

[REDACTED]

From: submissions@selwyn.govt.nz
Sent: Sunday, 17 December 2023 3:56 pm
To: Submissions
Subject: Resource Consent Submission Form 13

**** Your Details ****

*Resource Consent Number : RC235464
*First Name : Simon
*Surname : Robinson
*Box/Road/Street Number and Name : 79 Buckleys Road Suburb or RD : Leeston, RD2 *Town/City : Christchurch Area
Code : 7682 Email Address: : [REDACTED] Organisation Name :
Contact Name :
Phone Number [REDACTED]

**** Submission ****

*The type of consent is: : Land Use Consent The location of the consent is: : 115, 150 & 187 Buckleys Road, Brookside The proposed activity/change is: : To construct and operate a new solar array on approximately 111ha
*The specific part(s) of the application that my submission relates to are: : All appendixes, submissions and supplementary documents relating to the proposed consent *My submission is in: : Opposition *My Submission is: :
We are the current residents of 79 Buckleys Road and feel that we, along with many other surrounding properties, will be hugely negatively affected by this. Please see the points for concern below.
Firstly, we are aware that any heavy metals leeching into the soil, from the proposed solar farm machinery, panels or batteries surrounding our property, has the high potential to not only destroy the microorganisms in the soil but also affect our ability to grow vegetables, hay and grass for our livestock. We are also aware that this may mean all of the previously mentioned will be inedible for both the public and livestock. Any leeching also has the potential to drastically alter the chemical balance of said soil, resulting in our significant investment into testing and management fertilizer/spreading in order to remediate this or mitigate the long lasting effects.
We are concerned about contaminated run off water also spreading to our property, due to heavy rain or other such events. Our property sits in front of the fields proposed to be built on, however we are at a lower level and therefore this increases the risk of both contamination and flooding on our property. Our property already experiences flooding during heavy weather events and the increase of run-off will only further increase this and potentially carry contaminated water further from the farm, due to the many surrounding streams. We have sent photos of the flooding our property already experiences in a separate email, to highlight the potential for this.
We are also highly concerned about the negative effect of the solar waves on the insect life both on and surrounding our property and the impact this will have on the natural wildlife, birds and pollination process - we have become aware of many relevant studies supporting this.
We are also extremely concerned of the many negative health impacts this may have on our livelihood, including reduced sleep due to noise from motors/invertors which is above the WHO guidelines and whether chemical leeching will affect the water that we pump up from our well, rendering it undrinkable, and the many other possible airborne toxins.
We are also concerned about the decrease in our own rural amenity value, due to the change from rural to industrial land.
We are also aware of the strong ratepayer opposition towards this proposition, with 94% of ratepayers not supporting this build.
We are also extremely unhappy with the new proposed placement plan. Previously the panels and the inverters were further away from our boundary line and it has now encroached closer to this, as well as a second inverter now having been added. This is something we strongly oppose, due to the increased risk of all of the above concerns and

the fact that the solar farm would then be visible through the hedge at the back of our property. We have attached photos that show the area we are currently able to see, that would be affected.

*I seek the following decision from the Selwyn District Council: : We strongly hope that the Selwyn District Council chooses to support the Brookside community with it's decision on this, we ask that the council declines the request for land use consent completely. We are not interested in compromising or accepting any future amendments to KeaX Limited's proposal.

Supporting Information: : No file uploaded

**** Hearing ****

*Do you wish to be heard in support of your submission? : I wish to be heard *If others make a similar submission, I would consider presenting a joint case with them at the hearing. : Yes

Submissions

Planning Unit

Notice of Submission on an Application for Resource Consent

Application Reference:
RC235464

Resource Management Act 1991 - Form 13

Send or deliver your application to: Selwyn District Council, PO Box 90, Rolleston 7643

For enquiries phone: (03) 347-2868

For enquiries email: planninginfo@selwyn.govt.nz

1. Submitter Details

Name of Submitter(s) (state full name(s)): Simon Robinson

Physical Address: 79 Buckleys Road, Brookside 7682

Address for Service (if different):

Email:

Telephone (day):

Mobile:

2. Application Details

Application Reference Number (if not stated above):

Name of Applicant (state full name): Kea X Limited

Application Site Address: 115, 150 & 187 Buckleys Road, Brookside

Description of Proposed Activity: Construct and operate a new solar array on approximately 111ha

3. Submission Details

- I / We:
- ☐ Support all or part of the application
 - ☒ Oppose all or part of the application
 - ☐ Are neutral towards all or part of the application

The specific parts of the application that **my / our** submission relates to are: (give details, continue on a separate sheet)

All amendments, schedules and supporting documents submitted by KeaX Limited for the Land Use Consent.

The reasons for **my / our** submission are:

Please see the attached reasoning provided on a separate sheet, due to lack of space on this document.

The decision I / We would like the Council to make is: (give details including, if relevant, the parts of the application you wish to have amended and the general nature of any conditions sought.)

We would like the Selwyn District Council to reject the Land Use consent submitted by KeaX Limited, and all future submissions made.

4. Submission at the Hearing

- ☒ I / We wish to speak in support of my / our submission.
- ☐ I / We do not wish to speak in support of my / our submission.
- ☒ If others make a similar submission I / We will consider presenting a joint case with them at the hearing.
- ☐ Pursuant to section 100A of the Resource Management Act 1991 I / We request that the Council delegate its functions, powers, and duties required to hear and decide the application to one or more hearings commissioners who are not members of the Council. *(Please note that if you make such a request you may be liable to meet or contribute to the costs of the commissioner(s). Requests can also be made separately in writing no later than 5 working days after the close of submissions.)*

5. Signature

(Of submitter(s) or person authorised to sign on behalf of submitter(s))

Signature: 

Date: 18/12/23

Signature: Date:

Note: A signature is not required if you make your submission by electronic means.

6. Privacy Information

The personal information requested in the form is being collected by Selwyn District Council so that we can process your application. This information is required by the Resource Management Act 1991. This information will be held by the Council. You may ask to check and correct any of this personal information if you wish. The personal information collected will not be shared with any departments of the Council not involved in processing your application. However under the Official Information and Meetings Act 1987 this information may be made available on request to parties within and outside the Council.

7. Important Information

1. The Council must receive this submission before the closing date and time for submissions on this application.
2. You must also send a copy of this submission to the applicant as soon as reasonably practicable, at the applicant's address for service.
3. All submitters will be advised of hearing details at least 10 working days before the hearing. If you change your mind about whether you wish to speak at the hearing, please contact the Council by telephone on 347-2868 or by email at planninginfo@selwyn.govt.nz
4. Only those submitters who indicate that they wish to speak at the hearing will be sent a copy of the planning report.

For Office Use Only

Received at the Office on at am / pm

We are the current residents of 79 Buckleys Road and feel that we, along with many other surrounding properties, will be hugely negatively affected by this. Please see the points for concern below.

Firstly, we are aware that any heavy metals leeching into the soil, from the proposed solar farm machinery, panels or batteries surrounding our property, has the high potential to not only destroy the microorganisms in the soil but also affect our ability to grow vegetables, hay and grass for our livestock. We are also aware that this may mean all of the previously mentioned will be inedible for both the public and livestock. Any leeching also has the potential to drastically alter the chemical balance of said soil, resulting in our significant investment into testing and management fertilizer/spreading in order to remediate this or mitigate the long-lasting effects.

We are concerned about contaminated run off water also spreading to our property, due to heavy rain or other such events. Our property sits in front of the fields proposed to be built on, however we are at a lower level and therefore this increases the risk of both contamination and flooding on our property. Our property already experiences flooding during heavy weather events and the increase of run-off will only further increase this and potentially carry contaminated water further from the farm, due to the many surrounding streams.

We are also highly concerned about the negative effect of the solar waves on the insect life both on and surrounding our property and the impact this will have on the natural wildlife, birds and pollination process - we have become aware of many relevant studies supporting this.

We are also extremely concerned of the many negative health impacts this may have on our livelihood, including reduced sleep due to noise from motors/invertors which is above the WHO guidelines and whether chemical leeching will affect the water that we pump up from our well, rendering it undrinkable, and the many other possible airborne toxins.

We are also concerned about the decrease in our own rural amenity value, due to the change from rural to industrial land.

We are also aware of the strong ratepayer opposition towards this proposition, with 94% of ratepayers not supporting this build.

We are also extremely unhappy with the new proposed placement plan. Previously the panels and the inverters were further away from our boundary line and it has now encroached closer to this, as well as a second inverter now having been added. This is something we strongly oppose, due to the increased risk of all of the above concerns and the fact that the solar farm would then be visible through the hedge at the back of our property.









Yasmine Binnie

From: [REDACTED]
Sent: Tuesday, 19 December 2023 4:31 pm
To: Submissions
Subject: Submission in opposition of KeaX Limited consent application (RC235464) [DC-DOCUMENTS.FID3595202]
Attachments: Notice of Submission - Form 13 (17834735.1).pdf.pdf; Submission of Haurere Farms Ltd - Opposition to RC235465 (Attachment 1)(17827523.1).pdf

Good afternoon

Please see **attached**, submission filed on behalf of notified party Michael John Dalley for Harere Farms Limited, and in opposition of the KeaX Limited consent application proposing to construct a new 111ha solar array - RC235464.

A copy will also be sent to the Applicant.

Kind regards

Jessica Ottowa
Senior Solicitor
[Please note I do not work Mondays and Thursdays](#)

[REDACTED]
Duncan Cotterill Plaza, 148 Victoria Street, Christchurch | Ōtautahi
PO Box 5 Christchurch | Ōtautahi 8140 New Zealand | Aotearoa

Click [here](#) for office directions



All our offices will close at **5:00pm on Friday 22 December 2023** and re-open at **8:30am on Monday 15 January 2024**.

Phone calls for our offices will be monitored between 8:30am - 5:00pm, Monday to Friday between Monday 8 and Friday 12 January 2024.



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Planning Unit

Notice of Submission on an Application for Resource Consent

Application Reference:
RC235464

Resource Management Act 1991 - Form 13

Send or deliver your application to: Selwyn District Council, PO Box 90, Rolleston 7643

For enquiries phone: (03) 347-2868

For enquiries email: planninginfo@selwyn.govt.nz

1. Submitter Details

Name of Submitter(s) (state full name(s)): **Michael John Dalley for Haurere Farms Limited**

Physical Address: **"Haurere" Buckleys Road
Brookside RD2**

Leiston
Address for Service (if different):
**Duncan Cotterill Lawyers
PO Box 5
Christchurch 8140**

Email:

Telephone (day): [REDACTED] Mobile: [REDACTED]

2. Application Details

Application Reference Number (if not stated above): **RC235464**

Name of Applicant (state full name): **KEA X Limited**

Application Site Address: **To construct and operate a new Solar array on approx 111 ha.**

Description of Proposed Activity: **115, 150 & 187 Buckleys Road, Brookside**

3. Submission Details

- I / We: ☐ Support all or part of the application
☒ Oppose all or part of the application
☐ Are neutral towards all or part of the application

The specific parts of the application that **my / our** submission relates to are: (give details, continue on a separate sheet)

See Attached as 1

The reasons for **my / our** submission are:

See Attached as 1

The decision I / We would like the Council to make is: (give details including, if relevant, the parts of the application you wish to have amended and the general nature of any conditions sought.)

