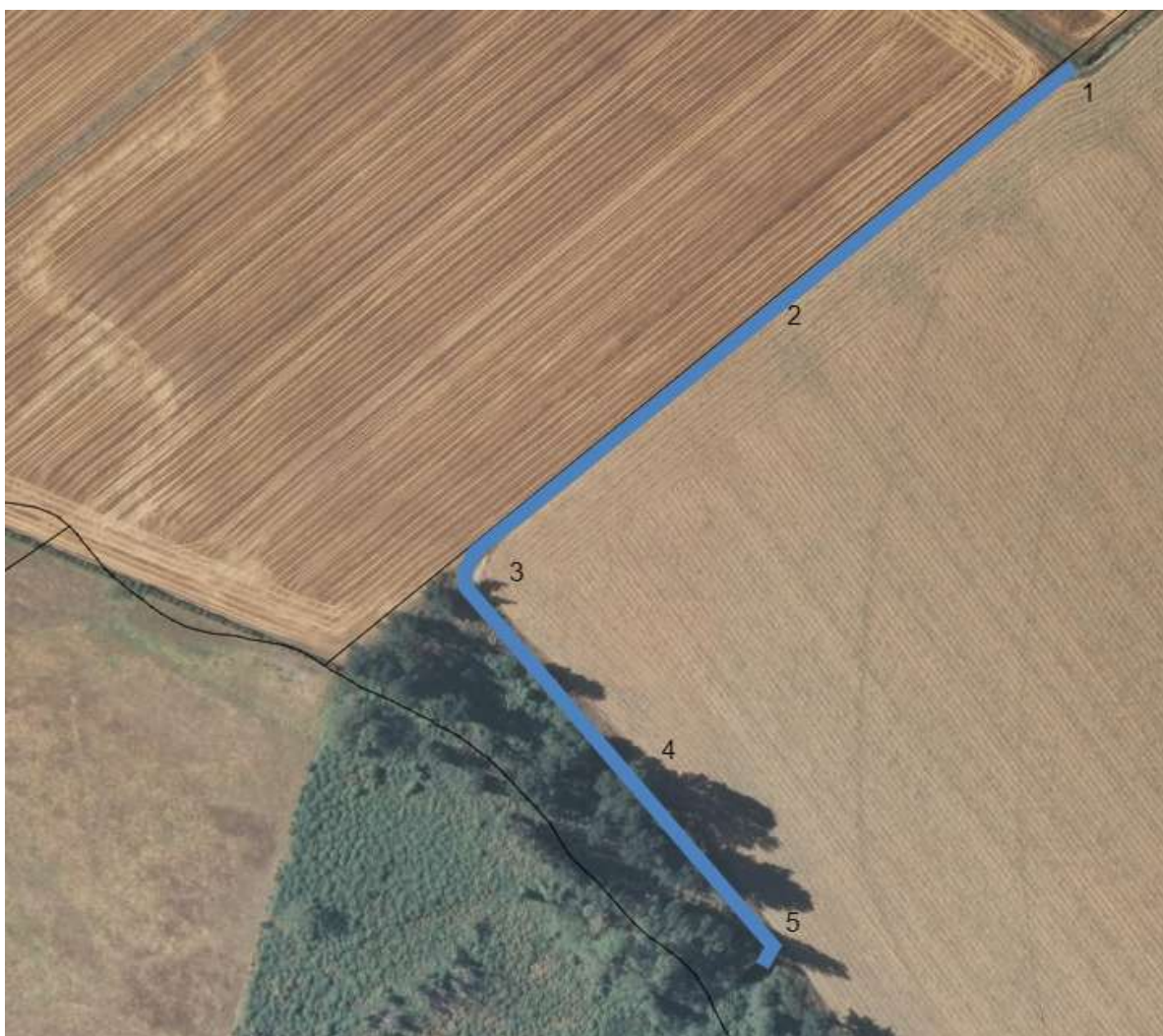


Map 2B: Gravel extraction site

13. Map 2C shows the new farm drain with 5 numbered measuring points. Table 2 records the dimensions of the drain at the relevant points and calculates an approximate volume of material removed as 531 cubic metres.

