KAIAPOI
COMMUNITY BOARD

Agenda

Monday 16 May 2016

5.00pm

in the

Meeting Room 1,
Ruataniwha Kaiapoi Civic Centre,
Williams Street, Kaiapoi

Members

Robyn Wallace (Chair)

Chris Greengrass (Deputy Chair)

Neville Atkinson

Alastair Blackie

Roger Blair

Caroline Faass

John Meyer

Sandra Stewart

Jackie Watson

WAIMAKARIRI
DISTRICT COUNCIL

The Chairperson and Members
KAIAPOI COMMUNITY BOARD

AGENDA FOR THE MEETING OF **THE KAIAPOI COMMUNITY BOARD** TO BE HELD AT **MEETING ROOM 1, RUATANIWHA KAIAPOI CIVIC CENTRE, WILLIAMS STREET, KAIAPOI ON MONDAY 16 MAY 2016 AT 5:00PM.**

Karyn Ward
Community Board Advocate

RECOMMENDATIONS IN REPORTS ARE NOT TO BE CONSTRUED AS COUNCIL POLICY UNTIL ADOPTED BY THE COUNCIL

BUSINESS

PAGES

1 APOLOGIES

2 CONFLICTS OF INTEREST

Conflicts of interest (if any) to be reported here for minuting.

3 CONFIRMATION OF MINUTES

3.1 **Minutes of the Kaiapoi Community Board – 18 April 2016**

7-16

RECOMMENDATION

THAT the Kaiapoi Community Board:

(a) **Confirms** that the minutes of the Kaiapoi Community Board meeting held on 18 April 2016, having been circulated as a true and accurate record.

4 MATTERS ARISING FROM THE MINUTES

5 DEPUTATIONS

5.1 J Jeffrey will speak to the Board about a possible event to mark the re-opening of the newly refurbished and strengthened Williams Street, Kaiapoi.

5.2 J Moody will speak to the Board about flags and a possible flag for Kaiapoi.

5.3 G Cowper will speak to the Board in relation to tree removal in Moore Street, Kaiapoi. (Item 7.1).

6 ADJOURNED BUSINESS

7 REPORTS

7.1 **Proposed Street Tree Removal 9 Moore Street, Kaiapoi** – G Barnard (Parks Community Assets Officer)

17-27

RECOMMENDATION

THAT the Kaiapoi Community Board:

(a) **Receives** report No. 160429038251.

(b) **Approves** the retention of the council owned London Plane tree situated in the berm adjacent to 9 Moore Street, Kaiapoi.

(c) **Notes** that the retention of the London Plane tree is consistent with section 3.3 of the Council's standard operating procedure for the removal of trees.

7.2 **137 Williams Street (Council Owned Land)** – S Hart (Business and Centres Manager)

28-30

RECOMMENDATION

The Kaiapoi Community Board recommends that Council:

(a) **Receives** Report No. 160505040675.

(b) **Notes** the importance of this land with regards to its location and connection to Kaiapoi town centre.

(c) **Supports** the development and of a short term landscape plan, by the Councils Green Space Team, for approval of the Community Board which is aimed at 'tidying up' the land at 137 – 141 Williams Street, and ensuring it is appropriately connected to adjoin footpaths and spaces, at a cost of up to $10,000 from within an approved budget.

(d) **Notes** that an assessment will be undertaken with regard to the commercial viability of the land, alignment with the KTC Plan Review, and traffic considerations with the aim of better informing the longer term purpose and use of the land at 137 – 141 Williams Street; to be completed in the 2016/17 year.

7.3 **Kaiapoi River Herbicide Testing and Ocean Outfall Sea Foam Analysis** – J Fraser (Utilities Planner), O Davies (Drainage Asset Manager) and R Barber (Wastewater Asset Manager)

31-51

RECOMMENDATION

(a) **Receives** report No. 160405029549.

(b) **Notes** preliminary identification of sea foam samples undertaken by the Institute of Environmental Science and Research (ESR) on the beach around the ocean outfall has indicated presence of naturally occurring protozoa.

(c) **Notes** the relationship between the protozoa and the effluent discharges from the ocean outfall will be further examined by ESR to determine the effect the discharges are having on the protozoa and sea foam, if any.

(d) **Notes** that no herbicide (glyphosate) residues were found in Kaiapoi River surface water in any of the three samples collected on Monday 4 April 2016.

(e) **Notes** that detectable herbicide (glyphosate) residues were found in each of the three sediment samples collected on Monday 4 April 2016.

(f) **Notes** a professional opinion will be provided by Landcare Research to determine whether the residues of glyphosate observed in the river-bed sediment could have caused the previous "die back" of aquatic plants and animals observed by residents within the Kaiapoi River.

(g) **Notes** that the cost of using mechanical means rather than spraying to control weeds in the Council drains is estimated to cost an additional $80,000 per year.

(h) **Notes** that the Council's contractor will recommence its drain spraying programme using herbicide in spring 2016.

(i) **Notes** a repeat of the sampling may be undertaken once Council weed spraying in the Kaiapoi River catchment has resumed, if a further "die back" occurs in the summer of 2016/17.

(j) **Circulates** this report to the Utilities and Roading Committee for its information.

(k) **Circulates** this report to the Waimakariri Water Zone Committee for its information.

(l) **Circulates** this report to the Drainage Advisory Groups for their information.

(m) **Circulates** this report to the Rangiora and Woodened Ashley Community Boards and the Oxford Eyre Ward Advisory Board for their information.

8 MATTERS REFERRED FOR INFORMATION ONLY

8.1 **Woodend-Ashley Community Board Minutes – 11 April 2016**
(Trim No 160411031890)

8.2 **Rangiora Road and Reserves Naming Committee Minutes – 13 April 2016** (Trim No 160414033217)

8.3 **Rangiora Community Board Minutes – 13 April 2016**
(Trim No. 160413033118)

8.4 **Update on Kaiapoi River, Kaiapoi Wastewater Treatment Plant and Ocean Outfall** – G Cleary (Manager Utilities and Roading), O Davies (Drainage Asset Manager) and R Barber (Wastewater Asset Manager) Report to Kaiapoi Community Board – 21 March 2016 (Trim No. 160302017635)

8.5 **Aquatic Facilities Update Report – S Milne (Aquatics Facilities Manager)** Report to Community and Recreation Committee – 19 April 2016 (Trim No. 160407030534)

8.6 **Library Update – P Ashbey (Libraries Manager)** Report to Community and Recreation Committee – 19 April 2016 (Trim No. 160408031028)

8.7 **Approval for changes to the new footpaths programme and to accept a contract for the work** – K Stevenson (Roading Manager) Report to Council – 3 May 2016 (Trim No. 160419034736)

8.8 **Establishment of a Public Transport Joint Committee for Greater Christchurch** – K Stevenson (Roading Manager) Report to Council – 3 May 2016 (Trim No. 160420035624)

8.9 **Submission on Christchurch City Council's 2016/17 Draft Annual Plan and amended Long Term Plan 2015-2025** – M Edgar (Corporate Planner) and K Stevenson (Roading Manager) Report to Council – 3 May 2016 (Trim No. 160415033547)

RECOMMENDATION

THAT the Kaiapoi Community Board receives the information in items 8.1-8.9.

9 CORRESPONDENCE

52

9.1 Invitation from Life Education Trust to outline programmes offered.

53

9.2 Invitation to Board members to attend Kaiapoi District Historical Society AGM.

10 CHAIRPERSON'S REPORT

11 MEMBERS INFORMATION EXCHANGE

The purpose of this exchange is to provide a short brief to other members on activities that have been attended or to provide information in general that is beneficial to all members and is Board related.

12 KAIAPOI REVITALISATION UPDATE

Regular updates on the Kaiapoi Town Centre projects are emailed regularly to Board members. These updates can be located at the link below:

http://www.waimakariri.govt.nz/your-council/district-development/kaiapoi-town-centre

13 CONSULTATION PROJECTS

14 BOARD FUNDING

14.1 **Board Discretionary Grant** Balance as at 11 May 2016: $823.
At its April meeting the Board approved $500 to the North Canterbury Family Violence Network towards the costs associated with a presentation to Kaiapoi High School about family violence and a bbq to follow and $200 to Social Services Waimakariri towards catering costs for a community forum to discuss establishing a Community House and capacity for a Children's Team for the community.

14.2 **General Landscaping Budget** Balance as at 11 May 2016: $47,490.

15 MEDIA WORTHY ITEMS

16 MEMBERS' QUESTIONS UNDER STANDING ORDERS

17 URGENT GENERAL BUSINESS UNDER STANDING ORDERS

18 NEXT MEETING

The next meeting of the Kaiapoi Community Board is scheduled for 5pm, Monday 20 June 2016 at Meeting Room 1, Ruataniwha Kaiapoi Civic Centre, Williams Street, Kaiapoi.

Workshop

1. *Potential for speakers in Trousselot Park, Kaiapoi*. C Brown (Community Green Space Manager)

2. *Roading Capital Works Programme.* K Stevenson (Roading Manager)

3. *Members' Forum*.

MINUTES OF THE KAIAPOI COMMUNITY BOARD HELD IN MEETING ROOM 1, RUATANIWHA KAIAPOI CIVIC CENTRE, WILLIAMS STREET, KAIAPOI ON MONDAY 18 APRIL 2016 COMMENCING AT 5.00PM.

PRESENT

R Wallace (Chairperson), C Greengrass (arrived 5.03pm during item 4), N Atkinson, R Blair, C Faass, J Meyer, S Stewart and J Watson.

IN ATTENDANCE

J Palmer (Chief Executive), C Sargison (Manager Community and Recreation), K Ward (Community Board Advocate) and L Courtney (Governance Secretary).

1 APOLOGIES

Moved J Watson Seconded C Faass

Apologies were received and sustained from A Blackie for absence.

CARRIED

2 CONFLICTS OF INTEREST

N Atkinson – item 7.6.

3 CONFIRMATION OF MINUTES

3.1 Minutes of the Kaiapoi Community Board – 21 March 2016

Moved J Meyer Seconded R Wallace

THAT the Kaiapoi Community Board:

(a) **Confirms** that the minutes of the Kaiapoi Community Board meeting held on 21 March 2016, having been circulated as a true and accurate record.

CARRIED

4 MATTERS ARISING FROM THE MINUTES

With regard to item 7.1, S Stewart asked when the requested feedback in relation the extra cost to ratepayers for mechanical weed removal would be before the Board. J Palmer replied that a report would be presented to the Board at its May meeting.

5 DEPUTATIONS

Nil.

6 ADJOURNED BUSINESS

Nil.

unconfirmed

7 REPORTS

7.1 Testing for Herbicide in Kaiapoi River Surface Water and Sediment – K Simpson (3 Waters Manager) and O Davies (Drainage Asset Manager)

Please note this report, which was to be circulated separately, was subsequently withdrawn. A report will be presented to the May Board meeting.

J Palmer noted that the test results showed no detectable level of glyphosate in the water samples, but there were trace levels of glyphosate in the three soil samples taken. The initial comment from Dr Henry Hudson was that the trace levels found may be a residual of soil erosion given that glyphosate bonds with soil. Once glyphosate enters the soil it is essentially unavailable to plants. Therefore, the levels in the soil do not explain die-off along the river.

S Stewart asked where samples were taken from. J Palmer was uncertain of the exact locations along the Kaiapoi River but stated that the locations would be in a full report to the Board at its May meeting.

7.2 Kaiapoi Public Boat Ramp Provision – C Sargison (Manager Community and Recreation)

C Sargison spoke to the report noting the recommendation to maintain the current level of service to the Askeaton boat ramp.

N Atkinson queried whether the Mandeville boat ramp should be in the recommendation (c) as it was also utilised by the community. C Sargison apologised for not including the Mandeville board ramp in the recommendation and it was suggested that the reference to 'two' boat ramps be removed from the recommendation in favour of the wording "boat ramps".

N Atkinson queried the floating pontoon coming out onto the river in the design as provided in the report. C Sargison stated that it was actually a pipe line and that the pontoon had been removed from the design.