See Attached as 1

4. Submission at the Hearing

- ☒ I / We wish to speak in support of my / our submission.
- ☐ I / We do not wish to speak in support of my / our submission.
- ☒ If others make a similar submission I / We will consider presenting a joint case with them at the hearing.
- ☐ Pursuant to section 100A of the Resource Management Act 1991 I / We request that the Council delegate its functions, powers, and duties required to hear and decide the application to one or more hearings commissioners who are not members of the Council. *(Please note that if you make such a request you may be liable to meet or contribute to the costs of the commissioner(s). Requests can also be made separately in writing no later than 5 working days after the close of submissions.)*

5. Signature

(Of submitter(s) or person authorised to sign on behalf of submitter(s))

Signature: Date:

Signature: Date:

Note: A signature is not required if you make your submission by electronic means.

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3. All submitters will be advised of hearing details at least 10 working days before the hearing. If you change your mind about whether you wish to speak at the hearing, please contact the Council by telephone on 347-2868 or by email at planninginfo@selwyn.govt.nz
4. Only those submitters who indicate that they wish to speak at the hearing will be sent a copy of the planning report.

For Office Use Only

Received at the Office on at am / pm

19 December 2023

Submission in Opposition to application for resource consent RC235464

Clause 6 of the First Schedule, Resource Management Act 1991

To: Selwyn District Council

PO Box 90

Rolleston 7643

Email: submissions@selwyn.govt.nz

KeaX Limited

C/- Boffa Miskell

PO Box 110

Christchurch 8140

Email: claire.kelly@boffamiskell.co.nz

Submitter: Michael John Dalley for Harere Farms Limited

"Haurere" Buckleys Road

Brookside RD2

Leeston

Address for Service: Please direct all correspondence relating to this submission to Ewan Chapman at Duncan Cotterill – [REDACTED] in the first instance, or by post if required:

Duncan Cotterill Lawyers

PO BOX 5

CHRISTCHURCH 8140

INTRODUCTION

- 1 This submission is made in opposition to resource consent **RC235464**, made by KeaX Limited (**KL**) to construct and operate a new solar array on approximately 111ha at 115, 150 & 187 Buckleys Road, Brookside (**the Proposal**).
- 2 The submitter **opposes all of the application**.
- 3 The submitter is **not** a trade competitor for the purposes of section 308B of the Resource Management Act 1991 (**Act**).
- 4 Haurere Farms is a fully operative dairy farming unit at Buckleys Road, and adjoins the Proposal Site.
- 5 These submissions address the following:
 - 5.1 The lack of community and stakeholder consultation;
 - 5.2 The Highly productive land (**HPL**) status of the Proposal Site;
 - 5.3 Grazing issues;
 - 5.4 Drainage and Runoff – Stormwater consent;
 - 5.5 Vertebrate/ invertebrate populations;
 - 5.6 Solar Panels and latent effects;
 - 5.7 Health and safety; and
 - 5.8 Emotional aspect.

Community Consultation

- 6 I note that the Proposal Application documents (the **Application documents**) refer to specific community engagements undertaken through the pre-application phase of the Proposal. The Haurere Farms property shares a boundary with the Proposal Site, but KL has not consulted with us in any way. I also note that there has been no wider community engagement – which I consider would have been appropriate.
- 7 The magnitude of the change is very significant – taking 115 hectares and making its use industrial in nature.
- 8 Given the wider community impacts, I also consider that this Proposal should have been publicly notified.

Highly Productive Land (HPL)

- 9 The Proposal Site consists of Land Use Capability (**LUC**) classes 2 (92%) and 3 (8%).
- 10 The Proposal introduces a significant change of land use from highly productive Dairy Farming, to Industrialised Solar farming with maintenance sheep grazing within and underneath the panels.
- 11 The Application documents justify this change of land use by concluding that the Proposal meets the requirements of the National Policy Statement on Highly Productive Land (**NPS-HPL**) because it minimises the actual loss of any HPL and productive capacity as it allows for the land to still support land-based primary production in the long term. I do not agree. The change represents a permanent alienation of Highly Productive land to an electricity generator site, where the activity does not utilize the Highly Productive capacity of the soils.
- 12 This is critical for the district, as the Council has zoned significant new tracts of land closer to Christchurch for subdivision, and in our case is now taking out further land for industrial use.
- 13 The effect is a cumulative effect on the loss of productive land. It is incremental in nature “a bit there, and a bit here”. The nature of the NPS HPL is to protect haphazard, and gradual change – and require activities which do not utilize the productive capacity to search elsewhere for their activities or have them zoned.
- 14 The productivity of the land will be compromised by compaction, clods, irons, water, runoff, and cover, and have the effect of taking more land out of our food chain/economy. Compacted soils with little organic matter will reduce the productive capacity of the grass/crops. To mitigate this, the land will need to be cultivated - which will be difficult to do around Panels and structures.
- 15 I do not expect that the loss of productive capacity of the Proposal Site can be appropriately managed and minimised through the Proposal.

Grazing Issues

- 16 I understand from the Application documents, that the Proposal Site will also be used to graze and finish lambs.
- 17 Lambs generally need to be finished on clover. This not only requires nitrogen fertiliser inputs to grow, but also requires sun exposure. I would be surprised if any clover were to establish around and under the solar panels.
- 18 I also consider that the proposal to finish lambs on the Proposal Site will cause implications for the future animal end use. Due to their exposure to metals, there will be a huge reduction/no value in the lamb meat when the Site grazed lambs are assessed at the meat works.

- 19 Animals are checked on entry to the meat works, and I expect they will fail the metal detection tests due to their exposure and any rubbing against the galvanized solar structures. For the same reasons, I expect that their pelt will also be of little to no value - overseas consumers would have nothing to do with this product. This is by no means a sustainable use of resources – as prescribed through the purpose of the Resource Management Act 1991.
- 20 Grazing under the panels is fanciful. Grass growth in the Leeston area is significant in the early spring – yet it dries off over the summer period if not irrigated. The question then arises as to where exactly are the operators going to find stock to graze off the spring growth.
- 21 Farms need to be managed on a holistic basis – contemplating sound stock management throughout the year. There is no plan or an annual program which gives neighbors any comfort that the land will be sustainably managed.
- 22 Animal husbandry requires stock to be yarded from time to time, such as for stock to be separated for breeding purposes with feed levels controlled and managed. Imagine trying to round up stock under the panels! My dogs wouldn't be able to do it, it will be a circus. An unfavorable one where farmers have to observe the poor practices going on next door.
- 23 A sprinkling of sheep, does not a farmer make!

Drainage and Runoff – Stormwater consent

- 24 KL hold a Canterbury Regional Council (**ECan**) consent to discharge operational phase stormwater generated from the solar array panels, roofs, roads, hardstand areas, and impervious areas on the Proposal Site¹ (the **Stormwater Consent**). This decision was made on a non-notified basis.
- 25 Since the granting of the Stormwater Consent, the land use Application documents have been amended - seeking consent over a smaller areas of land (111 ha as opposed to 250ha). In any case, I consider that if consent is granted for the Proposal, the Stormwater Consent should be 'reopened'² and reconsidered in light of the actual land use proposal.
- 26 Intensification of panels on the smaller block changes run off patterns dramatically – given that I am down-gradient of the proposal, I do not wish to be caught with waterlogged areas of my farm altering productivity and management.
- 27 I know that farmers complain when there is too little rain, but too much is also a problem.
- 28 The effect of shading caused by the panels will mean that run-off is more dramatic, and more instantaneous. There are no water detention areas set aside to manage run-off.

¹ CRC223909

² As per condition 11 of the Consent

- 29 Whilst it is noted that the stormwater consent has been granted, I still raise concerns around panel runoff and the potential risk of changing the soil profile of our property, and contaminating our pastures. Milk testing may pick up traces of contaminants which will lead to financial grading, rejection of milk, and subsequent loss of supply. This would also be the same for any meat we sell. For completeness, crop and vegetable production operations would also face the same issues.
- 30 Sensitivity to fluctuations in milk or meat quality is pivotal and critical for our on-going compliance and pricing. In our view, this cannot be managed and there is no control on run-off entering our property.
- 31 I also note that the Proposal Site consists of heavy Clays with low drainage capacity. With the increase in impermeable surfaces, I am concerned that the stormwater runoff from the panels will cause greater flooding risks to surrounding properties and roads.

Vertebrate/ invertebrate populations

- 32 The electromagnetic fields surrounding the Proposal Site and the associated panels will have negative impacts on the local invertebrate and vertebrate health and populations.
- 33 Of particular concern, are the impacts that the noise and electromagnetic fields will have on bee and bird health/ populations. A loss of bees will have detrimental effect on our crop and pasture quality due to our reliance on bee pollination.
- 34 Again, this is a factor because our operations are highly productive, using every inch of space available. Pollination and cultivation are highly reliant on the surrounding farming activities and insect life, as much as our own soil's productivity. Specialist crop cultivars may be affected.

Solar Panels and latent effects

- 35 I understand that the existence of solar panels has the effect of elevating temperatures around the panel sites, and that this can be measured some distance from the panels themselves. Notwithstanding the obvious concerns around invertebrate habitats and soil health, it will be important to ensure that any area of impact doesn't extend beyond the Proposal Site.
- 36 I have similar concerns around shading caused by panels. If consent were to be granted, it will be important to ensure that shading from panels doesn't extend beyond the Proposal Site.
- 37 Set-backs from boundaries and buffer areas are needed to fully control the effects on other properties.

Health and safety

- 38 I also raise concerns about the health and safety of surrounding land users. The noise pollution generated from the solar panels have the potential to cause serious harm to the health of those

surrounding land users, especially where residential activities are being undertaken. Of particular note, the nighttime noise pollution exceeds the nighttime noise limits provided by the WHO guidelines.

39 This is our home and our workplace, and we are personally concerned about the effects of glare, acoustics, EMF and airborne contaminants.

40 I also raise concern around the safety of adjoining road users. The Glare from panels onto busy roads will create safety issues.

41 The electric magnetic field increased with larger transmission lines installed to take power away from substation will have major health impacts for existing households living close to Branch Drain, Buckleys, Stewarts and Brookside-Dunsandel Roads. Over 200 people live in the Brookside community that will be impacted by the electric magnetic field.

42 Considerations relating to fire hazard are also lacking in the Proposal - for example, where is the Fire Plan?

Emotional Aspect

43 When considering the concerns raised above, the granting of the Proposal will have detrimental impacts on the pre-existing activities and rural amenity in the vicinity of the Proposal Site, and is the cause of huge stress and future viability concerns for those living and working in the vicinity of the Proposal Site.

44 The Proposals themselves have already cause a huge divide among the tightly knit community of Leeston; especially where members of the community have not been given an opportunity to engage with the Proposals.

45 I also note that here is no benefit to the direct community and those who would have to put up with the effects of the Proposal – the power is destined for Rolleston/Lincoln.

46 Developer/Investors/farmers selling out to Solar Farm have no concept of what it will be like to live next door to a Solar Farm of this scale. They are only thinking of the money they will make charging us for expensive power. Has the price of power ever got cheaper since the electricity market was deregulated? The answer is no. Quite to the contrary, the cost of upgrading the substation to ensure technology is up to speed to take the power generated from the solar farm will be passed on to the consumer meaning our power will continue to go up.

47 All the neighbors who are involved with leasing and who have sold their land to the developer are shifting out of the community. The developers don't live in the community, and neither will they live next door to a 500-acre solar farm.

- 48 Developers/Investors are offering excessive amounts of money that no other farmer can afford so opportunities for our own children to farm into the future are lost.
- 49 Pine trees suck nutrients out of the soil and it takes 30 years before land returns to the levels of positive farming. Natives planted on the inside of pine. We have gaps in hedge plantings.

RELIEF SOUGHT

- 50 In accordance with the concerns raised above, I seek for the Proposal to be declined in its entirety.