Point	Width at top in metres	Width at bottom in metres	Depth in metres	Cross section in square metres	Section length in metres	Volume material removed cubic metres
1	1.8	0.9	0.9	1.22	137	166.46
2	1.8	0.8	1	1.30	138	179.40
3	2.1	1	1.5	2.33	20	46.50
4	1.9	0.8	0.75	1.01	87	88.09
5	1.7	1.2	0.4	0.58	88	51.04
Totals					470	531.48

Table 2: Volume of material excavated from new farm drain



Map 2C: New Farm Drain measuring points.



Map 2D: Filled in section of Farm Drain, shown in red.

14. On 12 November 2018 following information acquired by ECan regarding diversion of water on the Wilson property, Terry Hewitt (Environment Canterbury Resource Management Officer II Monitoring and Compliance) phoned Mr Wilson to discuss this issue.
15. On 13 November 2018 Terry Hewitt emailed Mr Wilson to confirm a telephone discussion they had had the day before about the diversion, summarised as:-
 - It is a breach of the Resource Management Act.
 - It is a breach of the Canterbury Land and Water Regional Plan
 - The discharge is 900m from the Hinds Community drinking water protection zone.
 - By diverting the water you have disadvantaged neighbouring properties
16. For completeness, these are ECan officer opinions and their inclusion in this document does not signal their acceptance.
17. On 19 November 2018, site meeting with Terry Hewitt, Gary Wilson, David Hendrikz, Peter Lowe (neighbouring farmer) and Stephen Howard (ECan Compliance) to discuss the issues raised in the email of 13 November.
18. On 23 November 2018 Terry Hewitt undertook a site visit to investigate the drain re-alignment with Ryan Dynes (River Engineer) and Caitlin Adlam (ECan Springs). In this meeting he acknowledged that he could see what Mr Wilson wanted to achieve and that it was his opinion that:
 - He would be issued with a formal warning

- Consent was required
 - The batters were not sufficient to prevent erosion
 - Grassing of banks would be required once they were correctly battered
19. This meeting is summarised in an email from Terry Hewitt to Susan Aitken (ECan Consent/Planner) dated 23 November 2018 (see full copy in Appendix Two).
 20. Following this, abatement notices have been issued and then replaced. Full details of the relevant Emails, letters and documents are copied to Appendix Two. The current notice requires that the unauthorised diversion and discharge cease by 31 March 2019. Mr Wilson has obtained advice that indicates the only feasible way of achieving this is to obtain consent to authorise the continued diversion and discharge.
 21. On 11 March 2019 an application to divert and discharge was lodged with Environment Canterbury, however on 19 March this was returned in purported reliance Section 88(3) of the RMA. An objection to that rejection was lodged under s357 RMA. Following a meeting with Susan Aitken on 27 March 2019 a letter purporting to be a “revised Section 88 letter” was issued.
 22. The letter set out what ECan considered were shortcomings of the original applications. It was clear that if these “shortcomings” as listed in the 27 March 2019 application were addressed, the application would be receipted and processed. For these reasons, the applicant made the decision on 3 April 2019 to re-submit applications, which address the issues set out in the 27 March 2019 letter. This was done primarily by adding an application to modify the recently dug drain under Section 13 of the RMA. The current background document is provided by way of background to the application for the necessary consents. If the consents are granted, the unlawful diversion and discharge will cease, as they will then be expressly allowed by the consents sought.

CONTRAVENTIONS

Land Use:

Section 9 (2) Resource Management Act 1991 (RMA) states that:

- (2) *No person may use land in a manner that contravenes a regional rule unless the use—*
 - (a) *is expressly allowed by a resource consent; or*
 - (b) *is an activity allowed by [section 20A](#).*

Rule 5.176 of the CLWRP (Canterbury Land and Water Regional Plan) makes any use of land to excavate material that does not comply with one or more of the conditions of Rule 5.175 a restricted discretionary activity. Condition 2(a) of Rule 5.175 requires that if the material is excavated over an unconfined or semi-confined aquifer no more than 100m³ can be extracted. The area from which gravel was extracted and the new drain dug is over a semi-confined aquifer. The volume removed exceeded 100m³. Therefore a restricted discretionary resource consent would have been required to authorise the extraction. None was obtained. Therefore the extraction contravened s9(2) RMA. However, the extraction

occurred more than six months ago as a one-off activity, which has ceased. There is no on-going contravention of s9(2).