C Faass queried whether the ramp would cater for two boats at a time. C Sargison replied that the driveway only caters for one boat at a time. He added that the Coastguard did not need to have demarcation along the ramp and were confident that the area in front of the Coastguard could be cleared if needed.

C Faass raised a possible issue with users who de-bung before driving off. C Sargison replied that signage would be in place advising users what their responsibilities were.

J Watson, noting the two cars to right of the Coastguard in the design, queried whether vehicles could drive through the ramp to the other side. C Sargison replied that vehicles could drive through the ramp and that the area was intended for parking use by Coastguard staff.

S Stewart queried whether users approaching the boat ramp had good visibility. C Sargison replied that from the top of the bank rise there was good visibility, but the wharf area could not be seen from Charles Street.

J Palmer queried whether the planting in the design was indicative, especially with regards to lines of sight. C Sargison confirmed that the plantings in the plan were indicative only and that a planting/landscaping plan would be prepared for the Board to approve at a later date.

Unconfirmed

C Sargison confirmed that $600,000 was the budget for the wharf improvements including the removal of the 'old' wharf and the work proposed as part of this plan.

J Palmer queried whether the estimate of $300,000 included the floating pontoon. C Sargison confirmed that it did not and that the development of a floating pontoon would be a separate budget. He added that staff had sent dimensions to a designer and a design would be presented to the Kaiapoi Riverbanks Steering Group at a future meeting.

Moved N Atkinson Seconded J Watson

THAT the Kaiapoi Community Board recommends to the Community and Recreation Committee:

(a) **Receives** report N° 160407030549.

(b) **Approves** the plan for Kaiapoi Wharf Boat Ramp Access (Trim 160407030536).

(c) **Notes** the intention to have boat ramps available for community use at Kaiapoi; being the Coastguard Ramp at Kaiapoi Wharf, the existing ramp at Askeaton, and the Mandeville Bridge ramp.

(d) **Notes** that the continuing provision of Askeaton Boat Ramp is dependent on the outcome of the approved Red Zone Recovery Plan in relation to vehicle access to the ramp.

(e) **Approves** the retention of the current level of service at the Askeaton ramp, subject to the outcome of the Red Zone Recovery Plan and to review the usage of it after a three year period.

CARRIED

N Atkinson stated that this was a good milestone in the recovery of Kaiapoi. He commented on community misunderstanding that the Askeaton boat ramp would be removed but this confirmed it was staying. He was confident that users would adjust to the new wharf and learning to navigate it; there had to be trust the engineers had got the design right. N Atkinson expects criticism from some in the community but that it was like the rules of the road and the need to be liaising with the right organisations about enforcement. It was about having facilities available for people which would be great for the community.

J Watson stated it was a good outcome to keep the Askeaton boat ramp and its current maintenance. She noted that the river is a shared space and should not be dominated by one group.

C Faass believed it was a great facility and looked fantastic. It would be interesting to see who in the community used which ramp, but it was now time to get the development underway.

7.3 **Kaiapoi Community Centre Colour Scheme** – C Brown (Community Green Space Manager)

C Sargison spoke to the report and presented the colour options to the Board for their information and deliberation. He noted that there was no extra budget required as it was part of general maintenance.

Unconfirmed

Moved C Faass Seconded R Wallace

THAT the Kaiapoi Community Board:

(a) **Receives** report No. 160406030430.

(b) **Approves** Option 1 (Coast/Sea Fog) as the colour scheme to be painted on the Kaiapoi Community Centre exterior.

CARRIED

7.4 **ANZAC Day Services** – L Courtney (Governance Secretary)

The report was taken as read.

Moved C Faass Seconded J Meyer

THAT the Kaiapoi Community Board:

(a) **Receives** report No.160323026108.

(b) **Appoints** the Chair and Deputy Chair to lay a wreath on behalf of the Board at the Kaiapoi ANZAC Day service on 25 April 2016.

CARRIED

7.5 **Applications to Kaiapoi Community Board's Discretionary Grants 2015-2016** – L Courtney (Governance Secretary)

K Ward spoke to the report.

R Wallace, with regard to the application from Social Service Waimakariri (SSW), sought clarification that the forum was covering two topics. C Sargison clarified that two community forums were being offered on the same day and it was hoped that people would attend both forums.

S Stewart queried whether a member of the Board should attend the forums and report back to the Board so that the community centre for Kaiapoi could be part of the discussion. It was noted that C Greengrass may be the most appropriate member to attend, with R Blair volunteering to attend also. J Palmer highlighted that there was a review underway regarding the use of the Council's current facilities.

Moved R Blair Seconded J Watson

THAT the Kaiapoi Community Board:

(a) **Receives** report No.160407030952.

(b) **Approves** a grant of $200 to the Social Services Waimakariri towards catering costs for a community forum to discuss establishing a Community House and capacity for a Children's Team for the community.

CARRIED

J Watson believed it was an event that the Board should support.

N Atkinson clarified that the organisation was in fact applying for $800 from all the community/ward advisory boards rather than $200 from the Kaiapoi

Unconfirmed

Community Board. J Palmer added that the matter of multi-board grant applications was raised at an All Boards briefing and after some discussion it had been decided to keep the status quo.

R Wallace commented that a Children's Team will be established in the district whether or not the Board supported this grant application.

J Meyer sought clarification regarding how much North Canterbury Family Violence (NCFV) were seeking from each board. K Ward replied that NCFV were seeking $500 from each community/ward advisory board for presentations at a high school/s in each ward.

R Blair sought more information regarding the presentations. K Ward clarified the funding being sought was specifically for a presentation at Kaiapoi High School. The presentation was targeting young people and being a school event, was not likely to be an all-day event. She highlighted that the purpose of the barbeque after the presentation was to provide an opportunity for informal discussion about what students saw and discuss any issues raised.

R Wallace queried where the $200 shortfall would come from. C Sargison replied that it would be made up from residual funds raised from other events.

C Greengrass asked whether the organisation had sought funds from Christchurch based community boards considering the Kaiapoi High School catchment included parts of Christchurch. K Ward replied there was no indication on the application that any additional applications had been made to any other funding source.

Moved R Wallace Seconded C Faass

(c) **Approves** a grant of $500 to North Canterbury Family Violence Network towards the costs associated with a presentation to Kaiapoi High School about family violence and a barbeque to follow.

CARRIED

R Wallace stated that family violence was a serious issue and that it was good to see the issue being raised with the town's young people.

C Faass commented that from experience in the New Zealand Police, family violence is an issue that she came across and it was good to support further discussion on the matter.

7.6 **Retrospective Ratification of Submission to Waimakariri District Council - Waimakariri Residential Red Zone Draft Recovery Plan** – L Courtney (Governance Secretary)

The report was taken as read.

Moved R Wallace Seconded J Meyer

THAT the Kaiapoi Community Board:

(a) **Receives** report No.160331028004.

unconfirmed

(b) **Retrospectively** ratifies the submission to the Waimakariri District Council – Waimakariri Residential Red Zone Draft Recovery Plan (Trim No. 160301017016).

CARRIED

N Atkinson, having declared a conflict of interest sat back from the table and took no part in the discussion

8 MATTERS REFERRED FOR INFORMATION ONLY

8.1 **Rangiora Community Board Minutes – 9 March 2016**
(Trim No. 160301017134)

8.2 **Woodend-Ashley Community Board Minutes – 14 March 2016**
(Trim No. 160309020595)

8.3 **Oxford-Eyre Ward Advisory Board Minutes – 16 March 2016**
(Trim No. 160318024070)

8.4 **Major Projects for 2015/16** – G Meadows (Policy Manager) Report to Audit Committee – 15 March 2016 (Trim No.160301017448)

8.5 **Capital Projects Report for the period ended 31 December 2015** – P Christensen (Finance Manager) Report to Audit Committee – 16 March 2016 (Trim No. 160125005204)

8.6 **Pines Kairaki Hall** – C Sargison (Manager Community and Recreation) Report to Council – 5 April 2016 (Trim No. 160322025124)

8.7 **Proposed Northern Pegasus Bay Bylaw 2016** – V Spittal (Policy Analyst) Report to Council – 5 April 2016 (Trim No. 160122004737)

8.8 **Memorandum of Understanding for Co-operation and Friendship with the Enshi District, China** – J Palmer (Chief Executive) Report to Council – 5 April 2016 (Trim No. 160323025652)

8.9 **Adopt Council Plan Changes 40 (Parking, Loading and Manoeuvring) and 43 (Oxford Town Centre, Urban Design)** – T Ellis (Development Planning Manager) Report to Council – 5 April 2016 (Trim No. 160323025635)

8.10 **ANZAC Day Services 2016** – S Nichols (Governance Manager) Report to Council – 5 April 2016 (Trim No. 160310021022)

Moved R Wallace Seconded J Watson

THAT the Kaiapoi Community Board receives the information in items 8.1-8.10.

CARRIED

9 CORRESPONDENCE

"Third Sector / Not-for-Profit Sector Recovery in Post-Earthquake Christchurch – Research and report commissioned by the Canterbury Earthquake Recovery Authority (CERA)", researched and written by Dr. Chrys Horn, Sarah Wylie and Jane Mountier. This document was received and available for members' information.

Unconfirmed

10 CHAIRPERSON'S REPORT

10.1 Chairperson's Diary for March/April 2016

The Chairperson's report was tabled.

Moved R Wallace Seconded N Atkinson

THAT the Kaiapoi Community Board:

(a) **Receives** report No.160418034059.

CARRIED

11 MEMBERS INFORMATION EXCHANGE

11.1 J Watson

- Kaiapoi Art Expo. The expo, 23 and 24 July 2016, has been extended with an art week leading up to the expo which will include workshops, demonstrations, an ice carving and an interactive mural. It is hoped that by holding the event during the week of the school holidays will attract more attendees.
- Next exhibition at Art on the Quay is a repeat of last year's, where members of the local community are asked to lend favourite pieces of art work for display.
- Kaiapoi Promotion Association (KPA). Upcoming project 'Shop Kaiapoi'; which is an online list of local businesses for which a registration fee is required. Breakfast meetings held fortnightly. KPA has declined the Council funded joint administrator and elected to hire a KPA only administrator who will provide administration services and will be the face of KPA to encourage membership. J Palmer outlined the background to administrative support for the Promotions Association groups. The Council provided funding to Enterprise North Canterbury for the administrative position and the balance of funding for the financial year has now been passed onto KPA so it can employ a person.

11.2 S Stewart

- Waimakariri Water Zone committee meeting. Looking forward to reports on Cam River etc.
- Waimakariri Residential Red Zone Draft Recovery Plan submission hearings. Thought schools' presentations were very good; students had carried out their own analysis. Expressed concern that community expectations regarding the time to implement red zone projects will be difficult to meet.

11.3 J Meyer

- Waimakariri Residential Red Zone Draft Recovery Plan submission hearings. Hopeful that work will progress well and has every faith in the panel making good progress.
- Access has worked closely with the Council's Roading team, resulting in the needs of those in the community with access issues being addressed.
- Road Safety Committee. It was noted in the January meeting that February and March are often terrible times with regard to road safety. A better approach with a prominent advertising campaign saw better outcomes for that period. The biggest concern was with drivers in relation to road works, but noted that this was not an issue limited to the Waimakariri district.

Unconfirmed

11.4 **C Greengrass**

- Attended Gold Star presentation for Senior Firefighter Paul Delis.
- Earthquake Support Services will finish 30 June 2016.
- Was contacted by The New Zealand Herald regarding earthquake related suicide rates. She did not believe it was appropriate to make comment considering her personal association with some of those named in the article and passed them on to Council staff for comment.

11.5 **R Blair**

- Darnley Club. This year marks 25 years of the Club and a function will be held 21 May 2016 to mark the milestone.
- North Canterbury Neighbourhood Support. Hoping to appoint a new secretary/treasurer soon.
- Was approached by a local resident regarding a Night 'n Day store opening in Williams Street. The resident expressed concern regarding liquor access this store would provide, and that it could be an issue in the community. J Palmer outlined the licencing process. R Wallace sought clarification regarding the community's ability to oppose liquor licence applications and clarity regarding what the community can oppose and why. J Palmer clarified that objections can be made regarding the suitability of applicant and business activities in the incorrect zones.