Yasmine Binnie

From: submissions@selwyn.govt.nz
Sent: Monday, 18 December 2023 12:16 pm
To: Submissions
Subject: Resource Consent Submission Form 13

** Your Details **

*Resource Consent Number : RC235464

*First Name : Corey

*Surname : Krygsman

*Box/Road/Street Number and Name : 15

Suburb or RD : Brookside

*Town/City : Leeston

Area Code :

Email Address : [REDACTED] Organisation Name : [REDACTED] :

Corey Krygsman Phone Number [REDACTED]

** Submission **

*The type of consent is: : Land Use Consent The location of the consent is: : 115,150 & 187 Buckleys rd., brookside
The proposed activity/change is: : Land use Consent RC235464 is sought to construct and operate a new solar array on approximately 11ha 115,150 & 187 Buckleys Rd, Brookside *The specific part(s) of the application that my submission relates to are: : Property prices in the area?

Fire (if the panels/Inverters catch fire what implications on the contaminants in the ground.) Underestimation of Maintenance vehicles in area (I live on a shingle rd and the dust will be bad in summer) however if approx 100 metres of our road is asphalted outside 15 Stewarts rd this will be an acceptable outcome.

Acoustics in Area.

Highly productive land.

Location of the new power lines that will have to be upgraded from the substation to the power's final destination.

*My submission is in: : Opposition

*My Submission is: : My Submission concerns of the above-mentioned issues are a concern for my Family as they have long term effects for our personal and environmental future.

*I seek the following decision from the Selwyn District Council: : I would like the commissioner to consider other/larger land parcels that is less productive, with future to expand e.g. areas in select parts of Motukarara area, the base of Gebbie's Vally etc. poor productive land.

I know there are no sub stations in the area, but these can be built to accommodate for the future of Solar farming in the Canterbury region.

This is an issue that will not go away, I accept change, but this seems a very knee jerk reaction to help with climate change. This good farming land to be used in lieu of poor land seems crazy, I'm sure the growth of this good land as a solar farm will grow from the proposed 111 Ha .

Supporting Information: : No file uploaded

** Hearing **

*Do you wish to be heard in support of your submission? : I don't wish to be heard *If others make a similar submission, I would consider presenting a joint case with them at the hearing. : Yes

Submissions

Yasmine Binnie

From: submissions@selwyn.govt.nz
Sent: Tuesday, 19 December 2023 1:07 pm
To: Submissions
Subject: Resource Consent Submission Form 13

** Your Details **

*Resource Consent Number : RC235464
*First Name : Donald
*Surname : Green
*Box/Road/Street Number and Name : 43 Dunsandel Brookside Road and 313 Branch Drain Road Suburb or RD : R D 2 Leeston *Town/City : R D 2 Leeston Area Code : 7682 Email Address : [REDACTED] Organisation Name : Glenmore Farming Company Limited Contact Name : Donald Green Phone Number : [REDACTED]

** Submission **

*The type of consent is: : Land Use Consent The location of the consent is: : 115,150 & 187 Buckleys Road The proposed activity/change is: : Construct and operate a solar array *The specific part(s) of the application that my submission relates to are: : Total application *My submission is in: : Opposition *My Submission is: : As attached *I seek the following decision from the Selwyn District Council: : we require this consent to be refused Supporting Information: : No file uploaded

** Hearing **

*Do you wish to be heard in support of your submission? : I wish to be heard *If others make a similar submission, I would consider presenting a joint case with them at the hearing. : No

Submissions

Yasmine Binnie

From: [REDACTED]
Sent: Tuesday, 19 December 2023 1:49 pm
To: Submissions
Subject: Objection to Solar Farm No 2
Attachments: Objection to Solar Farm No 2.docx

Please find enclosed supporting documentation for our application in regards to RC235464 (I'm not sure that you received this when we emailed Form13 earlier this afternoon

Donald Green

GLENMORE FARMING CO LTD / BROOKTON LTD
Farming Our History. Our Future.

Phone: [REDACTED]

RESOURCE CONSENT RC235464

Opposing the application

On behalf of Glenmore Farming Company Ltd

We wish to oppose this application to erect Solar Panels on Farmland in the Brookside area.

We are concerned as to the way this application has been notified in the area.

We have been notified because we are deemed to be an affected party to this resource consent application.

There is concern and anger amongst residents who believe that in some way they will be affected if this proposal is approved.

We note that this consent is for an indefinite period /in perpetuity, which is of concern to us

The report prepared by Boffa Miskell with this application suggests several times that sheep could graze as an alternative to dairy animals under the panels to keep the pasture under control. The information provided is from Australia solar farms and I feel not relevant to this site. It is my belief that sheep grazing would not be a suitable option due to the heavy soils.

The presents of thistles and weeds would be a major concern to us as is the fire risk especially in the summer months. Our observation of other solar panels in the district proves that the under growth and weed control is difficult to manage.

We note that there is to be a Fire Emergencies Mitigation Plan to cover vegetation, panel and battery fires which is a major concern as I have already stated and look forward to reading this as a neighbour to this site.

We note that there are no planned audit reviews by authorities involved with this power generation proposal. As farmers we continually have checks and audits relating to our business operation.

Soil contamination from the wash of metals from the panels over time is a big issue especially in the winter months when the heavy soils become saturated and the local drains that flow on down to lake Ellesmere could become contaminated as well. Reports from Demark after a number of years have proved that the land is contaminated beneath the panels and is no longer suitable for agriculture production.

We are informed that if this consent is approved then it only a matter of time before the neighbouring high productive land as in a previous application will be taken up by solar panels.

The increase of traffic around the intersection where the Brookside Substation is located is a pickup and drop off point for school bus children. Over the years there has been numerous accidents at this intersection.

We can understand the proximity to the Brookside Substation would have its appeal for this solar array site and the distribution of the electricity generated. This we believe need not be the determining factor as there have been many proposed solar array sites throughout New Zealand without any substations close by to handle the transmission of the electricity.

We understand the Governments thinking to generate sustainable electricity to meet the requirements of our country and the need to generate it close to the demand so maybe a solar site nearer Selwyn's larger townships would be a better option.

We have seen major changes to the land use in the Brookside area. This proposal would have to be the biggest shift away from farming as we know it and as neighbours, we ask is that it is stopped.

Donald Green

Director

Glenmore Farming Company Limited

19 DEC 2023

Name:

Riley - all pages



Planning Unit

Notice of Submission on an Application for Resource Consent

Application Reference:
RC 235464

Resource Management Act 1991 - Form 13

Send or deliver your application to: Selwyn District Council, PO Box 90, Rolleston 7643

For enquiries phone: (03) 347-2868

For enquiries email: planninginfo@selwyn.govt.nz

1. Submitter Details

Name of Submitter(s) (state full name(s)):

Donna Jayne Kewish
David John Kewish

Physical Address:

324 Branch Drain Road, Brookside, R.D.2 Leeston 7682

Address for Service (if different):

N/A

Email:

Telephone (day):

Mobile:

2. Application Details

Application Reference Number (if not stated above):

Name of Applicant (state full name):

Kea X Limited

Application Site Address:

115, 150, 187 Buckleys Road, Brookside

Description of Proposed Activity:

Industrial power plant

3. Submission Details

- I / We:
- ☐ Support all or part of the application
 - ☒ Oppose all or part of the application
 - ☐ Are neutral towards all or part of the application

The specific parts of the application that my / our submission relates to are: (give details, continue on a separate sheet)

Rural amenity will change to industrial
impact on salability of our home - See Survey + valuation report
Fire hazards + airborne contaminants - See separate sheet

The reasons for my / our submission are:

All of the above. should have been publicly notified.
No fire report.

The decision I / We would like the Council to make is: (give details including, if relevant, the parts of the application you wish to have amended and the general nature of any conditions sought.)

decline consent. Fire report sited. Public notification like Commissioner
stated. Pay me compensation. Pay for another internet connection plus any
difference in bill if more per month. Install another drain. Give neighbours
cheap power. move panels further away. 2 metres high plants not pb3.
Sound barriers/walls around
Inverters.

4. Submission at the Hearing

- ☐ I / We wish to speak in support of my / our submission.
- ☐ I / We do not wish to speak in support of my / our submission.
- ☒ If others make a similar submission I / We will consider presenting a joint case with them at the hearing.
- ☐ Pursuant to section 100A of the Resource Management Act 1991 I / We request that the Council delegate its functions, powers, and duties required to hear and decide the application to one or more hearings commissioners who are not members of the Council. *(Please note that if you make such a request you may be liable to meet or contribute to the costs of the commissioner(s). Requests can also be made separately in writing no later than 5 working days after the close of submissions.)*

5. Signature

(Of submitter(s) or person authorised to sign on behalf of submitter(s))

Signature: Date: 18/12/23

Signature: Date: 18/12/23

Note: A signature is not required if you make your submission by electronic means.

6. Privacy Information

The personal information requested in the form is being collected by Selwyn District Council so that we can process your application. This information is required by the Resource Management Act 1991. This information will be held by the Council. You may ask to check and correct any of this personal information if you wish. The personal information collected will not be shared with any departments of the Council not involved in processing your application. However under the Official Information and Meetings Act 1987 this information may be made available on request to parties within and outside the Council.

7. Important Information

1. The Council must receive this submission before the closing date and time for submissions on this application.
2. You must also send a copy of this submission to the applicant as soon as reasonably practicable, at the applicant's address for service.
3. All submitters will be advised of hearing details at least 10 working days before the hearing. If you change your mind about whether you wish to speak at the hearing, please contact the Council by telephone on 347-2868 or by email at planninginfo@selwyn.govt.nz
4. Only those submitters who indicate that they wish to speak at the hearing will be sent a copy of the planning report.

For Office Use Only

Received at the Office on at am / pm

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15 DEC 2023

Name:

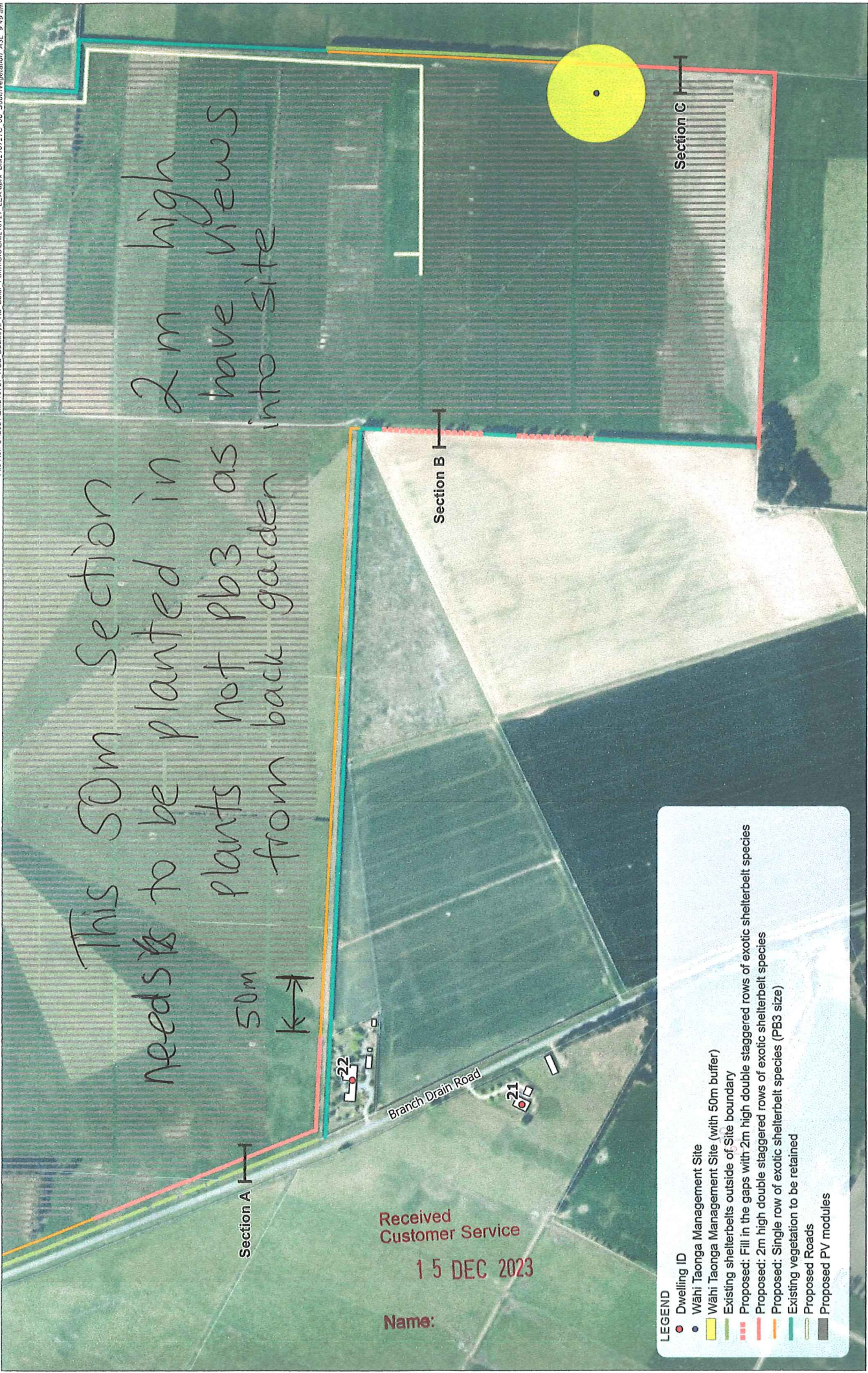
Submission details continued - specific parts

- no benefits for neighbours / community
- Could wipe out our Internet connection as it goes over the site (to Burnham)
- Noise
- Visual
- landscaping
- too many properties in the vicinity of the site.
- Water run off from site currently comes into our property with heavy rain due to the so called drain along our northern boundary fence line having been planted with pine trees. It is now full of tree roots and pine needles. Could end up with contaminates / leachates on our property and in our drinking water if it gets into our well.
- panels too close

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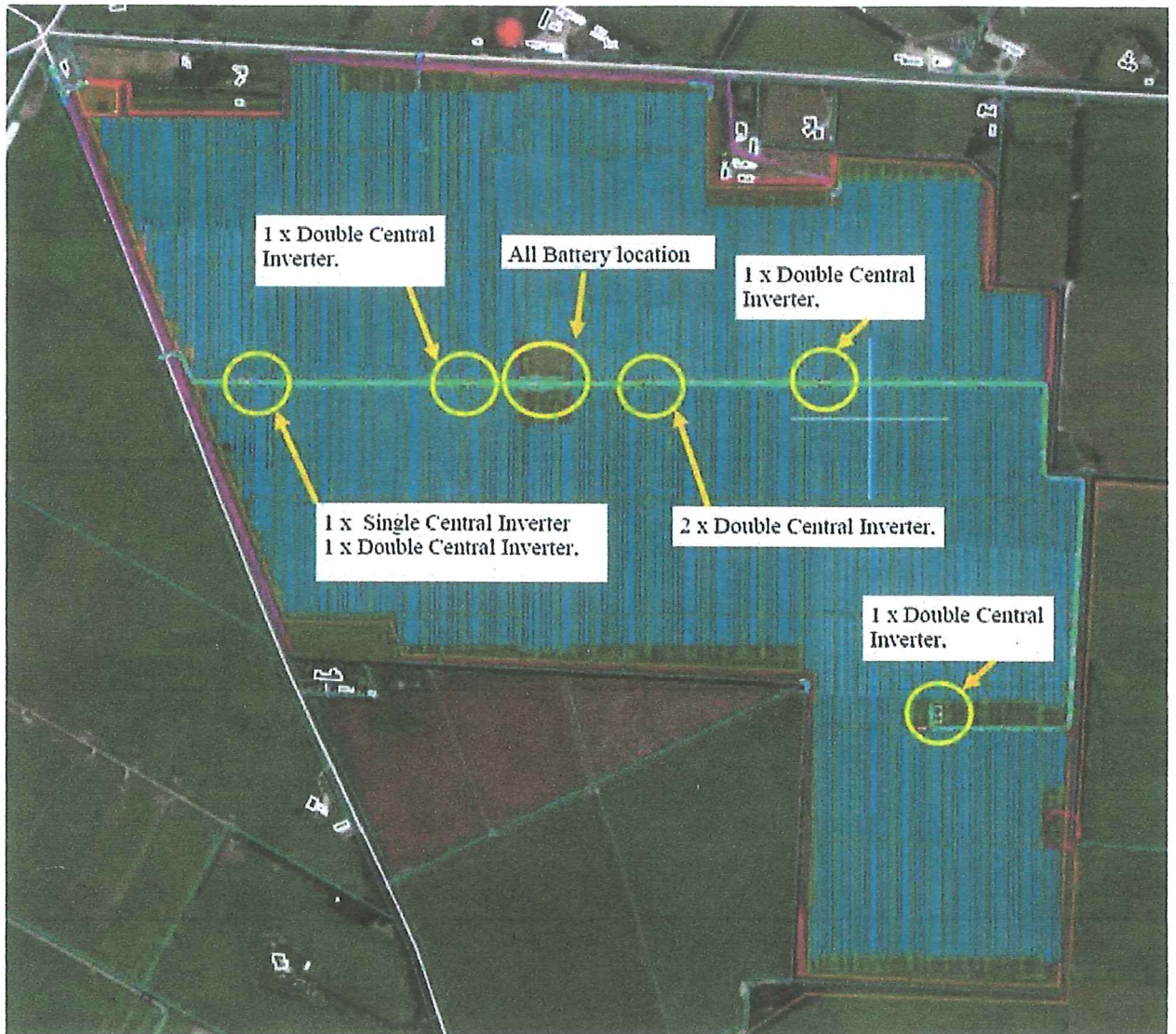
19 DEC 2023

Name:



Survey

Appendix 4: Site Layout and Battery Plan



relating to property at 324 Branch Drain Road

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Name:

Would you purchase a house next door to a large-scale solar farm?

Yes / No	Name:	Contact Number:	Comments:
No	Rosalee White		Not the thing for me
No	Lorraine McRae		No a nice site for neighbours!
No	Georgina Luvemba		Awful to live next to!!
No	Tetyana Koval		Not a great place to be
No	Debbie Campbell		Not at all
No	Donna		wrong location
No	Hayley Parkin		NO WAY !!!
No	Lynda Fletcher		367 No Way
No	Colin Fletcher		not at all
No	Ian Walker		Radiation From Panels
No	Mary Walker		Just No No No.
No	Cait O'Neill		Not when it effects peoples lives
No	Debra Skinner		Not at all.
No	Jo Allan		NO WAY
NO	SEAN BILLING		Absolutely not
NO	Ned Glinton		No Way
NO	Martin Tamm		!!!
No	Todd Barry		NO way
No	Tom Heywood		NO
No	DEX GILBERT		NO WAY
no	Pam Payton		no
No	M. Wards		Not near habitation!
NO	N. Wards		No Way

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Customer Service

15 DEC 2023

Name:

Would you purchase a house next door to a large-scale solar farm?

Yes / No	Name:	Contact Number:	Comments:
NO	Karyn Quinn		Panels going right up to boundary is ridiculous - definitely wouldn't purchase
NO	Tony CHANDLER		looking at panels all day no thanks!
NO	LISA MARIS		" " "
No	Jason Horton		" " "
NO	George Watson		" "
NO	CAMPBELL		
no	John Klay		" "
no	A. Winchester		
NO	Adrian Leckie		No Panels
NO	Trudie Kavanagh		no Panels
NO	Glenn Phipps		No Panels
NO	Matt Charman		No Panels
No	Penelope Vuk		No Panels.
NO	Peter Hendry		No solar farms in Selwyn
NO	Sharon Wilson		No panels
NO	QUEEN SANDERS		NO PANELS
NO	Shane Gilbertson		No panels
NO	CRAIG ARNOLD		"
NO	Hayden Walls		No Panels
NO -	M. Kimber		"
NO	Grant Everest		Not going to save the world.
No	Chris Todd		Not next to houses
NO	Karen Madden		I wouldn't purchase a house next door

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Would you purchase a house next door to a large-scale solar farm?

Yes / No	Name:	Contact Number:	Comments:
No	Helen Madden		what if it fails who cleans up thommes?
No	Milli KAMI		No
No	John McCarty		No
No	Cody O'Neill		No
No	mikey O'Neil		No
NO	Brian Arayle		would not want it next to me
NO	James Coughlan		NOT A FAIR PROSSEE
NO	Chris Coughlan		This is not good
NO	Kerry Coughlan		No
No	Tim Schmack		what happens if it burns?
No	gabrielle schmack		noise pollution, issue around fire risk of vege barrier.
no	ST Connel		no
NO	Linda Parnham		all one sided so far
No	Dick Parnham		unfair process
No	Shona Parnham		Not fair to have constant noise
No	Lyle Parnham		unfair process
No	KEN SWIFT		DEFINATELY NO NOISE CONCERN SINCE 50000 TON
No	Jonathan Greenwood		Productive arable land ^{needs protecting}
NO	Don Chamberlain		No.
No	Kay Winchester		No.
No	Jon Baxter		
NO	Tim Sanson		Poor "Good neighbor" policy

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Customer Service

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Name:

Would you purchase a house next door to a large-scale solar farm?

Yes / No	Name:	Contact Number:	Comments:
NO	Dave Fowler		???
NO	John O'Neill		" " "
NO	Peter Breitmayr		2. Couldn't live there!
NO	Warren ^{GLOKIN} FINT		4 Will ^{Drop the} By price of House
NO	JOHN FINT		Will not Live there
NO	Troy Bryce		worst decision as it affects living of others.
NO	Wendy Monahan		Progress NOT.
NO	TOM TUKAKA		WHO OWNS THE PANELS
NO	Sarah Truster		Thats huge!!!
NO	Alan Hale		Not for me!
NO	Paul Williamson		No "to Big"
NO	Jacqueline Keys		WHAT A SAD SITE TO LOOK AT
NO	Min Hamiltan		Definetly not
NO	Bruce Hamiltan		Wasting good farmland.
NO	PAUL DAVISON		NO WAY
NO	Rebbyn Davison		Woulndt even think about it
NO	Rachael Steans		No way
NO	Bryan Tubb		
NO	Geoff Allan		No Way
NO	G.F Steans		De value property
NO	James Steans		Definitely not.
NO	Julie Mulroney		NO - wouldn't like to be the "seller" either!!
NO	Di Murray		HORRIBLE

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15 DEC 2023

Name:

Would you purchase a house next door to a large-scale solar farm?

[illegible]

14 December 2023

Donna & Dave Kewish
Email: donnakewish@gmail.com
324 Branch Drain Road,
Leeston

Re: 324 Branch Drain Road, Leeston – Submission under the Resource Management Act 1991
Impact on value if adjoining land is used for solar power production.