Section 13(1) contains prohibitions against excavating, disturbing and depositing material on the bed of a “river” without permission through a resource consent, national environmental standard or regional rule. That section does not apply to an area that is not a “river”. “**River**” is defined by s2 as “a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any **artificial watercourse** (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and **farm drainage canal**)” (emphasis added). The RMA does not offer any detailed explanation of what is a modified watercourse; it does though specifically identify “farm drainage canals” as not rivers for the purposes of the Act.

However, Section 2.9 Definitions Translations and Abbreviations of the CLWRP defines an artificial watercourse as “a watercourse that is created by human action. It includes an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal channel. It does not include artificial swales, kerb and channelling or other watercourses designed to convey stormwater.”

The farm drain was purposely made to collect water from tile drains set into the ground to allow the land to be cropped. The drain that was disestablished was itself dug ten years previously as a farm drainage canal. It was a watercourse that was created by human action as a farm drainage canal and as such meets the definition of “artificial watercourse” in the Canterbury Land and Water Regional Plan. It was therefore considered in the first application that it was not a “river”.

The agreed way forward, includes assessment of modification of the newly formed drain under Section 13 of the RMA, as if it meets the definition of “river”. To that end this document will also address effects of creating this new drain and filling in a section of the old one under that Section of the Act. This is without prejudice to the applicant’s position that neither the old nor new drains meet the definition of “river”. However, for the purposes of the application, and to avoid further cost that would be incurred through resolving that matter, he is content for ECan to process the application as if it is a river and to comply with its conditions on that basis.

Rule 5.141A of the CLWRP makes any disturbance in or under the bed of a river that does not comply with one or more of the conditions of Rules 5.136 to 5.141 a discretionary activity. Condition 2 of Rule 5.136 requires that the activity must not involve the deposition of any substance, other than bed material in the bed of a river and condition 4 requires the bed of the river to be returned to its original contour within 30 days of the completion of the activity. As the material used to fill the section of old drain came from excavated gravel and material dug when the new watercourse was established, and that the original contour of the watercourse was not re-established a discretionary resource consent would have been required to authorise the infilling of the 224 metre section of the old drain. Therefore the filling in of the old water course contravened s9(2) RMA. If the old drain was a “river”, it would also have contravened s13(1). However, as this work occurred more than six months ago as a one-off activity, which has ceased. There is no on-going contravention of s9(2) or 13(1).

Altering the concrete diversion wall did not contravene any condition set out in Rule 5.137. The work done is considered to have been a permitted activity for the purposes of s13.

Diversion of Water

Section 14(2)(a) states that “No person may take, use, dam, or divert any of the following, unless the taking, using, damming, or diverting is allowed by subsection (3)”. No resource

consent was held authorising the diversion of water. There are no permitted activity rules that authorised the diversion of water in a drain. Rule 5.6 specifies that “any activity that—

- a. would contravene sections 13(1), 14(2), s14(3) or s15(1) of the RMA; and
- b. is not a recovery activity; and
- c. is not classified by this Plan as any other of the classes of activity listed in section 87A of the RMA

— is a discretionary activity.

As a result, resource consent would have been required to divert the drainage water in the drain. There is no evidence of any consent or other authorisation for the drain that was dug by the previous owner some ten years previously. The diversion that was undertaken was the replacement of one unauthorised diversion by another. Reinstating the previous drain will therefore not terminate the unauthorised diversion of water.

Discharge of Water/Contaminants

Section 15(1) states that “No person may discharge any—

- (a) contaminant or water into water; or
- (b) contaminant onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water”.

—unless the discharge is expressly allowed by a national environmental standard or other regulations, a rule in a regional plan as well as a rule in a proposed regional plan for the same region (if there is one), or a resource consent.”