11.6 **N Atkinson**

- Attended District Licencing Committee meeting. In conjunction with the Hurunui District Council representatives discussed issues in relation to the licencing of major community events. Staff would follow up for a more streamlined approach.
- Attended opening of Enterprise North Canterbury building.
- Attended opening of Conway Lane.
- Received positive and negative comments from the community regarding road works on Williams Street and noted that it should be completed with the street becoming two-way on 26 April 2016.
- Attended 'Making Good Decisions' course regarding the Resource Management Act.

12 KAIAPOI DEVELOPMENT AND REVITALISATION UPDATE

Waimakariri Residential Red Zone Draft Recovery Plan. The panel has adjourned and is awaiting further information from the Crown before reconvening.

13 CONSULTATION PROJECTS

13.1 **Northern Pegasus Bay Bylaw 2016**

Consultation on the Council's Northern Pegasus Bay Bylaw is open for public comment until 10 May 2016.
http://www.waimakariri.govt.nz/have-a-say/lets-talk/northern-pegasus-bay-bylaw-2016

R Wallace sought Board feedback on a potential submission to the bylaw. Board members agreed to provide comment via email. A meeting to discuss the Board's submission would be arranged if necessary.

The Board noted the consultation project.

Unconfirmed

14 BOARD FUNDING

14.1 **Board Discretionary Grant** Balance as at 13 April 2016: $1,523

14.2 **General Landscaping Budget** Balance as at 13 April 2016: $47,490

With regard to the Board's General Landscaping Budget, R Wallace commented that the Board could recommend to Council the budget be carried over into the 2016/2017 financial year until outcomes for the Future Use of the Red Zone were determined. N Atkinson commented that the budget could be used for enhancing the Williams Street Bridge. It was noted that a workshop to discuss further use of the Board's General Landscaping budget would occur at the Board's May meeting.

The Board noted the balances.

15 MEDIA WORTHY ITEMS

Media promoting Kaiapoi wharf developments.

16 MEMBERS' QUESTIONS UNDER STANDING ORDERS

Nil.

17 URGENT GENERAL BUSINESS UNDER STANDING ORDERS

Nil.

18 NEXT MEETING

The next meeting of the Kaiapoi Community Board is scheduled for 5pm, Monday 16 May 2016 at Meeting Room 1, Ruataniwha Kaiapoi Civic Centre, Williams Street, Kaiapoi.

THERE BEING NO FURTHER BUSINESS, THE MEETING WAS CLOSED AT 6.24PM.

CONFIRMED

_____
Chairperson

_____
Date

unconfirmed

Workshop (6.25 – 7.05pm)

Kaiapoi Flag and Poetry competitions. C Greengrass and J Watson (Kaiapoi Community Board)

Further investigations regarding the Kaiapoi flag are to be made.

The decisions regarding the poetry competition have been referred back to You, Me, We, Us and a report to the Board regarding this matter is recommended.

unconfirmed

WAIMAKARIRI DISTRICT COUNCIL

REPORT

FILE NO and TRIM NO:	GOV- 26-01-07 Trim 160429038251
REPORT TO:	Kaiapoi Community Board
DATE OF MEETING:	16 May 2016
FROM:	Greg Barnard – Parks Community Assets Officer
SUBJECT:	Proposed Street Tree removal 9 Moore Street, Kaiapoi.

SIGNED BY:
(for Reports to Council or Committees)

Department Manager

Chief Executive

1. SUMMARY

1.1. The purpose of this report is to provide the Kaiapoi Community Board with information to allow a decision to be made on the future of the London Plane *(Platanus acerfolia)* street tree situated outside 9 Moore Street, Kaiapoi.

1.2. The resident has requested that the Council owned London Plane tree situated outside the property be removed due to concerns over the future growth of the tree damaging the house foundation.

1.3. The resident also advises that he intends to build a garage on his property adjacent to the tree at some time in the future and is concerned that the roots growing into the property will interfere with construction.

1.4. A survey of all residents of Moore Street was conducted. The survey requested residents express their views on the removal of the tree and was conducted by hand delivered mail drop to all the residences in the street. It provided the opportunity for residents to provide feedback on the removal of the tree.

1.5. This report proposes that the Kaiapoi Community Board decides on the best course of action on the future of the tree.

Attachments:

i Moore Street tree site map
ii Photograph of the London Plane tree at 9 Moore Street.
Iii Letter from resident outlining issues with the tree

2. RECOMMENDATION

THAT the Kaiapoi Community Board:

(a) **Receives** report No. 160429038251

(b) **Approves** the retention of the council owned London Plane tree situated in the berm adjacent to 9 Moore Street, Kaiapoi

(c) **Notes** that the retention of the London Plane tree is consistent with section 3.3 of the Council's standard operating procedure for the removal of trees.

3. ISSUES AND OPTIONS

3.1. The resident of 9 Moore Street has requested the removal of the adjacent London Plane street tree.

3.1. The main reasons given for requesting the removal are:

3.1.1. Inappropriate size of the tree for its location

3.1.2. Proximity of the tree to the garage & underground services

3.1.3. Potential damage if new hard services were installed within the property adjacent to the tree

3.2. The resident is concerned that as the tree grows the roots will damage the house foundation. The foundation is approximately 6 meters from the tree with the tree being approximately 1 metre from the property boundary. There are obvious roots currently growing into the section in the direction of the foundations. The resident has stated that he intends to construct a garage on the property directly adjacent to the tree and is concerned that as the roots grow they will damage any new construction. At this time the resident is unable to provide a time frame when construction will occur. The resident has also reported shading and leaf fall issues with leaves blocking spouting during autumn. The resident also reports tree root incursion into the Stormwater discharge pipe that runs directly adjacent to the tree. The tree root blockage has been cleared by Council's plumbing contractor. The resident has also expressed other concerns as detailed in his letter to council dated 19th February (Trim 160223014367).

3.3. The tree is a London Plane *(Platanus acerfolia)* and is approximately 12 metres in height with a trunk diameter of 300mm and a crown spread of 8 metres. It is approximately 40 years old and is classed as being mature. London Plane trees can reach a height of 30 to 40 metres in ideal growing conditions but as a street tree it is expected to reach a height of around 15 to 18 metres. The species are extremely hardy and tolerant to a wide variety of conditions. They are also long lived and in an urban environment would have an expected lifespan of well over 100 years. The tree is deciduous and drops its large leaves in autumn.

3.4. Staff have inspected the tree and have found that it is in good health and form with no apparent disease or deterioration. Maintenance work has recently been carried out on the tree under Councils' Tree Maintenance Programme. The tree will be subject to ongoing programmed maintenance should it be retained.

3.5. The property contains four other trees located directly adjacent to the property boundary (see attachment ii) one of which appears to be a Leyland Cypress which may also be contributing the issues raised by the resident.

3.6. Staff do not recommend removal of the tree for the following reasons;

3.6.1. The tree adds character and amenity value to the streetscape and the neighbourhood.

3.6.2. Street trees contribute to the health of the environment by reducing air pollution, while at the same time providing ecological diversity by attracting and supporting bird and insect life.

3.6.3. Street trees contribute to the character, shape and form of the district by adding a natural element to the urban environment.

3.6.4. The resident has raised a number of issues regarding the tree. These are listed in the table below together with the staff response to those issues:

Issue	Response
Inappropriate tree size	Councils programmed maintenance will ensure that it remains healthy and in good form. This will minimise as far as possible the effect of the size of the tree by thinning and shaping the crown as the tree matures. While London Plane trees are no longer planted as street trees due to their size they do thrive in this environment and provide significant amenity value.
Damage to underground services and future garage if constructed	Damage to underground services by roots from this tree appears to be limited to the existing storm water outlet which has been cleared by council's plumbing contractor. Should a new garage be built it will be necessary to redirect this outlet to allow for construction which will mitigate this issue permanently. It is possible to prune any roots that may affect construction at the time earthworks are being carried out. This will ensure that only those roots that may create an issue are removed which will minimise the effect on the tree. In the meantime it is possible to manage any blockages to the Stormwater by roots using standard plumbing techniques. Should the recommendations in this report be approved staff will look at the need to replace the existing damaged storm water lateral which will prevent any further blockages.
Damage to footpath	The adjacent footpath has been damaged by the tree's roots and this has been repaired by Council's roading contractor. This may be an ongoing issue but repairs to the path will be carried out using Council's footpath maintenance budget as required. Root pruning will also occur if appropriate. The Council currently undertakes footpath maintenance caused by tree root damage from both Council and private trees where the maintenance will not have a long term impact on the health of the tree.
Proximity to the house	There is no visual evidence of damage to the residents dwelling from the tree. It is common that trees from neighbouring properties overhang dwellings and this can be mitigated by maintaining the tree appropriately. It is also possible to prune the roots and install root-guard to mitigate root intrusion if necessary however this has not been requested and staff do not believe that this is required. The tree is deciduous and, therefore, creates a minimum amount of shading on the adjacent property once leaf fall has occurred in autumn. The tree is maintained under Council's Tree Maintenance Contract on a three year cycle which includes shaping, lifting and thinning of the tree crown. This minimises shading. Under Council's standard operating procedures shading is not considered to be sufficient reason to remove a healthy tree.

3.6.5. It is possible to mitigate the above issues by applying standard established practices within allocated Council maintenance budgets

3.7. Standard Operating Procedure defines the conditions for the removal of street trees only in cases where trees are dead, diseased or dying or where they are creating severe hardship.

3.8. The options for the future of the tree is to either:

3.8.1. **Maintain the status quo**, (i.e. allow the tree to remain in its current state with appropriate future maintenance to maintain its natural shape). This is the preferred option. There was three replies to the request for feedback received from the residents all of which agreed with the removal of the tree.

OR

3.8.2. **Remove the tree entirely and replace it with another species** of juvenile tree at an appropriate time. This is not the preferred option. As indicated in option 1 above. There were three replies to the request for feedback received from the residents all of which agreed with the removal of the tree.

4. COMMUNITY VIEWS

4.1. A consultation flyer and feedback form was delivered to all residents of Moore Street asking their views on either removing the tree.

4.2. Of the 29 residences surveyed a total of 3 responses were received. All responses supported the removal of the tree.

5. FINANCIAL IMPLICATIONS AND RISKS

5.1. **Option 1:** Maintain the status quo. Should the status quo remain there is no additional cost to the Council.

5.2. **Option 2:** Remove the tree entirely and replace it with an appropriate species of juvenile tree. If the tree is removed there will be an approximate cost of $400 for removal of the tree. The cost of replacing the tree with an alternative species at an appropriate time in the future would cost approximately $300 at today's rates. All costs would be paid out the Council's tree maintenance budget

6. CONTEXT

6.1 Policy

This matter is not a matter of significance in terms of the Council's Significance Policy.

6.2 Legislation

There is no specific legislation regarding the removal of street trees. Applicants do have the right of legal recourse under the provisions of the Property Law Act 2007 should the Board decide not to authorise removal of the trees. Sub part 4 of the act refers to the removal of trees. Section 335 refers to what the court may consider should an application be made.

335 Matters court may consider in determining application for order under section 333

(1) In determining an application under section 334, the court may make any order under section 333 that it thinks fit if it is satisfied that—

(a) the order is fair and reasonable; and

(b) the order is necessary to remove, prevent, or prevent the recurrence of—

(i) an actual or potential risk to the applicant's life or health or property, or the life or health or property of any other person lawfully on the applicant's land; or

(ii) an undue obstruction of a view that would otherwise be enjoyed from the applicant's land, if that land may be used for residential purposes under rules in a relevant proposed or operative district plan, or from any building erected on that land and used for residential purposes; or

(iii) an undue interference with the use of the applicant's land for the purpose of growing any trees or crops; or

(iv) an undue interference with the use or enjoyment of the applicant's land by reason of the fall of leaves, flowers, fruit, or branches, or shade or interference with access to light; or

(v) an undue interference with any drain or gutter on the applicant's land, by reason of its obstruction by fallen leaves, flowers, fruit, or branches, or by the root system of a tree; or

(vi) any other undue interference with the reasonable use or enjoyment of the applicant's land for any purpose for which it may be used under rules in the relevant proposed or operative district plan; and

(c) a refusal to make the order would cause hardship to the applicant or to any other person lawfully on the applicant's land that is greater than the hardship that would be caused to the defendant or any other person by the making of the order.