Dear Donna and Dave

- 1 Further to your instructions we have inspected your property for the purpose of determining the impact on your property value should the solar farm development on the adjoining land proceed.
- 2 I confirm I am a registered valuer qualified in rural and urban valuation working throughout New Zealand with considerable experience in compensation valuation. We provide this letter as a summary of our investigations to date. It does not constitute a valuation report. It is a submission from a qualified valuation expert to assist the Commissioner.
- 3 I have read the online report of Matt Bonis, Commissioner dated 7 November 2023 in the matter of Land Use Consent RC235464 sought to construct and operate a new solar array on approximately 111 hectares. The report is 110 pages and, in many respects, of a technical nature. This has given me a general understanding of the scale and layout of the project. This letter is limited to property valuation being my area of expertise.
- 4 My submission considers impact of the works being non-notified and scale of the development. The commercial motivation of KeaX differentiates the project from compensation valuation protocols under the Public Works Act which requires a registered valuer to complete a "before and after valuation" when undertaking a valuation. In this case the mitigation of effects requires the balancing the commercial benefit against the personal loss which is suffered by an affected party as the principle of *eminent domain* does not apply. Speedy¹ chapter 2 when discussing loss "...It is concerned with psychological factors, if only because of the traumatic impact of a compulsory taking has on a genuine unwilling seller. In such circumstances, it is not possible to place a sum on sentimental aesthetical losses which the owner must suffer, even if it were allowed by law. The law clearly requires the valuation be fixed on the assumption of the hypothetical of a willing seller and a willing buyer in the open market. It is a necessary fictitious assumption that such persons exist, like their counterpart the "reasonable" man."
- 5 "To this sum maybe awarded a judicially just amount arising from the factors other than those based on the value"
- 6 This assessment includes the impact on this particular occupier.

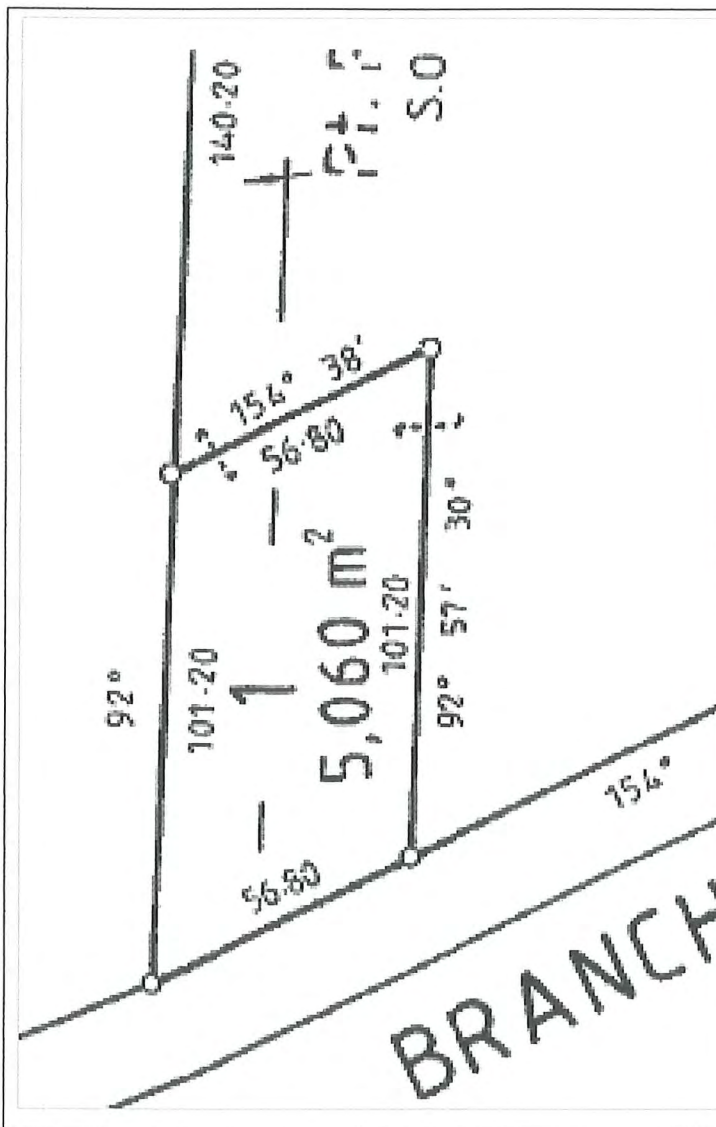
Before Value

- 7 I inspected the property on 8 December 2023 and completed a valuation as at that date assuming no development on the adjoining land.
- 8 The property is situated at 324 Branch Drain Rd, Leeston. The land is described as Lot 1 Deposited Plan 81783 being an Estate Fee Simple containing an area of 5,060 square metres more or less. The registered owners are David John Kewish and Donna Jayne Kewish. The title is subject to a bond pursuant to Section 108(2)(b) Resource Management Act 1991 requiring the owners to remove the kitchen from an attached dwelling unit if it was not occupied by family. Local

¹ Squire L Speedy - Land Compensation 1985pg3-5

authorities now have a more flexible view on allowing additional accommodation units, especially where they are already in existence.

- 9 The land is near level.
- 10 The dwelling has four bedrooms, ensuite to master bedroom, one bathroom with separate toilet, open plan living with separate lounge, laundry and double garage with internal access. Includes an attached 'granny flat' with one bedroom, one bathroom, kitchen, laundry and living area with an attached single garage. The house is approximately 300 m² built around 2000 on a concrete slab floor, brick veneer walls, pressed metal tile roof and internally lined in plasterboard. Other improvements include a double garage/workshop of 78 m², a 45 m² 3 bay utility shed, a small garden shed, an attractively landscaped section layout with pebbled drive, pond, mature forma garden plantings. Overall it is a well maintained property with excellent presentation.
- 11 The title dimensions and shape are shown below and the extent of the landscaping can be seen on the adjoining aerial photograph.



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- 12 Our before valuation is \$1,000,000 including GST based on the following market analysis.

Name:

Address	Sale Date	Land Area (ha)	Gross Sale Price (GSP)	Improvement Value	Floor Area (m ²)	Dwelling Net Rate	Land Value
82 Lower Lake Road, Leeston	Apr-23	0.35	\$580,000	\$214,650	124	\$1,600	\$350,000
329 Goulds Road, Springston	May-23	0.40	\$975,000	\$375,550	150	\$2,000	\$600,000
1465 Leeston Road, Leeston	Nov-23	0.44	\$775,000	\$385,750	275	\$1,250	\$390,000
44 Taumutu Road, Southbridge	Jul-23	0.50	\$870,000	\$360,000	210	\$1,500	\$510,000
324 Branch Drain Road, Leeston	Dec-23	0.51	\$1,000,000	\$550,000	300	\$1,600	\$450,000
1087 Leeston Road, Leeston	Feb-23	0.62	\$830,000	\$415,000	290	\$1,300	\$415,000
48 Irvines Road, Dunsandel	Feb-23	0.77	\$900,000	\$427,000	250	\$1,300	\$475,000
178 Hororata Dunsandel Road, Dunsandel	Mar-23	1.04	\$820,000	\$317,000	150	\$1,650	\$500,000
269 Pannetts Road, Springston	May-23	1.21	\$757,500	\$256,000	110	\$1,900	\$500,000
15 Stewarts Road, Leeston	Mar-23	1.50	\$925,000	\$435,000	220	\$1,750	\$490,000
488 Telegraph Road, Burnham	Feb-23	1.84	\$913,000	\$413,000	120	\$1,800	\$500,000
43 Grahams Road, Leeston	Apr-23	4.17	\$1,001,000	\$350,500	215	\$1,350	\$650,000

The Development²

13 The Ward Block Solar Farm Development (WBSFD) project is described as follows;

"KeaX proposes to construct an approximately 111 ha solar array on the Site which will have a generating capacity of 100GWh (50MW AC / 75MW DC) on completion. The Site is ideally located adjacent to an existing substation that will facilitate connections into the local lines network, and will, on completion, be able to power approximately 11,200 houses.

The solar array will comprise a total of 140,000 tracking panels set within tables with thirteen inverters, the layout of the Site is shown in Appendix 4. Each table comprises 26 pairs of modules (i.e. 52 panels per table - 26 on top row and 26 on bottom row of the table). An image showing what the panels will look like is provided in the solar panel plans in Appendix 5.

The panels will be approximately 1.30 metres wide and approximately 2.38 metres long. When flat/horizontal (in stow position) they will be 1.6 to 1.8 metres above the ground. When at maximum tilt, the panels will be a minimum of 0.5 metres, and no more than 3.0 metres, above ground level. However, the panels will initially be tilted to achieve a maximum height of 2 metres above ground level, recognising the height of newly established vegetation. They can then be tilted further to achieve a maximum height of 3 metres above ground level as the vegetation grows.

The panels will be on piles that are driven into the ground approximately 1.8 metres deep and the piles are approximately 6.5 metres apart. It is proposed that the rows will be approximately 4.0 metres apart (when the panels are flat).

The reflectivity value of the panels will be below 4%."

² Section 4 Boffa Miskell Buckleys Solar Array 1 August 2023

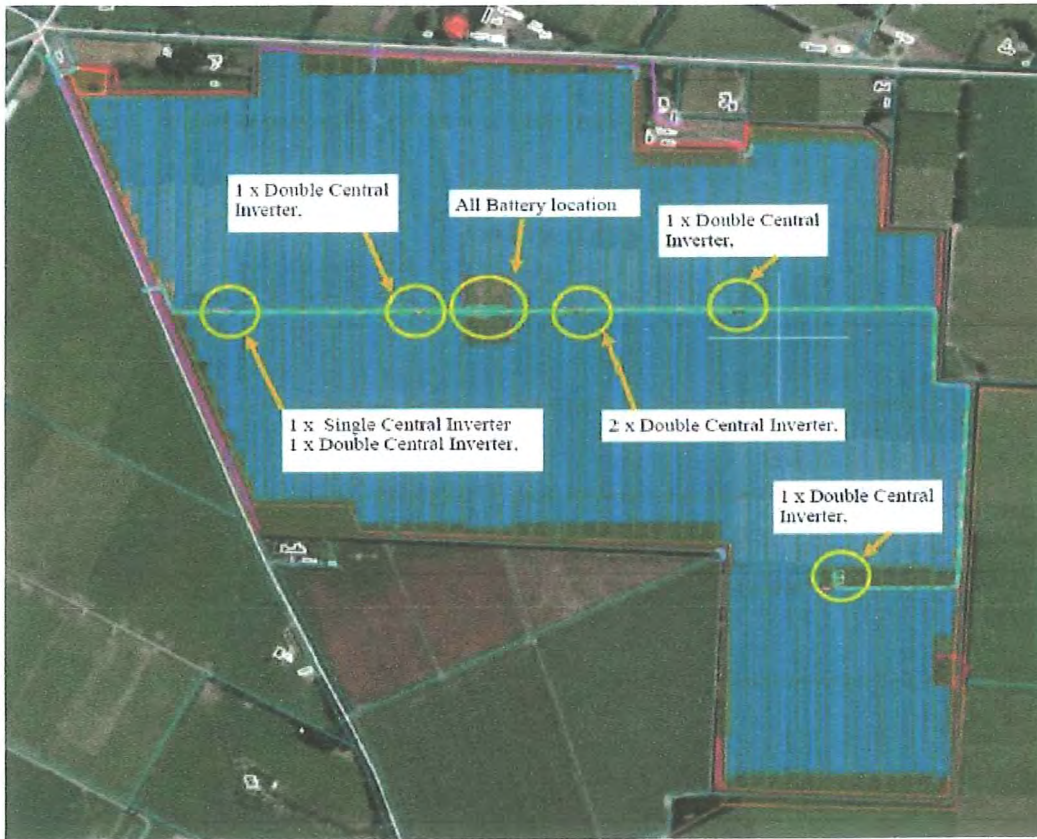


Photo Boffa Miskell 1

Construction Phase³

"The construction of the solar farm will likely take 12 months to complete. The existing shelter belts will also provide some wind protection and minimise the risk of discharging dust onto adjoining properties and public roads. Also, prior to construction commencing, it is intended to plant the identified gaps in the shelter belts and site boundary with exotic plants during the first planting season after consent has been granted.