Due to the methodology used (as described in the background above) discharges of sediment to water during construction were minimised to an absolute minimum. Rule 5.94A authorises the discharge of construction phase stormwater, provided discharge quality conditions are met. Due to the methodology used and the treatment provided by the pond and seepage, it is highly likely that the discharges complied with those conditions. In any event, no construction phase discharges continue, as construction ceased some six months ago. There will have been no discharge of contaminant to the waters of the Hinds River as a result of the works.

Water was (and continues to be) discharged to the pond and via seepage to the Hinds River. Rule 5.78 provides that “The discharge of drainage water from a drainage system into a river, lake or wetland that does not meet the conditions of Rule 5.77 is a discretionary activity”. Condition 1 of Rule 5.77 requires that “The discharge of land drainage water is only from a drainage system, the full spatial extent of which existed at 3 July 2004”. Neither the previous drain nor the newly constructed drain existed at 3 July 2004. As a result the discharge was not authorised by Rule 5.77 and is a discretionary activity for which resource consent was (and is) required.

Bed disturbance/deposition

Because of the agreement to treat the old and new alignments as something that meets the definition of “river”, the part of the old alignment that would have been covered by water without overtopping its banks would be regarded as “bed” under ECan’s view. On that view

the activities of disturbing the base of the drain and filling it with gravel will also constitute the disturbance of, and the deposition of material on, the bed of a “river”. They were not authorised by resource consent or a National Environmental Standard. They are discretionary activities under Rule 5.141A of the CLWRP. As such they were not expressly allowed by a regional rule either and they would have contravened s13(1)(b) & (d).

ASSESSMENT OF ACTUAL AND POTENTIAL EFFECTS

23. The following potential effects have been identified when digging a new drain, excavating material and filling in an old drain. As noted by the addendum provided by Dr Keesing, those physical effects are not altered by whether the drain was legally classified as an artificial watercourse or a “river”:

- Adverse effects on biodiversity and habitat, from excavation and deposition of material.
- Adverse effects on water quality, from excavation of material.
- Adverse effects on water quality from excavating and depositing material.
- Adverse effects on water quality from drain and pond management and maintenance.
- Adverse effects on Tangata Whenua.

Adverse effect on biodiversity and habitat from excavation and deposit of material

24. Excavating material can destroy habitat by removing plants and destroying the surface habitat, depositing material can smother the existing habitat. Both activities will change the local biodiversity.
25. About 360 cubic metres of running gravel was dug from under the pine trees shown on Map 2B (red dot) from an excavation about 20 X 12 metres by about 1.5 metres deep to fill the bottom of the old farm drain. Map 2D Soil from the new farm drain was used to top the gravel. Not all this soil was used and the excess was spread to the side of the new drain.
26. The excavated area primarily supports pine trees, broom, gorse and non-indigenous weeds. It is considered that removing 240 square metres of soil has a less than minor effect on the biodiversity and habitat of this area which will soon be re-colonised by local vegetation.
27. Map 2C shows the new farm drain with 5 numbered measuring points. Table 2 records the dimensions of the drain at the relevant points and calculates an approximate volume of material removed as 633 cubic metres.
28. Dr Vaughan Keesing (senior Ecologist –Boffa Miskell Ltd) has provided a report dated 27-2-2019 supported by an addendum dated 23-4-2019. This report describes the lack of biodiversity and ecological value of the existing farm drain and is provided separate to this Background Report.
29. Given the lack of habitat and biodiversity in the farm drain, filling in the 224 metre section did not unacceptably, adversely affect its biodiversity and habitat. Consequently there was a less than minor effect on biodiversity values, when this section was filled in. The addendum provided by Dr Keesing to this report

demonstrates that these effects remain the same, even if the drain is legally classified as a “river”.

30. Re-excavating this drain would only allow the re-establishment of a habitat of low value.

Adverse effects on water quality, from excavation of material.