6.3 **Delegated Authority**

The Kaiapoi Community Board has the delegated authority to authorise tree removal within the ward.

6.4 **Quality Systems**

The Council's operating procedures contained within the Quality Manual (QS-R905 Street Trees), relating to tree removal in streets and relevant to this situation are as follows:

"3. REMOVAL OF STREET TREES;

3.1 Objective

To protect the Council's and community's investment in street trees in the immediate future and throughout generations.

3.2 Explanation

3.2.1 Not everyone values street trees. The Council receives a number of requests each year from residents requesting that a particular tree or street of trees be removed. The most common reasons given for the request are nuisance from shading and leaf litter.

3.2.2 In some cases inappropriate species have been planted and a replacement programme is needed. In others the Council considers the nuisance the tree is causing an individual is less than the loss the removal of the tree will be to the community and future generations, given the number of years it takes for a tree to reach maturity.

3.3 Standard Operating Procedure

3.3.1 The removal of a healthy tree will only be considered in the following circumstances and even then, only when all options for retaining it have been eliminated:

- Where it causes severe hardship consistent with District Court decisions
- Where it causes severe disruption to essential services
- Where it is necessary for a street tree redevelopment plan to be implemented
- Where it is necessary for the realignment/reformation of a footpath

3.3.2 Trees, which are obviously dead, dangerous or diseased will be removed. Note: The Rangiora Community Board has delegation for the removal of trees from parks, reserves and streets or other Council land located in Rangiora.

3.3.3 In situations where residents claim healthy street trees are having a negative impact on their properties, the following procedure will be followed:

- The tree/s will be inspected by a Council Recreation and Reserve Advisor to ascertain the problem/s.
- Any appropriate remedial works will be carried out by skilled tree contractors at the Council's expense. (appropriate works are defined as those necessary to alleviate the problem/s, although not to the extent that the natural attractive form or stability of the tree is destroyed in the operation).

3.3.4 Where a resident's request for the removal of a tree is declined, the applicant may ask for the issue to be forwarded to Council's Community & Recreation Committee or the Community Board for its consideration.

3.3.5 Where a resident's request for the removal of a tree has been declined by the Council, the resident has the right to apply to the District Court to have the matter heard.

3.3.6 In the event of a road widening or other type of public work where trees are present and have to be removed, consideration is to be given to relocate the trees, if they are suitable for this purpose."

7. COMMUNITY OUTCOMES

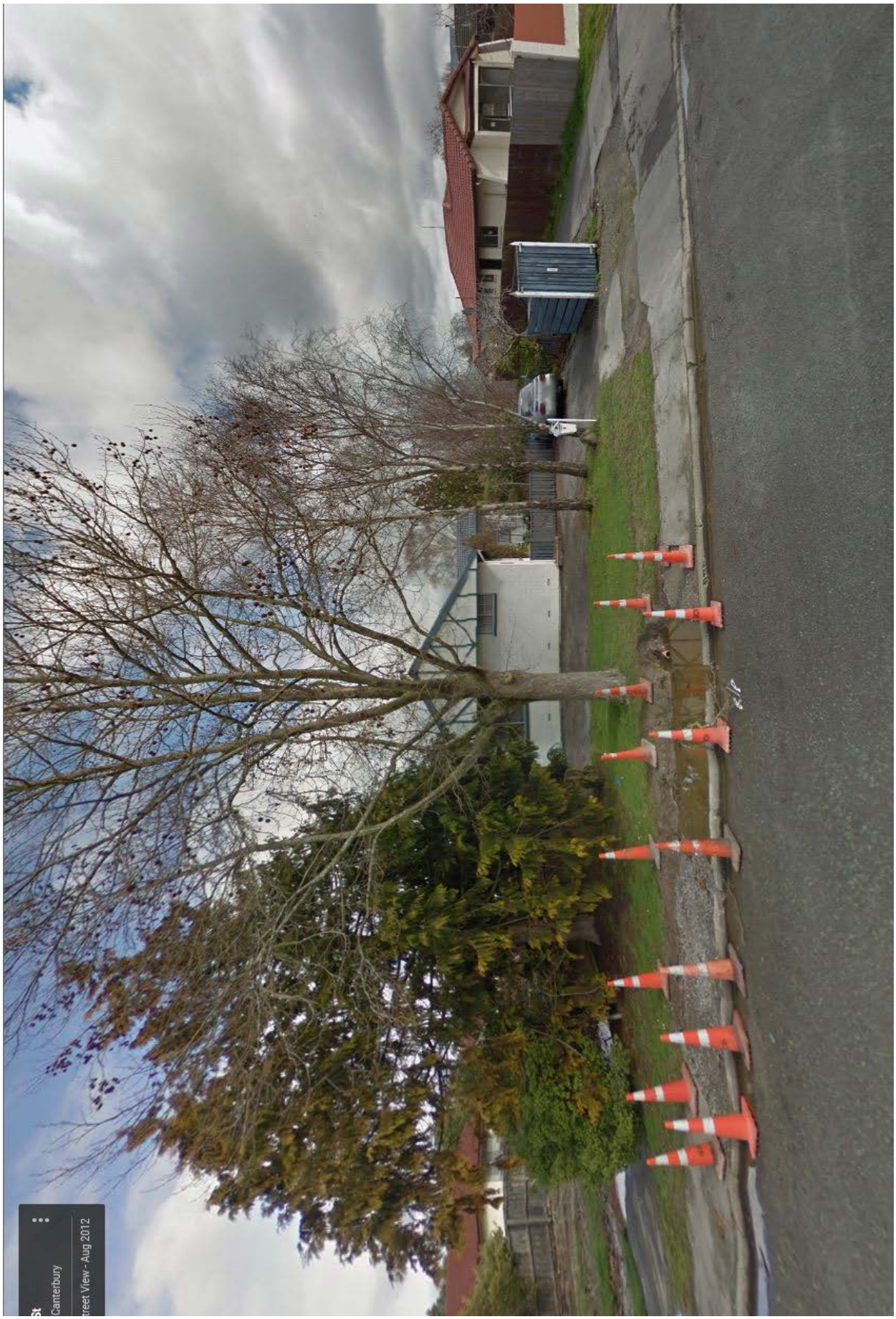
The maintenance of parks and reserves contributes to the following outcome;

Public spaces and facilities are plentiful, accessible and high quality.

Greg Barnard
Parks Community Assets Officer

Attachment i: Moore Street tree site map

ii Photograph of the London Plane tree at 9 Moore Street



TRIM: 160223014376 / CPR-04-25-01

19 February 2016

Grant Cowper
[redacted]

Greg Barnard
Parks Community Facilities Officer
Waimakariri District Council
Private Bag 1005
Rangiora 7440

WAIMAKARIRI DISTRICT COUNCIL
RECEIVED 22 FEB 2016
To: Greg

Dear Greg

Re - Proposed removal of London Plane street tree outside 9 Moore Street, Kaiapoi

Thank you for the opportunity to put my views forward to present to the Kaiapoi Community Board meeting in March 2016.

Some of my reasons for having this tree removed are pointed out in the Council "Let's Talk letter" (points 1 – 3) as previously delivered to this address and neighbouring addresses asking for further comment on this proposal.

1. Inappropriate size of the tree for its location.
2. Proximity of the tree to the garage & underground services.
3. Potential damage if new hard services were installed within the property adjacent to the tree.

Listed below are further areas of concern and feedback to support my request.

1. Proximity of tree to the house.
2. Exposed roots in vehicle driveway. **Requires removal.**
3. Damage to underground services: Current damage to storm water pipes from tree roots. (Verified by Sicon Contractors). **Currently awaiting assessment and repairs.**
4. Damage to underground services: Blockage of storm water pipe from tree roots – currently no storm water flow or discharge from house to gutter outlet. (Verified by Sicon Contractors). **Currently awaiting assessment and repairs.**
5. Street footpath has previously been dug up and resealed on a number of occasions.
6. Current & new damage and cracking to street footpath from tree roots. **Will require future assessment and repairs.**

I feel the removal of this tree is a necessity requiring action. Clearly this tree has a direct impact on services and dwelling as stated above requiring significant costs which are current and ongoing into the future.

Greg can you please advise the date, time and venue of the Kaiapoi Community Board meeting in March as I will attend. I will look forward to hearing from you at your convenience regarding this.

Kind Regards
Grant Cowper

TRIM: 160223014376 / CPR-04-25-01

LET'S TALK ABOUT PROPOSED TREE REMOVAL

RECEIVED
19 FEB 2016
BY: .....

Proposed removal of the London Plane street tree outside 9 Moore Street

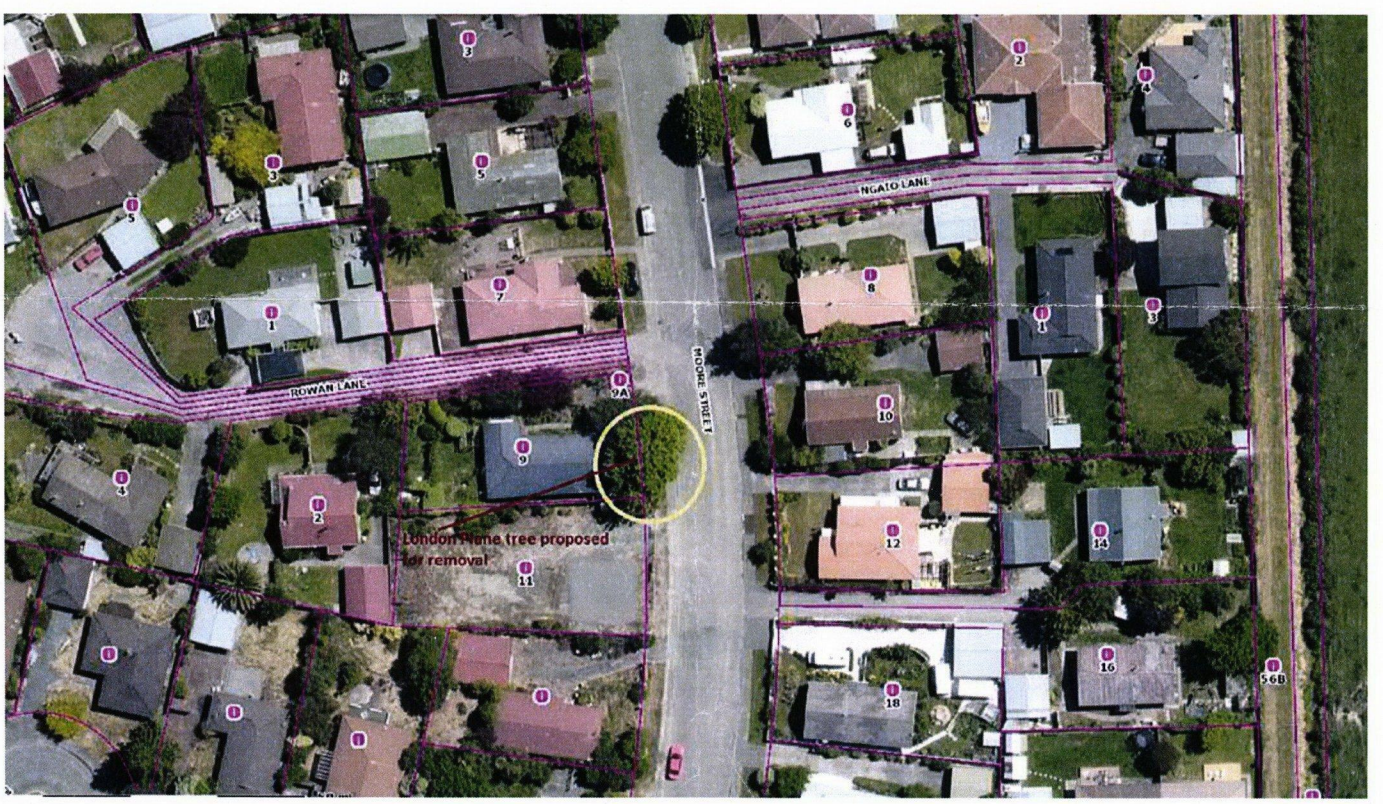
Waimakariri District Council has been asked to remove a Council owned London Plane (Platanus acerfolia) street tree located on the street outside 9 Moore Street, Kaiapoi. The reasons given for the request are residents' concerns about the inappropriate size of the tree for its location and the proximity of the tree to the garage and underground services as well as the potential damage if new hard surfaces were installed within the property adjacent to the tree.