KeaX propose to ensure that construction hours of operation are restricted to weekdays from 7.30am to 6pm. The Acoustic Assessment prepared by Acoustic Engineering Services Ltd (AES) (Appendix 15) concludes that noise and vibration from construction activities can generally comply with the Operative and District Plan noise limits and guidelines, noting that the panels will be located so that there is a 50 metre setback between the piling rig and any nearby dwellings. It is expected that vibration from the piling activity (most vibration intensive) will comply with the relevant guideline values."

Operational Phase⁴

"Once the solar array is operational, the traffic generated by the proposal will likely be approximately four vehicle trips per month when staff visit the site to check the solar array and carry out any maintenance.

Noise generated by the solar array will be minimal as there are no moving parts or mechanical elements such as turbines, that generate noise. 324 Branch Drain Road will receive the highest noise levels, where the operational noise is expected to be up to 47 dB LAeq (15 min) (which is well within the Operative SDP noise limits) close to the northern façade of the dwelling. The noise levels inside the dwelling will be in the order of 10 to 17 dB lower (with windows open) than the external levels, depending on

³ Section 6.5 Boffa Miskell Buckleys Solar Array 1 August 2023

⁴ Section 6.6 Boffa Miskell Buckleys Solar Array 1 August 2023

the aspect of the internal spaces. Overall, it is expected that even for this property, noise will not interfere with typical domestic activities.

...Traffic noise may be noticeable, with vehicles travelling to and from the Site, however such noise is commensurate with other activities in the area and indeed to a lesser degree than the current dairy farming activity onsite.

A glint and glare assessment has been prepared by Boffa Miskell (Appendix 13 in the LVEA) to consider potential glint and glare effects that could arise from the solar array. The assessment concludes that:

- glare will only be present in one location– at the junction of Caldwell's and Hanmer Roads, where the roads align with a gap in the proposed screening to accommodate the identified Wahi Taonga site. It is therefore recommended that panels in this section of the solar farm incorporate no backtracking (where panels backtrack at the beginning and end of the day to avoid the effects of shading), to avoid the potential for glare at this location.
- along all other roads, potential glare will be screened by the proposed shelterbelt planting around the Site.
- potential glint and glare effects on private properties will be less than minor because of the duration of any potential glare, distance from the Site and vegetation that obscures views, and therefore potential glare."

Landscaping⁵

"It is proposed to undertake planting of fast growing, evergreen species, where this currently does not exist, as shown on the Landscape Mitigation Plan (Appendix 13a) and below in Figure 3 that will be 2m before construction commences, noting that where there is existing vegetation that needs to be replaced, a smaller grade of plant (shorter) will be planted. Plants will be maintained at a maximum of 3.5m in height.

In addition, as agreed with SDC, new planting along Branch Drain Road will be setback 10m into the Site and retained at 3.5m in height to manage shading effects. All new planting within and slightly beyond the existing gaps will be 2m in height before construction commences. Where the planting is directly behind vegetation that is already, or exceeds, 2m in height, plants will be 0.5-1.5m at the time of planting. The existing planting will be removed once the new plantings reach the required 3.5m in height."

Visual Amenity and Landscape Effects⁶

"The removal of all internal vegetation will have a temporary adverse effect resulting in less than minor effects (low). Once the landscape buffer planting is fully established along the open Site boundaries, effects on the physical landscape are essentially neutralised.

The proposed solar panels will have a low profile in the context of the flat topography and the surrounding vegetation and are not expected to be a prominent feature in the landscape.

It is proposed to undertake all mitigation planting before construction starts, so it grows and establishes along the Site boundaries, meaning that there will be plant growth prior to construction commencing.

As the proposed mitigation planting establishes along the Site boundary to a height of approximately 3.5 metres, the adverse effects on rural character will become less than minor.

From public locations, adverse visual effects will be at worst minor (with mitigation) reducing to less than minor over time.

From private locations, adverse visual effects will be less than minor to neutral depending on the viewing distance to the Site, intervening vegetation and nature of the view."

⁵ Section 4.2.1 Boffa Miskell Buckleys Solar Array 1 August 2023

⁶ Section 11 Boffa Miskell Buckleys Solar Array 1 August 2023

Impact on Value of Solar Development – New Zealand Market Analysis

- 14 We have investigated the New Zealand market for evidence of sales of land affected by solar farm development nearby for any impact on value. We have researched 15 properties sold for Solar development and identified 36 others which are in the process of conversion to Solar production. The data arising from this research is summarised in the following table.

	Number	Gross Area (ha)	Net Area (ha)	Ave size (ha)	Capacity	Analysis
Solar Developments with Published MWp	36	8,563 ha	6,609 ha	184 ha	3,328MWp	92MWp/farm
Leased/licence occupancy by project area	31		4,804 ha	155 ha	2,738MWp	88MWp/farm
Freehold developments Announced	5	1,418 ha		284 ha	590MWp	118MWp/farm
Exclude Todd 1022ha	4	396 ha		99 ha	190MWp	48MWp/farm
Land Purchases (titles)	15	2,235 ha	2,235 ha	149 ha		\$33,657/ha
Exclude Todd 1022ha	14	1,213 ha	1,213 ha	87 ha		\$36,737/ha

- 15 The solar market is relatively recent with recorded solar land purchases dating from 2020, and known leases 2021. The developments completed to date are relatively small with the exception of Lodestone Kaitaia 85MWp and Pukenui 16MWp. Lodestone Kaitaia started generating in November 2023.
- 16 The solar farm industry is new (2021) to New Zealand with the first large scale development commissioned last month. In my opinion it is too early to detect a change in amenity values.
- 17 I have read articles from various affected parties adjacent to new developments throughout New Zealand, sufficient to say that small holding owners adjoining large developments are concerned about a loss of amenity value however there is nothing as yet to analyse in the market.
- 18 However the following market study has identified astatistically proven loss of between 3.0% and 4.2% for properties up to 800 metres (approx.) from developments within a rural environment and statistically weights sales which are closer.

An analysis of property values and proximity to photovoltaics across six U.S. states ⁷

Elmallah, S et al. Shedding light on large-scale solar impacts

"Our findings have two main policy implications. First, they point to the need for policy and development measures to ameliorate possible negative impacts of LSPVP development in some contexts. Our results suggest that there are adverse property value impacts of LSPVP construction for homes very close to a LSPVP⁸ and those predominantly in rural agricultural settings around larger projects. But we find that most impacts fade at distances greater than 1 mile from a LSPVP. In some cases – for homes near large LSPVPs, and in the states of MN and NC – negative effects persist at distances greater than 1 mile but are smaller than they are at nearer distances to a LSPVP. These results suggest that care should be taken in siting LSPVPs

⁷ Citation *Elmallah, S et al.* Shedding light on large-scale solar impacts: An analysis of property values and proximity to photovoltaics across six U.S. states. Journal of Energy Policy. 2023. <https://doi.org/10.1016/j.enpol.2023.113425>

⁸ large-scale photovoltaic project (>1MW of DC generation capacity)

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near homes in some contexts. Developers or policymakers considering siting LSPVPs very close to homes have several tools to employ, such as compensation schemes with neighbours and landscape measures like vegetative screening.”

S. Elmallah et al

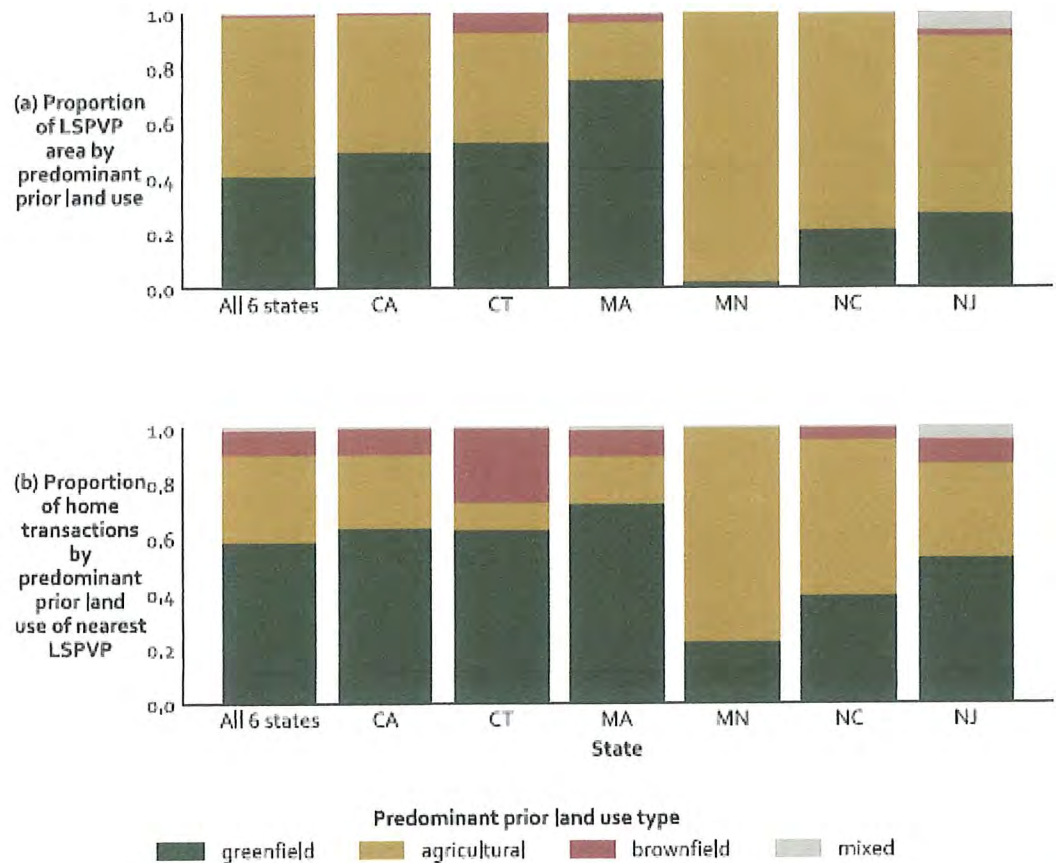


Fig. 3. Distribution of predominant prior land use by (a) LSPVP area and (b) number of homes near LSPVPs.

- 19 The subject property is within a predominantly rural area best represented by Minnesota (MN), North Carolina (NC), and New Jersey (NJ).