31. Excavating material can break the confining seal protecting water bearing material and allowing contaminants to enter ground water.
32. The borelog of BY20/0110 (on the south-east of the Wilson property) shows a thin section of water bearing gravels 4 metres below ground level. Bore K37/3825 (on the east of the Wilson property) shows that water bearing gravels are found deeper than 5 metres below ground level. The gravel was extracted by way of a shallow scrape. At no point did any excavations for the new water course and gravel excavation exceed 1.5 metres below ground level, leaving a minimum of 2.5 metres before the first semi-confined water bearing layer.
33. The semi-confining layer has not been broken. The excavation has not provided a pathway for contaminants to enter surface water. The effects of excavating the gravel and digging the new drain were less than minor.
34. Filling in the new drain and excavation would provide no more protection to the confining layer.

Adverse effects on water quality from excavating and depositing material

35. Digging out a new drain and filling in an old one can result in silt being washed downstream. Dr Keesing has provided ample evidence that the farm drain at risk had very little biodiversity or ecological value.
36. Mr Wilson describes the sequence of events as follows:-
 - New drain dug 14-16 Aug 2018
 - Water diverted down new drain 16 Aug 2018
 - Mud cleaned out of old portion of drain cleaned out to dry 17 Aug 2018
 - Gravel fill in base of old drain 16 - 19 Sept 2018 (as not enough spoil from the digging of the new drain)
 - Clay and topsoil cover replaced, old drain levelled off and ready for sowing 20-21 Sept 2018.
 - No digging, excavating, filling or cleaning was done in flowing water.
 - The new drain was dug first, then water diverted into it.
 - The old closed portion was left to empty (only took over-night) before cleaning out the mud.
 - We then had a period of very wet days where no work was possible. Once dry again, the fill was placed in the base of the closed portion of drain and then the top soil was finally put back on top.
37. As the construction area is less than two hectares, silt discharged from the new drain while it heals enters the seepage pond and together with the sequence of events described above, it is concluded that effects on water quality during construction were within the conditions of Rule 5.94A and was a permitted activity..

Adverse effects on water quality from drain and pond management and maintenance.

38. Drains, especially in gravelly material can deteriorate and need ongoing maintenance to prevent bank slump, erosion and siltation.
39. Advice has been sought from Environment Canterbury's River Engineers and substantial information has been provided (see consultation section). Dr Keesing has also provided maintenance advice. Reference is made to the following ECan documents:-
 - Good Drain Management Practices October 2018.
 - Lowland plains streams and drains – a companion guide to managing waterways on Canterbury farms.
 - Working together to maintain our drains.
 - Canterbury Regional Code of Practice for Defences Against Water and Drainage Schemes July 2015 – which is a detailed code intended for use by local authorities and network utility operators. However this level of detail is useful to establish good practice for drain management operatives.
 - Consent CRC041535, which consents how Environment Canterbury can use weed killing sprays glyphosate, triclopyr and diquat, as well as surfactants to clear drains of weeds.
40. The new drain requires annual maintenance to remove silt and establish adequately shaped batters to encourage rapid flow, prevent water weed build up while reducing bank erosion as described in the ECan advice.
41. A full description and explanation of the future maintenance of the new water course is set out in the AEE and proposed conditions.

Adverse effects on Tangata Whenua values

42. The site is within the rohe of Arowhenua Runanga.
43. Ngāti Huirapa and their ancestors are mana whenua in the Timaru District and are represented today by Te Rūnanga o Arowhenua.
44. Te Rūnanga o Arowhenua is one of 18 papatipu rūnanga which together comprise the iwi authority of Te Rūnanga O Ngāi Tahu as set out in the Te Rūnanga o Ngāi Tahu
45. Aoraki Environmental Consultancy Ltd, on behalf of Arowhenua Runanga was retained to provide cultural advice. Ally Crane (General Manager Aoraki Environmental Consultancy Limited) visited the site on 5 February 2019 together with Karl Russell (Cultural Consultant) and Kylie Hall (Principal Planner). Following the visit a letter was provided accepting the proposal (copy in Appendix Three).
46. In determining if there are any further cultural interests affected, the following four documents have been referred to
 - Te Whakatau Kaupapa:- Resource Management Strategy for Canterbury Region- Ngai Tahu
 - Te Rūnanga o Ngāi Tahu Freshwater Policy Statement 1999.