The tree has been inspected by Council Greenspace staff and found to be in good health and form and it does not present any identifiable hazard to pedestrians, vehicles and residents. It has been maintained by Councils contract arborists.

As it is standard Council operating procedure that only dead, diseased or dangerous trees are removed the request for removal has been denied on the basis that the tree did not meet the criteria for removal. However, the resident has asked that the Kaiapoi Community Board, which has the delegated authority to make a decision on the removal of healthy Council owned trees in the ward, consider the request and determine the future of the tree. Consequently staff will be preparing a report for the Board detailing the issues raised by the resident and including any feedback or comments provided by other nearby residents.

Council is now seeking the views of residents on the removal of this London Plane tree. Should you have any comments on the matter please use the space provided or alternatively email greg.barnard@wmk.govt.nz to provide your feedback.

Below is a map of the location of the tree that has been requested to be removed for your information.



WAIMAKARIRI DISTRICT COUNCIL

Freepost Authority Number 1667

Free

Attention: Greg Barnard, Parks Community Facilities Officer
Waimakariri District Council
Private Bag 1005
Rangiora 7440

Fold along li

Please seal on all sides with tape.

Fold along li

Name: Grant Cowper

Address: [redacted]

I wish to make the following comment regarding the removal of the London Plane Tree at 9 Moore Street, Kaiapoi:

Please see attached letter.

Thank-you.

If you have any comments or questions regarding the removal of this tree please contact us by 22 February 2016:

Greg Barnard, Parks Community facilities Officer
Waimakariri District Council
Private Bag 1005
Rangiora 7440

or email
greg.barnard@wmk.govt.nz

Or return this sheet and freepost back to Council.

WAIMAKARIRI DISTRICT COUNCIL

REPORT

FILE NO:	GOV-01-04 / 160505040675
REPORT TO:	Kaiapoi Community Board
DATE OF MEETING:	16 May 2016
FROM:	Simon Hart, Business and Centres Manager
SUBJECT:	137 Williams Street (Council Owned Land)

SIGNED BY:
(for Reports to Council or Committees)

SIMON MARKHAM — Department Manager

pp SIMON MARKHAM — Chief Executive

1. SUMMARY

1.1. The purpose of this report is to gain support from the Kaiapoi Community Board for the temporary betterment or 'tidy up' of the Council owned land at 137 – 141 Williams Street.

1.2. This report also seeks support from the Kaiapoi Community Board for staff to further investigate the future longer term purpose and use or this land.

2. RECOMMENDATION

THAT the Kaiapoi Community Board recommends to the Council:

(a) **Receives** Report No. 160505040675.

(b) **Notes** the importance of this land with regards to its location and connection to Kaiapoi town centre.

(c) **Supports** the development and of a short term landscape plan, by the Councils Green Space Team, for approval of the Community Board which is aimed at 'tidying up' the land at 137 – 141 Williams Street, and ensuring it is appropriately connected to adjoin footpaths and spaces, at a cost of up to $10,000 from within an approved budget.

(d) **Notes** that an assessment will be undertaken with regard to the commercial viability of the land, alignment with the KTC Plan Review, and traffic considerations with the aim of better informing the longer term purpose and use of the land at 137 – 141 Williams Street; to be completed in the 2016/17 year.

3. ISSUES AND OPTIONS

3.1. Background of 137 – 141 Williams Street

3.1.1. The shops operating from at 137 – 141 Williams Street prior to the 2010/11 earthquakes were significantly damaged as a consequence of these natural events, and subsequently closed and demolished. The lessees of the shops all settled with their respective insurers. Following this, Council purchased the leasehold interests off each lessee securing the land for future development at an appropriate future date. The image below illustrates the location of the Council owned land at 137 – 141 Williams Street (red rectangle).

On the opposite side of Williams Street a prospective development will potentially have a significant positive impact on the amenity and land value in the area, as would the restoration of the old BNZ building.

3.1.2. Over recent months, the site has been partially used by contractors during the construction of the new church next door at 45 Charles Street. However with these works now drawing to completion, it is appropriate for the Councils land to be brought up to a safe and tidy standard.

3.1.3. Being a key town centre location, there are many considerations with regards to the future purpose and use of this land. The land sits within the Business 1 Zone, and the Kaiapoi Town Centre Plan (KTC) currently identifies this site as having a commercial purpose, with potential buildings having a frontage onto Williams Street. Review of that plan is likely within the next year.

3.1.4. Staff believe that there are a number of factors that should be considered in relation to this site before any permanent decision is made to its long term purpose and use. This land provides a key link between the north and south aspects of the town centre, and also connects to the river bank. Any potential future development of the old Hansen's Mall site across the road on Williams Street could also have an impact on the potential value and purpose of the Councils land.

3.1.5. There are also challenges associated with this land in terms of the limited width of any potential development on the site, foundation considerations, and the sites relationship with the stop bank.

3.1.6. For the above reasons, staff would like to undertake some further investigation into the future commercial viability of the land, urban design opportunities and linkages to the town centre, and traffic considerations. This information could then be used to better inform the longer term purpose and use of the land.

3.1.7. Once construction fencing associated with the building underway next door is removed, the site could present a health and safety hazard to the community, so doing nothing is not an option. Staff therefore believe that it is appropriate to develop and implement a short term landscape plan that would improve this area from an aesthetic, safety and functional perspective. Such temporary landscaping could be in place for a period of up to three years, however future

information and/or development opportunity could provide Council with a reason to review the purpose of this site within this period.

3.1.8. A gravel based landscaping option indicates to the community that the 'tidy up' is a short term solution and that future development of this site is possible. In addition, providing such a surface could be a more cost effective short term solution. Such a surface would be similar to the 'make safe treatment' of the 'BNZ site' in Rangiora Town Centre.

Should a viable commercial use be forthcoming within the next couple of years, this is likely to be strongly influenced by progress with commercial developments on two other corner sites of the Williams/Charles Street intersections.

4. FINANCIAL IMPLICATIONS AND RISKS

4.1. Should the recommendations in this report be supported, staff will undertake work which will establish the various financial implications of any future use of the land at 137 – 141 Williams Street. The findings of the work undertaken by staff will be brought back to the Kaiapoi Community Board and Council by the end of the 2016/17 financial year.

4.2. $10,000 to fund the 'make safe' tidy up of the site could be reallocated from within the proposed 2016/17 year property budget. Expenditure beyond this level would require additional funding to be approved by Council.

5. COMMUNITY VIEWS

5.1. The views of the community and various stakeholders were sought during the development of the 2011 KTC Plan.

5.2. Further consultation would be considered as part of any future process used to determine the long term purpose and use of 137 – 141 Williams Street.

6. CONTEXT

6.1. Public spaces and facilities are plentiful, accessible and high quality

6.2. The distinctive character of our towns, villages and rural areas are maintained

6.3. Businesses in the district are diverse, adaptable and growing

Simon Hart
BUSINESS AND CENTRES MANAGER

WAIMAKARIRI DISTRICT COUNCIL

REPORT

FILE NO and TRIM NO:	DRA-07 / 160405029549
REPORT TO:	Kaiapoi Community Board
DATE OF MEETING:	16 May 2016
FROM:	Janet Fraser, Utilities Planner Owen Davies, Drainage Asset Manager Ric Barber, Wastewater Asset Manager
SUBJECT:	Kaiapoi River Herbicide Testing and Ocean Outfall Sea Foam Analysis
SIGNED BY: **(for Reports to Council or Committees)**	Department Manager pp Chief Executive

1. SUMMARY

1.1. The purpose of this report is to update the Kaiapoi Community Board with results of sampling for herbicide residues in surface water and river bed sediment within the Kaiapoi River. It also updates the Board with interim results of sea foam testing in the area around the Ocean Outfall at Woodend Beach. For both these issues further investigation and analysis are proposed.

1.2 The Kaiapoi riverbed sediment sampling has found detectable herbicide (glyphosate) residues in each of three sediment samples. The samples were taken from recent deposits (scrapings from the top 1cm of sediment from the tidally flooded mud flats near the low tide mark) (see attachment i laboratory sheet test results and attachment ii for the sampling site location plan). The sampling did not however find any glyphosate residues in the any of the three surface water samples.

1.3 A professional opinion of the laboratory results will be provided by the Senior Researcher, Research Priority Area Leader from Landcare Research. This will indicate whether the trace levels of glyphosate found in the river bed sediment could be potentially toxic to plants and animals. This should be completed and with the Council in early June.

1.4 The results of the sea foam testing around the Ocean Outfall are presented to Council in a report titled "Waimakariri District Council – Sea Foam Analysis Interim Report" prepared by the Institute of Environmental Science and Research Limited (ESR) (see attachment iii). The samples collected to date from the area around the Ocean Outfall at Woodend Beach found macro and microalgae such as diatoms and dinoflagellates which are marine phytoplankton associated with the sea foam, which occur naturally in aquatic systems.

1.5 Further study is intended to compare the relationship of these protozoa with the sea foam, and to ascertain the role, if any, the wastewater ocean outfall effluent play in creation of sea foam. This will involve a comparison of the profile of the sea foam with that of the effluent leaving the wastewater treatment plants that will enable the researchers to identify whether the sea foam is related to the wastewater discharge.

Attachments:

i. Laboratory results for herbicide testing (TRIM 160509041693).
ii. Kaiapoi River herbicide sample sites plan (TRIM 160405029574).
iii. Waimakariri District Council – Sea Foam Analysis Interim Report (TRIM 160509041764).

2 RECOMMENDATION

THAT the Kaiapoi Community Board:

(a) **Receives** report No. 160405029549.

(b) **Notes** preliminary identification of sea foam samples undertaken by the Institute of Environmental Science and Research (ESR) on the beach around the ocean outfall has indicated presence of naturally occurring protozoa.

(c) **Notes** the relationship between the protozoa and the effluent discharges from the ocean outfall will be further examined by ESR to determine the effect the discharges are having on the protozoa and sea foam, if any.

(d) **Notes** that no herbicide (glyphosate) residues were found in Kaiapoi River surface water in any of the three samples collected on Monday 4 April 2016.

(e) **Notes** that detectable herbicide (glyphosate) residues were found in each of the three sediment samples collected on Monday 4 April 2016.

(f) **Notes** a professional opinion will be provided by Landcare Research to determine whether the residues of glyphosate observed in the river-bed sediment could have caused the previous “die back” of aquatic plants and animals observed by residents within the Kaiapoi River.

(g) **Notes** that the cost of using mechanical means rather than spraying to control weeds in the Council drains is estimated to cost an additional $80,000 per year.

(h) **Notes** that the Council’s contractor will recommence its drain spraying programme using herbicide in spring 2016.

(i) **Notes** a repeat of the sampling may be undertaken once Council weed spraying in the Kaiapoi River catchment has resumed, if a further “die back” occurs in the summer of 2016/17.

(j) **Circulates** this report to the Utilities and Roading Committee for its information.

(k) **Circulates** this report to the Waimakariri Water Zone Committee for its information.

(l) **Circulates** this report to the Drainage Advisory Groups for their information.

(m) **Circulates** this report to the Rangiora and Woodened Ashley Community Boards and the Oxford Eyre Ward Advisory Board for their information.

3 ISSUES AND OPTIONS

3.1 Background – Kaiapoi River "Die Back"

3.2 There has been concern expressed by a member of the community and in a local newspaper about an observed "die back" in the Kaiapoi River of aquatic plants and animals that occurred over the period 2012 to 2016.