“Second, we ask: does the effect of LSPVPs on home prices differ based on the state, the prior land use on which a LSPVP is located, the size of the LSPVP, or the urbanicity of a home? When looking at individual states in our sample, we observe no effect on sales prices in CA, CT, and MA, but find sale price reductions for homes 0–0.5 mi away from a LSPVP of 4%, 5.8%, and 5.6% in MN, NC, and NJ, respectively. In those states where we do observe sale price reductions, the effect fades as distances from an LSPVP increases, as with the full 6 state model. When separating transactions by the prior land use and the area of the LSPVP to which they are closest, as well as by the urbanicity of the home, we observe statistically significant effects only for transactions near LSPVPs sited on previously agricultural land, transactions in rural areas, and transactions near larger LSPVPs by area. We observe decreases of 3%, 4.2%, and 3.1% for homes within 0–0.5 mi of LSPVPs on previously agricultural land, in rural areas, or near large LSPVPs, respectively, compared to homes 2–4 mi away. In all three cases, these effects fade with distance from a LSPVP.”⁹

⁹ Elmallah, S et al

S. Elmallah et al.

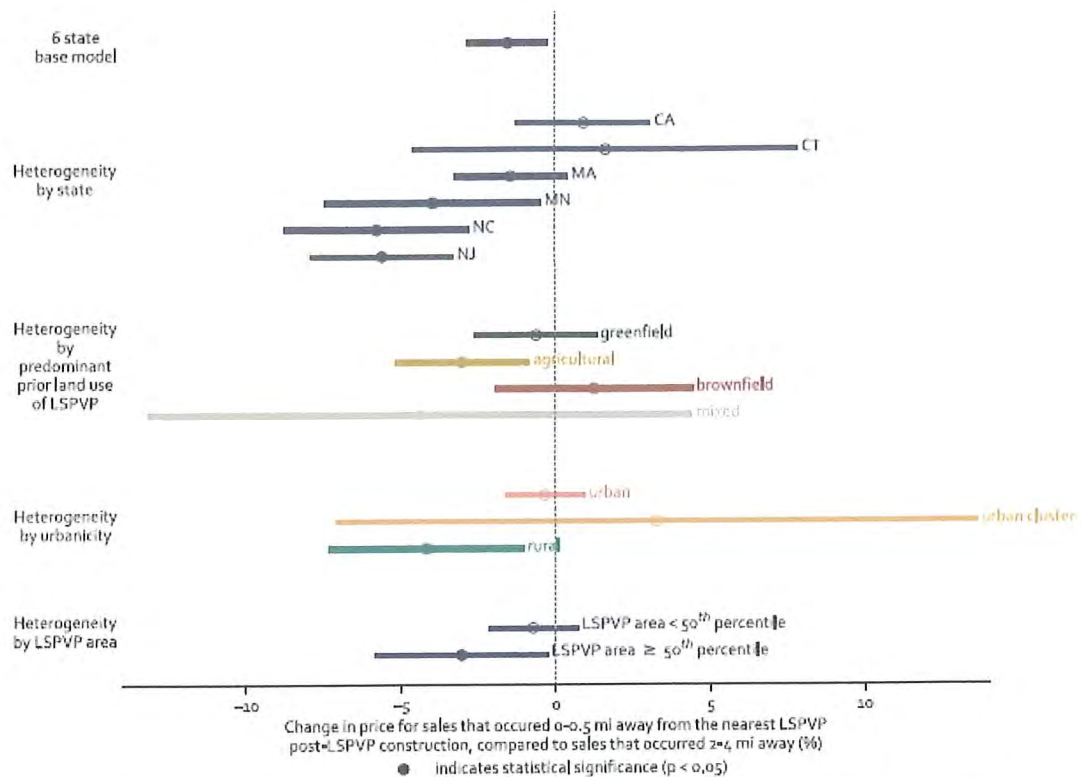


Fig. 8. Results from base model as well as each heterogeneity analysis, showing average effect of LSPVP construction and proximity for homes 0-0.5 mi away from nearest LSPVP. Range of change in price represents the 95th percent confidence interval.

"Our heterogeneity analyses show that the property value impacts of LSPVP development are highly contextual, and reinforce scholarly arguments that research on public support for solar energy should consider both project scale and proposed locations (Nilson and Stedman, 2022). Specifically, our results point to the importance of understanding the perceptions, economic impacts, and social dynamics of larger solar developments, rural developments, and developments built on previously agricultural land. Broader social science scholarship can contextualize these results: for instance, researchers have theorized that the siting of renewable energy in rural areas can counter personal, cultural, and political representations and understandings of rural landscapes (Batel et al., 2015). Our observed heterogeneity may reflect how large, agricultural, or rural developments potentially conflict more directly with those representations than smaller, non-agricultural, or urban developments. Furthermore, our results with respect to land use connect to an emerging literature on the co-location of solar and agriculture: surveys show that residents in agricultural communities are more likely to support solar development that integrates agricultural production (Pascaris et al., 2022), though scholarly reviews note that our understanding of perceptions of solar-agricultural systems remains limited (Mamun et al., 2022).¹⁰"

- 20 From my experience in valuation, major developments do influence values in the immediate area. This impact is due to the change in amenity values of the adjacent properties and in some cases to the wider community. The impact can be neutral, positive, or negative.
- 21 I understand the subject development structures are 50 metres from the house boundary and about 62 metres from the house at 324 Branch Drain Road. I would expect the impact to be greater than the statistical mean for houses up to 800 metres away. It is screened by a P. radiata hedge on the Ward Block which is trimmed to a height so does not

¹⁰ Elmallah, S et al

impact the shading adversely. This does not put the house outside the affected value range. It does soften the visual impact of the development. Overall I consider the negative impact on value is 7%.

- 22 Amenity value is often measured in the eyes of the beholder. As an expert in valuation, I am qualified to give my opinion as to the market impact on the value. That is the reasonable person test transaction assuming a willing buyer and willing seller.
- 23 However there is also a personal perspective. What if the affected owner is an unwilling party to the development next door and would move rather than live next to the solar farm. This would force them into a situation of the selling of their house, thereby capitalising the loss in value, purchasing a substitute home, incurring the real estate and legal fees, time and incidental costs and the overall risk associated and stress.
- 24 If they are not able to move before construction starts then the risks increase with noise dust and traffic. Once built the situation stabilises and the impact reduces until the planting matures and the landscaping comes into full effect. (5 to 10 years). At that point in the development the loss is estimated at 7%. It is reasonable to expect that additional compensation is payable for the elements of nuisance, amenity loss during construction induced disturbance and associated risk.

Conclusion

- 25 The loss inclusive of GST (if any) as at 18 December 2023 has been assessed as follows;

	Value	Impact	Loss	
Market Value	\$1,000,000	7%	\$70,000	
Additional Loss of Amenity Potential Loss	Disturbance		\$20,000	
			\$90,000	\$90,000
Personal loss				
Selling & legal fees	\$930,000	4%	\$37,500	
Incidental Costs	Sum		\$12,000	
Risk 5% of Value loss	\$930,000	5%	\$46,500	
Time 6 months	\$930,000	5%	\$23,750	
			\$118,950	\$118,950
				\$208,750

Yours faithfully



John Dunckley
Registered Valuer FNZIV FPNZ
 Colliers

Email: [REDACTED]
 Level 1, 28 Oxford Street
 Richmond, Nelson 7050
 P O Box 3440, Richmond
 Nelson 7050

Received
 Customer Service

19 DEC 2023

Page 9

Name:



Received
Customer
19 DEC 2023

Yasmine Binnie

From: submissions@selwyn.govt.nz
Sent: Monday, 18 December 2023 3:10 pm
To: Submissions
Subject: Resource Consent Submission Form 13

** Your Details **

*Resource Consent Number : RC235464
*First Name : Clark
*Surname : Casey
*Box/Road/Street Number and Name : 198 Branch Drain Road Suburb or RD : RD2 *Town/City : Leeston Area Code :
7682 Email Address: : [REDACTED] Organisation Name :
Contact Name :
Phone Number : [REDACTED]

** Submission **

*The type of consent is: : Land Use Consent The location of the consent is: : 115, 150 & 187 Buckleys Road The proposed activity/change is: : Industrial Power Plant *The specific part(s) of the application that my submission relates to are: : Change of rural amenity to an industrial site Use of Highly Productive Land that will be compromised long term by soil compaction, and contaminants.
Reverse sensitivity effects that affect the viability of my farming operation.
Health impacts on myself and my family both psychologically as well as physically.
Non-compliance with the ethos of the Local Government Act.
Limited notification v public notification.
Expansion of the project to 258ha of solar panels and potentially 500ha.
The costs of the redevelopment of the Brookside substation and power transmission would suggest the project would be better sited elsewhere.

*My submission is in: : Opposition

*My Submission is: : With great concern, 1. Compromised use of highly productive land, change of land use from rural to industrial, loss of production on this site and soil implications (this will be explained in broader terms at the hearing).
2. Reverse sensitivity effects (loss of production for mine and other businesses, will be explained in broader terms at the hearing).
3. Health impacts (1956 health act, will explain in greater detail at the hearing).
4. Local Government Act 2002 - reference all signatures. Built up rural area, 94% of new signatures, with this latest resource consent are opposed. Will be explained in further detail at the hearing).
5. With great concern after the first hearing for a resource consent early 2023, the commissioners findings were that the resource consent was denied as it should have been publicly notified, so why are we once again on a limited notification, this is a great concern and something I will speak to further at the hearing.
6. Expansion of the area in solar panels if an initial application is approved.
7. Additional transmission lines in the area.

*I seek the following decision from the Selwyn District Council: : To decline resource consent.
Supporting Information: : No file uploaded

** Hearing **

Planning Unit

Notice of Submission on an Application for Resource Consent

Application Reference:

Resource Management Act 1991 - Form 13

Send or deliver your application to: Selwyn District Council, PO Box 90, Rolleston 7643

1. Submitter Details

For enquiries phone: (03) 347-2868

For enquiries email: planninginfo@selwyn.govt.nz

Name of Submitter(s) (state full name(s)): *Clark James Casey*

Physical Address: *198 Branch Drain Road, RD2, Leeston 7682*

2. Application Details

Address for Service (if different):

Email: [REDACTED]

3. Submission Details

- I / We:
- ☐ Support all or part of the application
 - ☒ Oppose all or part of the application
 - ☐ Are neutral towards all or part of the application

Telephone (day): [REDACTED]

Mobile: [REDACTED]

Application Reference Number (if not stated above): *RC235464*

Name of Applicant (state full name): *KEA X Ltd*

Application Site Address: *115, 150 & 187 Buckleys Road*

Description of Proposed Activity: *Industrial Power Plant*

4. Submission at the Hearing

- ☒ I / We wish to speak in support of my / our submission.
- ☐ I / We do not wish to speak in support of my / our submission.
- ☒ If others make a similar submission I / We will consider presenting a joint case with them at the hearing.
- ☐ Pursuant to section 100A of the Resource Management Act 1991 I / We request that the Council delegate its functions, powers, and duties required to hear and decide the application to one or more hearings commissioners who are not members of the Council. *(Please note that if you make such a request you may be liable to meet or contribute to the costs of the commissioner(s). Requests can also be made separately in writing no later than 5 working days after the close of submissions.)*

5. Signature

(Of submitter(s) or person authorised to sign on behalf of submitter(s))

Signature:

Date: 18/12/23

Signature:

Date:

Note: A signature is not required if you make your submission by electronic means.

6. Privacy Information

The personal information requested in the form is being collected by Selwyn District Council so that we can process your application. This information is required by the Resource Management Act 1991. This information will be held by the Council. You may ask to check and correct any of this personal information if you wish. The personal information collected will not be shared with any departments of the Council not involved in processing your application. However under the Official Information and Meetings Act 1987 this information may be made available on request to parties within and outside the Council.

7. Important Information

1. The Council must receive this submission before the closing date and time for submissions on this application.
2. You must also send a copy of this submission to the applicant as soon as reasonably practicable, at the applicant's address for service.
3. All submitters will be advised of hearing details at least 10 working days before the hearing. If you change your mind about whether you wish to speak at the hearing, please contact the Council by telephone on 347-2868 or by email at planninginfo@selwyn.govt.nz
4. Only those submitters who indicate that they wish to speak at the hearing will be sent a copy of the planning report.