- Mahaanui IMP
 - Iwi Management Plan of Kati Huirapa – For the area Rakaia to Waitaki Part One – Land, Water and Air Policy Arowhenua
47. In the site visit and their subsequent letter Arowhenua Runanga have not raised any objection to the works undertaken to enable the diversion, together with reference to the documents referred to, it is concluded that there were no adverse cultural effects from the works undertaken to enable the diversion.

CONSULTATION

48. Consultation has been undertaken with:-
- Matthew Surman - ECan River Engineer
 - Jenny Plank - ECan River Engineer
 - Jean Jack - ECan Science Group, providing ecology advice to the ECan Property Team
 - Grayson Papatua – ECan Property Team.
 - Aoraki Environmental Consultancy - for Arowhenua Runanga
 - Mr Ian Lowe – northern neighbour
49. Written approval has been obtained from Mr Ian Lowe – northern neighbour.
50. Relevant emails etc are copied to Appendix Three.

River Engineering

51. On 9 January 2019 Matthew Surman (ECan River Engineer) emailed three ECan brochures.
- Good Drain Management Practices October 2018.
 - Lowland plains streams and drains – a companion guide to managing waterways on Canterbury farms.
 - Working together to maintain our drains.

Together with the following advice:-

- *To me the older Lowland plains one probably has the most practical advice and clear priorities, the 2018 one seems to be more don't than do's. The working together one is specific to rating district drains – is this going to be one (is this a diversion of a drain that ECan maintains)? Hopefully you can get most of what you're after out of them.*
- *Since the route is already decided, that will control the gradient of the waterway, which is an important factor for erosion potential, however the experience on most of the Hinds drainage area is that the gradients are generally fairly benign – in the right range for effective drainage without being too steep. The next factors in design are keeping stock out, batter slope and vegetation cover – the brochures set out some ideas and options there.*

52. 10 January 2019 Jenny Plank (ECan River Engineer) sent the following emailed advice:-

- *As outlined below we can provide you some information about the maintenance activities we undertake in the drains in question but you should be seeking your own engineering advice around the construction and maintenance of the waterway.*
- *We undertake both mechanical and spraying works to maintain the Ashburton Hinds drains.*
- *The mechanical works typically happen in February or March depending on plant growth in the drains. This work is undertaken by an experienced operator who uses a bucket to remove the plant material whilst attempting not to disturb the bottom of the drain bed and the sides of the drain. The works are all undertaken to meet our code of practice. This code of practice could give you some guidance around best practice and things that need to be taken into account when undertaking such works. Our code of practice can be found here: <https://www.ecan.govt.nz/your-region/your-environment/river-and-drain-management/defences-against-water-code-of-practice/> . Here is a bit about or drain maintenance activities online: <https://www.ecan.govt.nz/your-region/your-environment/river-and-drain-management/drain-maintenance/> .*
- *We also spray some of these drains to reduce weed growth. The spraying again may happen in February or March and is undertaken to meet a large set of conditions under our consent which can be found here: <https://www.ecan.govt.nz/data/consent-search/?keyword=CRC041535>*
- *I recommend seeking engineering advice outside of Ecan around the design and maintenance of your drains.*

53. On 16 January 2019 in reply to the following question:-

- *Please will you confirm that the drain I have marked in red on the map below is on the ECan list for maintenance and cleaning.*
- *The drain has been described to me as for flood relief. The length I am interested in is from just downstream of the Windermere Cutoff at 1486628 – 5127933 to where it enters the Hinds at 1486794 – 5127235.*

Jenny Plank (ECan River Engineer) sent the following emailed advice:-

- *Yes ECan maintains this drain as part of the Ashburton Hinds drainage system.*
- *If you want to see all the drains that ECan maintains these can be found on the super useful viewer <https://mapviewer.canterburymaps.govt.nz/>.*