3.3 There are several possible causes of the "die back" of which none have yet been confirmed. Environment Canterbury (ECan) has advised that it is possible a salt wedge may have contributed to the "die back" of aquatic vegetation, freshwater mussels and some fish species in the river. It is also noted that the earthquakes lowered some areas of the river bed and ejected quantities of silt that may have temporarily impacted on the viability of some of these species, including settlement that reduces soil porosity. The algal blooms occurring during the summer over recent years may also have been a factor. Ongoing investigation is required to seek to determine and address the cause/s of the "die back".

3.4 Testing and monitoring undertaken by ECan in March 2016 confirmed that a salt water wedge has at times been present throughout the upper Kaiapoi River as far upstream as the SH1 motorway bridge. The full discussion of the observations of the salt wedge and associated river investigations are discussed in the report "Update on Kaiapoi River, Kaiapoi Wastewater Treatment Plant and Ocean Outfall" (TRIM 160302017635), which was presented to the Kaiapoi Community Board on 21 March 2016.

3.5 It is noted that WDC suspended spraying its drains within the Kaiapoi River tributaries and tributary catchments since late 2015. This was a trial to see if it is feasible and cost-effective to manage the drains using only mechanical methods. The trial was not undertaken to test the environmental impact of herbicides as private drain spraying continued throughout the trial period. It is understood ECan has also reduced its spraying within the Kaiapoi River catchment.

3.6 The WDC and ECan staff that are involved in the Kaiapoi River investigations do not believe that the weed spraying caused the "die back" observed in recent years. This is because these sprays have been applied in the river catchment drains for many years prior to the die back without any adverse effects observed.

3.7 Nonetheless, council staff have trialled suspending the spraying programme in the rural stormwater drains to test the need for spraying, and to determine cost implications.

3.8 Herbicide Residue Sampling

3.9 During the 21 March presentation to the Kaiapoi Community Board staff undertook to sample for herbicide residues in surface water and river bed sediment. This sampling was undertaken at the 6 sites shown on Attachment ii.

3.10 The sampling was undertaken by the Environment Canterbury Principal Surface Water Quality Scientist, together with Waimakariri District Council staff. A boat was used to access the surface water in the centre of the river channel and the mud flats at low tide within the tidally flooded area. The methodology used for testing was considered appropriate for this initial stage of herbicide impact investigation by Dr Henry Hudson of Environmental Management Associates.

3.11 The sampling was undertaken during and following light rainfall on Monday 4 April from the period 7:30am to 8:30am. Low tide occurred in the river channel at approximately 7:30am. Sampling was undertaken at low tide to ensure that there would not be any salt water in the water column at the time of sampling that could interfere with the analysis of the samples.

3.12 Sampling was undertaken following a period of light overnight rain. Whilst the samples were being collected the weather on the river was mainly dry with occasional light drizzle.

3.13 Surface water samples were collected at a depth of approximately 10 to 15cm within the water column. Sediment samples were collected from the mud flats at low tide from recent deposits, by collecting scrapings from the top 1cm of the sediment. Samples were collected from mud flats where aquatic vegetation coverage was present. At each sample site a range of scrapings were collected from across the tidal zone.

3.14 The sampling, testing and sample analysis found no evidence of any herbicide (glyphosate) residue in the surface water samples (see attachment i). Glyphosate was found to be "below detectable limits" in each surface water sample collected. The sampling analysis results were provided to the Council by Hill Laboratories.

3.15 The sampling and analysis found detectable glyphosate residues in each of the three sediment samples taken (see attachment i). The residues detected were slightly higher at the Smith Street site (the Cam River mouth) than at the other two sites on the mud flat upstream of the Mafeking Bridge and on the south bank adjacent to Murphy Park.

3.16 A professional opinion on the laboratory results will be provided by the Senior Researcher, Research Priority Area Leader from Landcare Research. This will indicate whether the trace levels of glyphosate found in the river bed sediment could be potentially toxic to plants and animals. This should be completed and with the Council in early June.

3.17 A comment from Dr Henry Hudson of Environmental Management Associates notes that trace levels of glyphosate found in the sediment may be a residual of soil erosion, given the half-life of glyphosate and affinity of glyphosate to soil. He comments *"… glyphosate herbicides are only effective when directly applied to the plant surface. Once glyphosate enters the soil, it is essentially unavailable to plants due to its very high affinity for soil. This quality explains why glyphosate treated areas can be planted with crops soon after application*" (George W Ware, editor, 2000. *Review of environmental contaminants and toxicology*, Volume 167, Springer Science + Business Media, New York). Henry goes on to state that "*these levels in soils do not explain die-off along the river*".

3.18 Sediments are the major sink for glyphosate residue in water. Glyphosate has a strong tendency to preferentially partition from water to sediments. "*It is not available for plant uptake and will not harm off-site vegetation where roots grow onto the treatment area or if the soil is transported off-site*". "*Other metabolism studies have found that glyphosate residues have minimal tissue retention and are rapidly eliminated from various animal species including mammals, birds and fish*" (Jeff Schuette "*Environmental Fate of Glyphosate"* Environmental Monitoring & Pest Management, Department of Pesticide Regulation, Sacramento, CA 95824-5624, 1998 (see following link: http://www.cdpr.ca.gov/docs/emon/pubs/fatememo/glyphos.pdf.)

3.19 It is noted that if private property and Council weed spraying continues then glyphosate residues in sediment will be likely to continue to fluctuate over time. This will be influenced by quantities of spraying undertaken in the upstream catchment and frequency of weather events causing runoff to the streams.

3.20 Sampling of river bed sediment within the inter-tidal zone targeted areas where aquatic vegetation presence had been previously observed to "die back" since 2012. Although the aquatic vegetation has been observed to be recovering in the summer of 2015/16, some apparent localised poor condition of existing plants on the mud flat areas was observed during the sampling on 4 April. The condition of aquatic vegetation on the mud flats will continue to be monitored by Environment Canterbury and the Waimakariri District Council.

3.21 Of the three sites at which sediment sampling was undertaken, two are sites where aquatic inter-tidal planting is proposed in the summer of 2016/17 as a part of the planned planting trial. The Waimakariri District Council and Environment Canterbury are both sponsoring a planting trial in the upper river channel to seek to determine the likelihood of aquatic plants being able to successfully establish in the river channel. This is to validate whether a two stage low flow and flood channel in the river is viable and can be naturally established.

3.22 The sampling was undertaken after a period of rainfall. This means that any herbicide that has been recently sprayed onto vegetation adjacent to any river tributary or catchment drain could potentially be conveyed as run off into the Kaiapoi River.

3.23 In the weeks prior to sampling the Council has been manually clearing its drains and has not been spraying herbicide as a part of its drainage maintenance programme. However, private property owners have continued their own spraying using herbicide during this period.

3.24 Sea Foam Preliminary Analysis

3.25 The results of the sea foam testing around the Ocean Outfall are presented to Council in a report titled "Waimakariri District Council – Sea Foam Analysis Interim Report" prepared by the Institute of Environmental Science and Research Limited (ESR). The samples collected from the area around the Ocean Outfall found macro and microalgae such as diatoms and dinoflagellates, which are marine phytoplankton associated with the sea foam and which occur naturally in aquatic systems.

3.26 The sea foam samples were undertaken on the beach around the ocean outfall in the Woodend beach area in March 2016. The sampling method is described in the report, and was not a quantitative analysis.

3.27 The report indicates that the forms of protozoa found in the initial screening usually pose no health risk in the marine environment when present at normal densities. However, protozoa can respond to elevated nutrient levels and may bloom in very high concentrations.

3.28 Further study is now intended to compare the relationship of the protozoa with the sea foam, and to ascertain the role, if any, the wastewater ocean outfall effluent play in creation of sea foam. This will involve a comparison of the profile of the sea foam with that of the effluent leaving the wastewater treatment plants that will enable the researchers to identify whether the sea foam is related to the wastewater discharge.

3.28 The further study will include the following parameters, as explained in the interim report:

- Protozoan community composition (diatoms, dinoflagellates and ciliate)
- Faecal indicator organisms (enterococci and E.coli)
- Faecal source tracking (FST) markers (molecular and sterols)
- Inorganic nutrient analysis

3.29 To complete the investigation, samples will be taken of the following indicators:

- Wastewater effluent before the drop structure as it enters the ocean outfall pipeline
- Sea foam from Kaiapoi beach around the ocean outfall and other sites (e.g. New Brighton beach) around the Canterbury region

- Beach sand (sediment)
- Seawater samples on the beach around the ocean outfall
- Seawater samples on the beach further afield (>1km away from the ocean outfall site)

3.30 The faecal source tracking markers provide a method for identifying the source of faecal contamination (human or animal). As noted in the interim report, ESR comments that "*the similarity or difference in protozoan communities present in the wastewater and sea foam coupled with presence or absence of Faecal Source Tracking markers will enable us to determine if the sea foam is composed of material from the wastewater discharging through the ocean outfall*".

3.31 The initial testing of the sea foam was undertaken in response to concerns expressed from within the Kaiapoi community about whether wastewater discharges from the ocean outfall could be causing scum or sea foam on the beaches. This issue has been discussed in depth in a previous report to the Kaiapoi Community Board and further investigation and sampling analysis was proposed in that report (TRIM 160302017635).

3.32 The further investigations proposed in this report should provide a comprehensive understanding of whether any interaction is occurring between the sea foam and the ocean outfall wastewater discharges.

3.33 The Management Team has reviewed this report and supports the recommendations.

4 COMMUNITY VIEWS

4.1 Concern has been expressed by a member of the public about the potential impact of herbicide use in the Kaiapoi River catchment on the viability of aquatic plants and animals in the Kaiapoi River.

4.2 Concern within the Kaiapoi community has also been expressed regarding whether the wastewater discharges from the ocean outfall are causing sea foam in the vicinity of the outfall.

5 FINANCIAL IMPLICATIONS AND RISKS

5.1 The sampling of herbicide in the Kaiapoi River system was funded using the existing drainage investigations budget.

5.2 Ongoing maintenance, monitoring and testing to ensure compliance with the Council's discharge consents for the Eastern District Sewerage Scheme is allowed for within annual budgets.

5.3 The cost of carrying out mechanical cleaning of drains upstream of the Kaiapoi River is estimated to be $80,000 per year more than the cost of spraying herbicide. Most of the spraying occurs in the Central Rural Drainage Scheme (with 1,133 connections) and Ohoka Rural Drainage Scheme (with 762 connections).

5.4 If this additional $80,000 expenditure per annum was applied directly to these scheme ratepayers (1,895 properties in total), it would incur an additional rate of approximately $42 per property per annum to maintain the manual weed clearance for drains within these schemes. The current budgets for the rural drainage schemes are not adequate to cover this cost.

5.5 Staff intend to instruct our contractors to now resume spraying of herbicides for weed control in the tributary drains of the Kaiapoi River from spring 2016. Staff will undertake a further round of herbicide sampling in the Kaiapoi River in the spring/summer of 2016/17 if a further "die back" of vegetation is observed at that time.

6 CONTEXT

6.1 Policy

This is not a matter of significance in terms of the Council's Significance Policy.

6.2 Legislation

The investigation of water quality in streams and rivers, and effects of activities on the environment, addresses requirements in the following legislation:

Resource Management Act 1991

Section 31

(1) Every territorial authority shall have the following functions for the purpose of giving effect to this Act in its district:

(e) the control of any actual or potential effects of activities in relation to the surface of water in rivers and lakes:

Section 35

i. Every local authority shall gather such information, and undertake or commission such research, as is necessary to carry out effectively its functions under this Act or regulations under this Act.

ii. Every local authority shall monitor (a) the state of the whole or any part of the environment in its region or district;

6.3 Community Outcomes

Addressing water quality at the rivers and beaches gives effect to the following outcomes:

- There is sufficient clean water to meet the needs of communities and ecosystems.
- People enjoy clean water at our beaches and rivers.
- There are areas of significant indigenous vegetation and habitats for indigenous fauna.