ECan Property

54. Mr Wilson has a Licence to Graze 3.75 ha, Hinds Lot 2 Swamp Road, which is between the seepage pond and the Hinds River. David Hendrikz emailed Environment Canterbury's Property Department, to see if there were any concerns.
55. Grayson Papatua replied on behalf of the property section and briefed Jean Jacks to investigate on their behalf.
56. Jean Jack works in the Science Group at ECan and provides ecology advice to the Property Team, she met with Mr Wilson and provided the emailed summary dated 1 February 2019 below:-
- *I met with Gary on Tuesday and we took a look at the pond and the new drain course leading into it.*
 - *From my perspective of advising our Property team on the implications of the water entering the pond - I didn't identify any ecological concerns for the ECan lease lot of doing so..*
 - *Gary spoke of native planting enhancement of the pond area and I suggested that it be best to keep any species list to comprise of hardy plants such as flax and cabbage tree. Please ensure any plant material is '[ecosourced](#)'. Ecosourced refers to an ECan information sheet which explains the benefits of using locally sourced plant material and where to find more information on native planting.*
57. In an email on 9 April 2019, David Hendrikz asked Grayson Papatua:-
- *if Jean's comments are all that he wished to make or*
 - *to let him know if there are any other concerns*

in a reply dated 9 April 2019, Grayson Papatua stated "There are no other concerns in moving the drain from a property perspective."

Aoraki Environmental Consultancy Limited on behalf of Te Runanga o Arowhenua

58. Aoraki Environmental Consultancy Limited assesses impact on Tangata Whenua values and interests for Arowhenua Runanga. Ally Crane (General Manager Aoraki Environmental Consultancy Limited) has been briefed on this application and has discussed it with Mr Wilson, he visited the site on 5 February 2019 together with Karl Russell (Cultural Consultant) and Kylie Hall (Principal Planner).
59. A summary letter was sent by email on 11 February 2019, it is copied to Appendix Three and summarised as:-

Representatives of Te Rūnanga o Arowhenua have undertaken a site visit and reviewed the proposal. Te Rūnanga o Arowhenua accepts this proposal provided the following conditions are adhered to:

- *The periphery of the seepage pond is planted with suitable native plants that are recommended by Environment Canterbury's Ecologists.*
- *The seepage pond and new plantings are to be permanently fenced from stock and machinery.*
- *Any dead or diseased plants from the planted area are replaced with the same or similar plant species as soon as practicable.*

Because the only physical change from what was approved by this group is the proposed further battering of the banks of the new alignment, which has introduced no new adverse effects, but will only provide further mitigation, the written approval provided by this group to the physical effects is still is a written consent to the effects proposed.

Northern neighbour

60. Mr Ian Lowe farms the land bordering the north of the Wilson property, which contains the land which is drained into the newly diverted drain, he has provided written approval to the effect that he does not consider himself adversely affected by moving the farm drain and diverting water from his drainage system. His signed written approval form is copied to Appendix Three. His approval remains valid due to there being no increase in the adverse effects for which he provided his approval.
61. All emails mentioned above are copied to Appendix Three

CONCLUSION

In conclusion the works undertaken to create the new drain and to fill in the old drain would have required resource consent and Mr Wilson understands that he should have contacted Environment Canterbury before he undertook them. However, he had understandable grounds for believing that no consent was required, given the history of the drain he realigned. More importantly, his key motivation was precisely in order to be able to meet his environmental obligations and responsibilities by reducing the potential for contaminant runoff and improving the quality of surface water. The assessment provided has demonstrated that this has been achieved. The overall effect of the works as undertaken and the resulting modifications to the environment will provide a net benefit. This is underscored by the assessment of Dr Keesing and the written approvals provided by both the source of the initial query and the affected Tangata Whenua group. The revised applications include more mitigation, thereby further reinforcing this.

Reinstatement of the previous alignment will have adverse effects not present with the continued discharge and diversion and is unlikely to end any contravention of s13, s14 or s15, given that the previous drain does not appear to have been authorised.

Mr Wilson has now sought consents that will not only secure mitigation measures, but will ensure that no unauthorised discharges or diversions will continue and that the overall effects on the environment from the land uses, diversion and discharge that will continue on his property will be considerably less than those that existed prior to the works. This will better achieve ECan's enforcement aims than any other outcome.