Janet Fraser	Owen Davies	Ric Barber
Utilities Planner	**Drainage Asset Manager**	**Wastewater Asset Manager**

Hill Laboratories
BETTER TESTING BETTER RESULTS

R J Hill Laboratories Limited
1 Clyde Street
Private Bag 3205
Hamilton 3240, New Zealand

Tel +64 7 858 2000
Fax +64 7 858 2001
Email mail@hill-labs.co.nz
Web www.hill-labs.co.nz

ANALYSIS REPORT

Client:	Waimakariri District Council	**Lab No:**	1562156	SPv1
Contact:	Owen Davies	**Date Registered:**	04-Apr-2016	
	C/- Waimakariri District Council	**Date Reported:**	15-Apr-2016	
	Private Bag 1005	**Quote No:**	75555	
	Rangiora 7440	**Order No:**		
		Client Reference:		
		Submitted By:	Alicia Klos	

Sample Type: Sediment

Sample Name:		Site 2: Kaiapoi River, Smith St 04-Apr-2016 8:20 am	Site 4: Kaiapoi River, Revell St 04-Apr-2016 8:15 am	Site 6: Kaiapoi River, Adderley Tce 04-Apr-2016 8:30 am		
Lab Number:		1562156.4	1562156.5	1562156.6		
Individual Tests						
Dry Matter	g/100g as rcvd	37	63	55	-	-
Glyphosate suite in sediment by LCMSMS in Organics, trace level						
AMPA*	mg/kg dry wt	< 0.15	< 0.10	< 0.10 #1	-	-
Glufosinate*	mg/kg dry wt	< 0.02	< 0.02	< 0.02 #2	-	-
Glyphosate*	mg/kg dry wt	0.26	0.11	0.12	-	-

Sample Type: Aqueous

Sample Name:		Site 1: Kaiapoi River, Lineside Rd 04-Apr-2016 7:55 am	Site 3: Kaiapoi River, Charles St 04-Apr-2016 7:45 am	Site 5: Kaiapoi River, William St 04-Apr-2016 7:40 am		
Lab Number:		1562156.1	1562156.2	1562156.3		
Glyphosate suite in water by LCMSMS in Organics, trace level						
AMPA	g/m^3	< 0.010	< 0.010	< 0.010	-	-
Glufosinate	g/m^3	< 0.005	< 0.005	< 0.005	-	-
Glyphosate	g/m^3	< 0.005	< 0.005	< 0.005	-	-

Analyst's Comments

#1 The sample spike recoveries for this analyte (42% and 57%) were below the acceptable recovery range of the method. The corresponding sample result was accepted because the Laboratory Control Sample (LCS) spike recovery (100%) was within the expected ranges. This indicates that the low sample spike recovery was due to the matrix of the sample.

#2 The sample spike recovery for this analyte (57%) were below the acceptable recovery range of the method. The corresponding sample result was accepted because the Laboratory Control Sample (LCS) spike recovery (97%) was within the expected ranges. This indicates that the low sample spike recovery was due to the matrix of the sample.

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Sediment

Test	Method Description	Default Detection Limit	Sample No
Glyphosate suite in sediment by LCMSMS in Organics, trace level*	Glyphosate, AMPA and glufosinate in sediments by LCMSMS in Organics, trace level	0.02 - 0.10 mg/kg dry wt	4-6
Glyphosate suite in sediment by LCMSMS, trace level*	Glyphosate, AMPA and glufosinate in sediment by LCMSMS, samples are derivatised with Fmoc and then directly injected.	-	4-6
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. US EPA 3550. (Free water removed before analysis).	0.10 g/100g as rcvd	4-6

Sample Type: Aqueous

ilac-MRA IANZ ACCREDITED LABORATORY

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.
The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.

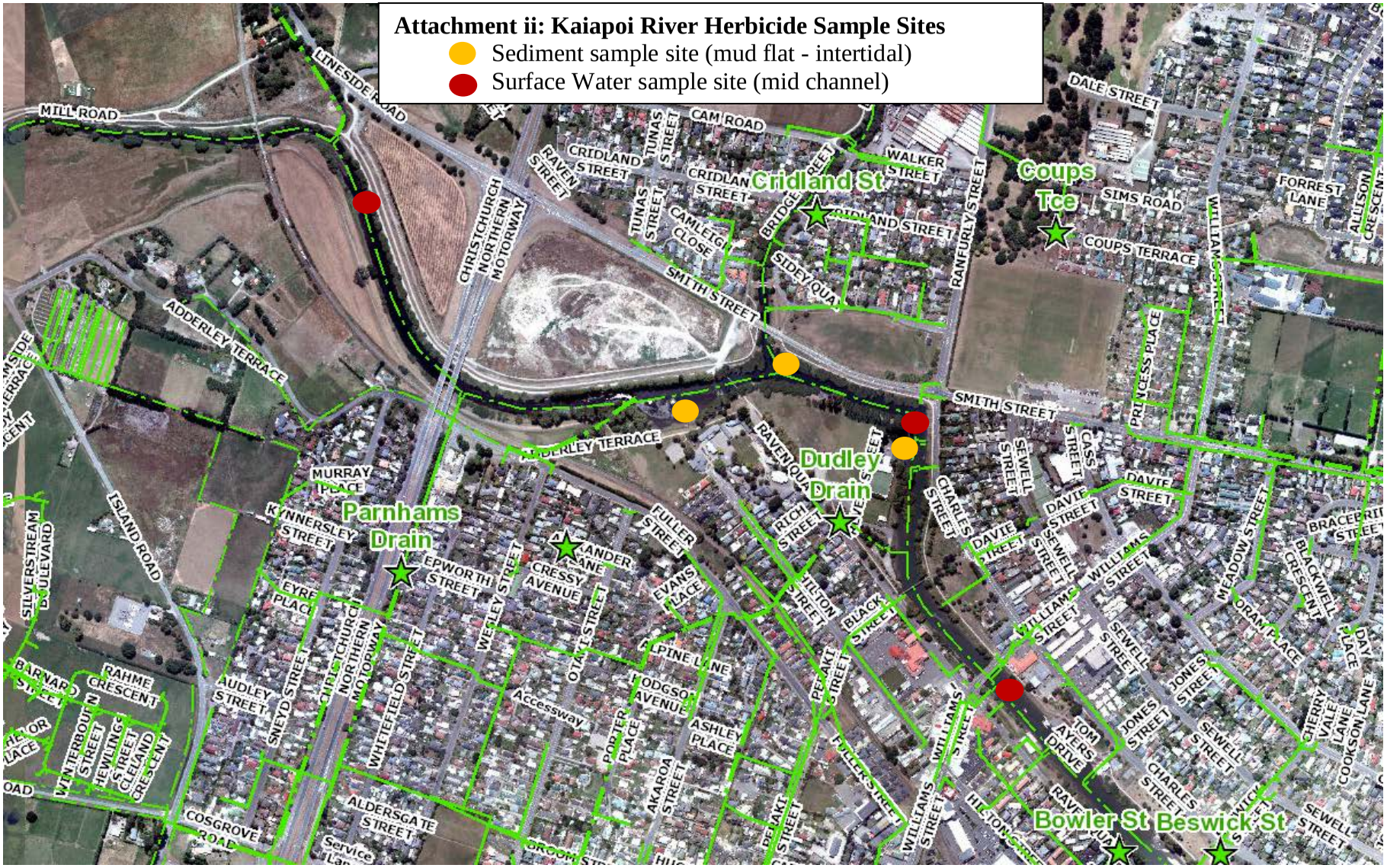
Test	Method Description	Default Detection Limit	Sample No
Glyphosate suite in water by LCMSMS in Organics, trace level	Glyphosate, AMPA and glufosinate in water by LCMSMS in Organics, trace level	0.005 - 0.010 g/m^3	1-3

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

This report must not be reproduced, except in full, without the written consent of the signatory.

Martin Cowell - BSc
Client Services Manager - Environmental Division


Attachment ii: Kaiapoi River Herbicide Sample Sites
Sediment sample site (mud flat - intertidal)
Surface Water sample site (mid channel)
Cridland St
Coups Tce
Dudley Drain
Parnhams Drain
Bowler St
Beswick St
MILL ROAD
LINESIDE ROAD
CAM ROAD
CRIDLAND STREET
WALKER STREET
DALE STREET
SIMS ROAD
COUPS TERRACE
FORREST LANE
ADDERLEY TERRACE
SMITH STREET
RANFURLY STREET
CHRISTCHURCH NORTHERN MOTORWAY
MURRAY PLACE
KYNNERSLEY STREET
ISLAND ROAD
SILVERSTREAM BOULEVARD
EPWORTH STREET
CRESSY AVENUE
FULLER STREET
EVANS PLACE
ALPINE LANE
HODGSON AVENUE
ASHLEY PLACE
AKAROA STREET
PORTER PLACE
Accessway
WHITEFIELD STREET
SNEYD STREET
AUDLEY STREET
RAHME CRESCENT
WINTERBOURN STREET
HEWLINGS STREET
CLELAND CRESCENT
COSGROVE ROAD
ALDERSGATE STREET
Service Lane
RICH STREET
HILTON STREET
BLACK STREET
PEPAKI STREET
WILLIAMS STREET
CHARLES STREET
SEWELL STREET
DAVIE STREET
CASS STREET
PRINCESS PLACE
MEADOW STREET
BLACKWELL CRESCENT
CHERRY VALE LANE
COOKSON LANE
JONES STREET
TOM AYERS DRIVE
HILTON STREET
RAVEN QUAY
SIDEY QUAY
CAMLEIGH CLOSE
TUNAS STREET
RAVEN STREET
BRIDGE STREET
ALLISON CRESCENT
WILLIAMS STREET

Waimakariri District Council – Sea Foam Analysis Interim Report

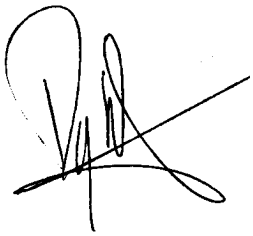
3rd May 2016

Prepared by:

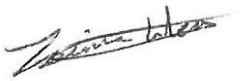
Olga Pantos and Louise Weaver

PREPARED FOR: Waimakariri District Council
CLIENT REPORT No: FW16023
REVIEWED BY: Brent Gilpin

ACKNOWLEDGEMENTS

Manager	Peer reviewer	Author
		
Wim Nijhof	Brent Gilpin	Olga Pantos
Mr	Dr	Dr

Author



Louise Weaver

Dr

DISCLAIMER

The Institute of Environmental Science and Research Limited (ESR) has used all reasonable endeavours to ensure that the information contained in this client report is accurate. However, ESR does not give any express or implied warranty as to the completeness of the information contained in this client report or that it will be suitable for any purposes other than those specifically contemplated during the Project or agreed by ESR and the Client.

CONTENTS

1. EXECUTIVE SUMMARY 1

2. Sea Foam Protozoan Identifications 2

2.1 DIATOMS 2

2.2 DINOFLAGELLATES 3

2.3 CILIATES 4

3. Conclusions and further research 5

LIST OF FIGURES

FIGURE 1. DIFFERENT PENNATE DIATOMS FOUND IN WATER/FOAM SAMPLES COLLECTED FROM WOODEND BEACH. THE BROWN-GREEN COLOUR IS A RESULT OF THE PHOTOSYNTHETIC PIGMENTS THE DIATOMS USE TO CAPTURE THE SUNS ENERGY FOR THE PRODUCTION OF SUGARS. SCALE BAR ~ 10 µM. 2

FIGURE 2. DINOGLAGELLATE AND PENNATE DIATOM. SCALE BAR ~ 10 µM**.** 4

1. EXECUTIVE SUMMARY

Sea foam is formed when sea water with high levels of dissolved organic matter is churned up by wind and waves. This organic matter is a product of photosynthesis and can come from both macro- and microalgae such as diatoms and dinoflagellates, both of which were found in the samples collected. Although it is not possible to definitely say that they were the source of the sea foam both diatoms and dinoflagellates were associated with it.

Further study comparing the profile of the sea foam and the effluent leaving the wastewater treatment works will enable us to identify if the sea foam is related to the wastewater discharge.

2. Sea Foam Protozoan Identifications

In addition to the work Waimakariri District Council has asked ESR to undertake regarding the wastewater effluent quality leaving the ocean outfall at Kaiapoi, ESR undertook preliminary identification of sea foam samples on the beach around the ocean outfall. Light microscopy was used to determine the presence of protozoa within the sea foam samples collected from Woodend beach in close proximity to the ocean outfall in March 2016. Analysis was not quantitative and was done on single drops of the water associated with the foam samples. Foam and water were mixed before viewing as the foam was dry and contained large amounts of sand and therefore was difficult to distinguish any organisms associated with it. A range of protozoa and microscopic metazoan were observed including diatoms, dinoflagellates, ciliates, crustacea and nematodes. Diatoms, dinoflagellates and ciliates were the most common organisms seen.

2.1 DIATOMS

A variety of different diatoms were found in all of the samples but in varying densities. All of those observed were pennate in shape (bilaterally symmetrical) and were a range of different sizes between about 13 and 30 µm (Figure 1).

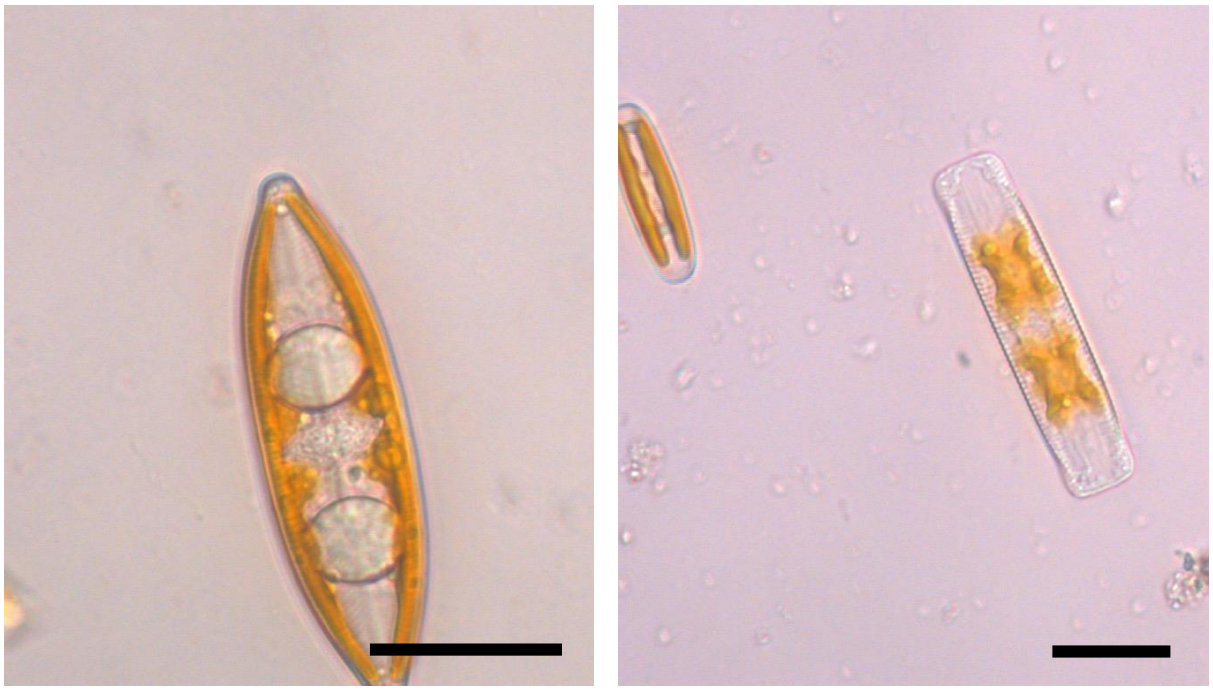


Figure 1. Different pennate diatoms found in water/foam samples collected from Woodend beach. The brown-green colour is a result of the photosynthetic pigments the diatoms use to capture the suns energy for the production of sugars. Scale bar ~ 10 µm.

Diatoms are one of the most common members of phytoplankton. They are an extremely diverse group of microalgae with ~100,000 species in >200 genera, which range in size from

a few microns to over a millimetre in length. They are found in both marine and freshwater environments, including marshes, wetlands, rock faces and in moss. As they are photosynthetic their distribution is limited by light availability. Their cell wall, known as the frustule, is either radially or bilaterally symmetrical and made of silica. Each species has its own distinctive intricate pattern of holes which are used for identification. Some species have fine silica protrusions on the cell surface which join individual cells together forming either chain-, fan- or star-shaped colonies. They play an important role in primary production in the marine system, fixing carbon dioxide and producing complex polysaccharides. Pennate diatoms are also able to use the polysaccharide for movement by secreting it through a longitudinal groove in the frustule known as the raphe, which enables them to glide along a surface, or it can be used to attach to substrates.

They are sensitive to nutrient levels in the water and in conditions of high inorganic nutrients they will out-compete other phytoplankton due to their rapid growth rate, often forming noticeable blooms. A bloom is typically limited by a shortage of silica before the nutrient source runs out. Although they were the most dominant organisms present in the samples it is difficult to say whether their densities are higher than normal for the area without checking samples from areas without the foam.

2.2 DINOFLAGELLATES

Dinoflagellates were identified in two of the samples investigated and were present at lower densities than the diatoms (Figure 2). In both samples they were found at very low levels. Dinoflagellates are a large group of flagellated protozoa, mainly found in marine environments but they are also found in freshwater environments. They make up a large proportion of marine phytoplankton but are a smaller group than diatoms, and less diverse with only about 2,000 species. They possess two flagella which are used for movement. One sits within a surface groove that goes all around the cell, and the other is at the posterior end of the cell creating forward and directional movement. Many species are photosynthetic and possess a range of photosynthetic pigments giving them a distinctive green-brown colour like the ones identified in these samples. Predatory and parasitic species lack pigments and therefore appear colourless. When they are at normal densities dinoflagellates pose no significant health risk, however, like diatoms dinoflagellates respond to elevated nutrient levels and may bloom in very high concentrations (millions of cells per millilitre). Under these conditions they can produce toxins which are capable of killing fish, or may accumulate in shellfish which feed on them.

Figure 2. Dinoglagellate and pennate diatom. Scale bar ~ 10 µm.

2.3 CILIATES

Many ciliates were seen in all of the samples, however, due to their high speed and erratic movement it was not possible to capture any images of them. Ciliates are a normal member of fresh and marine water communities. They are a diverse group of protozoa (~30,000 species) characterised by a dense layer of tiny hairs known as cilia over their cell surface which are used for movement and feeding. Most species feed on smaller organisms such as bacteria and algae, with others absorb food directly through the cell wall.

3. CONCLUSIONS AND FURTHER RESEARCH

Diatoms, dinoflagellates and ciliates are all naturally occurring members of aquatic systems. Diatoms and dinoflagellates are both important members of the marine phytoplankton, and play an important role in the carbon cycle by fixing atmospheric carbon, turning it into complex sugars which they release into the water column. Consequently they are often associated with the development of sea foams which results from the wind and wave driven churning of organic rich waters. The results of this preliminary study have shown the presence of these protozoa with sea foam. A more detailed analysis is required to determine the relationship of the protozoa with the sea foam, and to ascertain the role, if any, the wastewater ocean outfall effluent play in creation of sea foam. To do this we propose a study that will identify at each site:

1. protozoan community composition (diatoms, dinoflagellates and ciliate),
2. faecal indicator organisms (enterococci and *E. coli*),
3. faecal source tracking (FST) markers (molecular and sterols) and,
4. inorganic nutrient analysis.

Samples will be taken of:

1. Wastewater effluent before it enters the ocean outfall,
2. Sea foam from Kaiapoi beach around the ocean outfall and other sites (e.g. New Brighton beach) around the Canterbury region,
3. Beach sand (sediment),
4. Seawater samples on the beach around the ocean outfall and,
5. Seawater samples on the beach further afield (>1 km away from the ocean outfall site).

From this further study, the impact of the ocean outfall on the presence of sea foam will be determined. FST markers provide a method for identifying the source of faecal contamination, being human or animal source. The similarity or difference in protozoan communities present in the wastewater and sea foam coupled with presence or absence of FST markers will enable us to determine if the sea foam is composed of material from the wastewater discharging through the ocean outfall.

If the source of the sea foam is not determined to be from the ocean outfall there is the possibility that the increase in nutrients present in the wastewater being discharged may increase the presence of protozoa in the marine environment around the outfall thereby increasing the chance of sea foam occurring if the environmental conditions allow.

INSTITUTE OF ENVIRONMENTAL SCIENCE AND RESEARCH LIMITED

Kenepuru Science Centre
34 Kenepuru Drive, Kenepuru, Porirua 5022
PO Box 50348, Porirua 5240
New Zealand
T: +64 4 914 0700 **F:** +64 4 914 0770

Mt Albert Science Centre
120 Mt Albert Road, Sandringham, Auckland 1025
Private Bag 92021, Auckland 1142
New Zealand
T: +64 9 815 3670 **F:** +64 9 849 6046

NCBID – Wallaceville
66 Ward Street, Wallaceville, Upper Hutt 5018
PO Box 40158, Upper Hutt 5140
New Zealand
T: +64 4 529 0600 **F:** +64 4 529 0601

Christchurch Science Centre
27 Creyke Road, Ilam, Christchurch 8041
PO Box 29181, Christchurch 8540
New Zealand
T: +64 3 351 6019 **F:** +64 3 351 0010

www.esr.cri.nz

From: Karyn Ward
To: KAIAPOI COMMUNITY BOARD; RANGIORA COMMUNITY BOARD
Subject: Life Education Trust Canterbury.
Date: Monday, 2 May 2016 10:41:06 a.m.

Dear Board members

Funding grants have been approved to the Life Education Trust in the past and they would now very much like the opportunity to have elected members and senior WDC staff visit one of their high tech mobile classrooms and have a look at what they do. They would plan to have their educator explain the programmes they offer and demonstrate the technology in action.

The Life Education Trust will be in the district on the following dates: Kaiapoi May 12 – 23, Rangiora New Life School August 5 – 10, and three other Rangiora schools October 10 - 31. However due to teaching commitments they would need to request visits happen during lunch breaks (usually from 12.30pm) or after school from 3.15pm. Formal permission from the school they are working at would also need to be requested for a visit to happen, but they do not anticipate this being an issue.

Please let me know if you would like to take advantage of this invitation singly or collectively, and I will contact the Trustee of Life Education to arrange an appointment for you.

Kind regards,
Karyn

Karyn Ward
Community Board Advocate
Waimakariri District Council

WAIMAKARIRI DISTRICT COUNCIL

Ph: (03) 311 8900, Ext: 7112
waimakariri.govt.nz

KAIAPOI DISTRICT MUSEUM

KAIAPOI
KAIRAKI BEACH
THE PINES BEACH
WOODEND
TUAHIWI
FLAXTON
OHOKA
CLARKVILLE
EYRETON
SWANNANOA

10 May 2016

Karen Ward
Community Board Advocate
Kaiapoi Community Board
Private Bag 1005
Rangiora 7440

Dear Karen,

Could you please pass this invitation onto the Chair and Members of the Kaiapoi Community Board.

KAIAPOI DISTRICT HISTORICAL SOCIETY AGM

On behalf of the Committee of the Kaiapoi District Historical Society Inc., I would like to extend an invitation for you to attend our A.G.M., to be held on Tuesday 24th May 2016 at 7.30 pm, in the Ruataniwha Kaiapoi Civic Centre upstairs meeting room 176 Williams Street Kaiapoi.

The evening will proceed with normal AGM business followed with a presentation by Moya Sherriff, Collections Technician at the Air Force Museum, Wigram. Moya will show us a "Canterbury Cultural Collections Recovery Centre" short film, which is a celebration of the Centre and its achievements, telling the stories of the cultural and heritage groups affected by the Canterbury earthquakes and their road to recovery, including Kaiapoi Museum.

We hope that you may be able to join us.

Yours sincerely

Jean Turvey
Secretary

Kaiapoi District Historical Society Inc.
Ruataniwha Kaiapoi Civic Centre, 176 Williams Street, P O Box 341 Kaiapoi 7644
Phone: 03 311 8919, Email: kaiapoimuseum@gmail.com