For Office Use Only

Received at the Rolleston Office on 19/12/2023 at 12:36 am / pm

Received by Riley.

The specific parts of the application that **my / our** submission relates to are: *(give details, continue on a separate sheet)*

Change of rural amenity to an industrial site

Use of Highly Productive Land that will be compromised long term by soil compaction, and contaminants.

Reverse sensitivity effects that affect the viability of my farming operation.

Health impacts on myself and my family both psychologically as well as physically.

Non-compliance with the ethos of the Local Government Act.

Limited notification v public notification.

Expansion of the project to 258ha of solar panels and potentially 500ha.

The costs of the redevelopment of the Brookside substation and power transmission would suggest the project would be better sited elsewhere.

The reasons for **my / our** submission are:

With great concern,

- 1. Compromised use of highly productive land, change of land use from rural to industrial, loss of production on this site and soil implications (this will be explained in broader terms at the hearing).*
- 2. Reverse sensitivity effects (loss of production for mine and other businesses, will be explained in broader terms at the hearing).*
- 3. Health impacts (1956 health act, will explain in greater detail at the hearing).*
- 4. Local Government Act 2002 - reference all signatures. Built up rural area, 94% of new signatures, with this latest resource consent are opposed. Will be explained in further detail at the hearing).*
- 5. With great concern after the first hearing for a resource consent early 2023, the commissioners findings were that the resource consent was denied as it should have been publicly notified, so why are we once again on a limited notification, this is a great concern and something I will speak to further at the hearing.*
- 6. Expansion of the area in solar panels if an initial application is approved.*
- 7. Additional transmission lines in the area.*

The decision **I / We** would like the Council to make is: *(give details including, if relevant, the parts of the application you wish to have amended and the general nature of any conditions sought.)*


To decline resource consent.

4. Submission at the Hearing

- ☒ I / We wish to speak in support of my / our submission.
- ☐ I / We do not wish to speak in support of my / our submission.
- ☒ If others make a similar submission I / We will consider presenting a joint case with them at the hearing.
- ☐ Pursuant to section 100A of the Resource Management Act 1991 I / We request that the Council delegate its functions, powers, and duties required to hear and decide the application to one or more hearings commissioners who are not members of the Council. *(Please note that if you make such a request you may be liable to meet or contribute to the costs of the commissioner(s). Requests can also be made separately in writing no later than 5 working days after the close of submissions.)*

5. Signature

(Of submitter(s) or person authorised to sign on behalf of submitter(s))

Signature: 

Date: 18/12/23

Signature:

Date:

Note: A signature is not required if you make your submission by electronic means.

6. Privacy Information

The personal information requested in the form is being collected by Selwyn District Council so that we can process your application. This information is required by the Resource Management Act 1991. This information will be held by the Council. You may ask to check and correct any of this personal information if you wish. The personal information collected will not be shared with any departments of the Council not involved in processing your application. However under the Official Information and Meetings Act 1987 this information may be made available on request to parties within and outside the Council.

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3. All submitters will be advised of hearing details at least 10 working days before the hearing. If you change your mind about whether you wish to speak at the hearing, please contact the Council by telephone on 347-2868 or by email at planninginfo@selwyn.govt.nz
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Planning Unit

Notice of Submission on an Application for Resource Consent

Application Reference:

Resource Management Act 1991 - Form 13

Send or deliver your application to: Selwyn District Council, PO

Box 90, Rolleston 7643 For enquiries phone: (03) 347-2868

For enquiries email: planninginfo@selwyn.govt.nz

1. Submitter Details

Name of Submitter(s) (state full name(s)):

Te Taumutu Rununga (Raymond John Henderson)

Descendant of Heni Te Marino (1820-1888) and William Gilbert (1800-1898) from Banks Peninsula.

Heni Te Marino was a Maori princess related to Hone Tūhawaiki (the Maori chief for Ngai Tahu from 1805 to 1844).

Physical Address:

233 Branch Drain Road,
Brookside
Leeston 7682

Address for Service (if different): N/A

Email:

Telephone (day):

Mobile:

2. Application Details

Application Reference Number (if not stated above): RC235464

Name of Applicant (state full name): KEA X Ltd.

Application Site Address: Description of Proposed Activity: 187 and 115 Buckleys Road

3. Submission Details

I / We: ☒ Oppose all or part of the application

The specific parts of the application that my / our submission relates to are:

- This is a new resource consent and as such there should have been **new consultation with Maori**. The conditions in the new consent have changed (e.g., native plantings to exotics, as has the size of the area in panels).
- The Selwyn District Council (SDC) is in breach of its Treaty partnership with Ngai Tahu on **co-governance of Te Waihora** that has an objective to maintain or improve the quality of water and kai in Lake Te Waihora.
- Commissioner Hughes-Johnson made clear reference for a need for **public notification**. Because the applicant knows the vast majority of Brookside (94%) were opposed in 2022, and the vast majority of residents are opposed again in 2023, this has not happened. SDC steadfastly refuses to operate democratically within the auspices of the Local Government Act 2002 and the directives given by the Commissioner.
- The RMA 1991 requires specifications for a proposed activity that are not only **time-bound**, but that specify **materials** (viz. types of solar panel and other apparatus to be used on site). In "risk analysis" we have no idea what

- the materials and their composition will be.
- e) There will be **considerable expansion of the Brookside substation** with increased electromagnetic fields and annoying "noise".
 - f) **Productive lands.** The applicant asserts he will maintain the productivity of the land through irrigation; yet there are no details on systems for irrigation, and furthermore there is no information on how he will limit heavy metals and leachates that make land less productive.
 - g) Division of the initial application. The applicant has prevaricated on size and believes a smaller area may be more acceptable. At a meeting on 20/11/2023 Donald Green stated "he had spoken to Keith Price who assured him once the Ward consent was approved then he would follow with installation of a solar farm on his property. Furthermore, two of his sons (Tim and Chris Green) are interested in the development of solar farms. Potentially the whole of Brookside may be transformed from a quiet rural community into a noisy, polluted industrial site within a decade.
 - h) The SDC is failing in its oversight of policy directives on the protection and use of '**productive lands**' and **freshwater management**.
 - i) The Resource Management Act (1991) and amendments specifically limit **contamination of air, soils, freshwater, and groundwater** but this is precisely what the proposed activity will do. There is a revised ecological report attached that fails to adequately address "risk" and issues of "humaneness" for species impacted by contaminants from the proposed solar farm.
 - j) Under existing legislation there are specified **mechanisms to dispose of waste**, but these are not included in this proposal.
 - k) Solar farms have a place in isolated locations on degraded and unproductive soils; they do not belong on good agricultural land in a populated rural community where irascible noise, electromagnetic fields, the ugly glare of solar panels, and contaminants affect people's wellbeing.

The decision I would like the Council to make is: *(give details including, if relevant, the parts of the application you wish to have amended and the general nature of any conditions sought.)*.

I request that the application and associated consents **be declined** by local authorities (Selwyn District Council, Environment Canterbury). The reasons for this will be detailed in a final submission before any hearing, but a summary of essential points is provided below:

This is the applicants second attempt at what has now become a “staged development” that will transform Brookside from a rural amenity with productive lands into a noisy contaminated industrial site. The applicant’s wife has stated that she herself would not want to live alongside a solar farm. Despite this the applicant believes he can subjugate long-established residents to the vicissitudes of change; change from a charming rural amenity to a noisy, polluted industrial site; change from a productive farming community to lands that are unproductive with a token agricultural income; change from friable soils to soils compacted by increased leachates and heavy machinery during earthworks; change that is likely to raise ambient air temperatures above panels by 2 degrees C; change that will produce an annoying low-level hum that has caused others I know to incessantly wear ear plugs; and change to designated land use where contaminants are likely to have measurable impacts on air, soils, water, aquatic ecosystems, and terrestrial wildlife.

- a) **Maori consents and breaches of co-governance of Te Waihora.** Both the national policy statements for highly productive land (NPS-HPL) and freshwater management (NPS-FM) refer to tangata whenua involvement in these resources. As a local of Maori descent living alongside this proposed development, I have inside knowledge of the ramifications of what is proposed but was never given the opportunity to communicate to tangata whenua and the applicant because they never sought a 2nd Maori consent. This is the applicants second attempt at a resource consent that has several changes to the original (e.g., use of exotic species with “gaps” between trees instead of the continuous native plantings as suggested by Maori to screen out visual impacts). Despite the fact this is a new consent, despite the fact there are substantive changes, and despite the risks to Te Waihora that were outlined to Environment Canterbury in March 2023, another Maori consultation has not been called for. Maori are drawn to the idea that solar farms reduce nitrate discharge from dairy farms into Te Waihora; however, the alternatives of increased heavy metals and PFAS compounds discharged into Lake Ellesmere have not been correctly explained to them during consultation. Furthermore, the nitrate-nitrogen coming off solar panels is significantly higher than the nitrate-nitrogen in agricultural soils.
- b) **Clauses 4.1, 4.2, and 4.3 of the co-governance agreement between SDC and Ngai Tahu for management of Te Waihora should preclude any further contaminants affecting water quality and kai in the lake.** That is precisely what this proposal allows. Maori have reacted negatively to nitrates from dairy farms entering Te Waihora, and that was the primary motive for Mahaanui Kurataiao endorsing the proposed solar farm. Research shows most nitrates enter the lake as leachates from lighter stony soil. If nitrate-nitrogen from dairying is a concern, then council should have facilitated better riparian plantings along Buckleys Rd and Hanmer Roads decades ago. What Maori have not factored into their assessment is that “forever chemicals” leached by solar technologies bioaccumulate in aquatic ecosystems. Unlike nitrates that are either degraded to nitrous oxide and eventually evaporate from the lake, or that are taken up by plants to biosynthesize vegetative matter; the heavy metals and PFAS from solar technologies never degrade. After 25 years of solar farms in China these heavy metals and PFAS are now so ubiquitous they are regularly measured in both surface water and groundwater; and they are routinely documented as a contributor to poor health (Parvez *et al.* 2021), and because they bioaccumulate in placentas they are often measured at 5x the permissible maximum concentration levels in this tissue. In the New Zealand scenario these issues have already been researched and published by NIWA in their reports “Contaminants in kai—Te Arawa rohe” (parts 1 and 2). Did someone take the time to explain to the Runanga at Te Waihora that tamiriki not yet conceived may suffer ill-health during 2050 because of contaminated kai? Of course not. These things were made patently clear to regulators and planners at both the regional council and SDC during a previous hearing. There should be no stormwater discharge from the proposed USSP site at Buckleys Road into Te Waihora. This of course is not possible given the amounts of water that accumulate on heavy loams and are discharged from the site during heavy rain.
- c) **The National Policy Statement for Freshwater Management (NPS-FM) provides clear directions on how the RMA should be handled.** The proposal by the applicant falls outside these NPS-FM guidelines, and as such the quality of water in drains and Lake Ellesmere will be impacted by this project. If there is proven risk to waters, then the project should not be approved.
- d) **The SDC has colluded with the applicant in progressing these applications.** An e-mail sent by Hans van der Vaal to Commissioner Hughes-Johnson following the 2nd day of the previous hearing

highlighted elements of that collusion. The applicant, his lawyer, and planners from SDC were "locked in the hearing room for over an hour" while they collectively formulated a summing up to be delivered by SDC planners. This is mentioned by Commissioner Hughes-Johnson in minute 3 of his notes. SDC are independent arbiters in matters of compliance and public interest that should adjudicate impartially, they are not there as facilitators of proposals to disregard shortcomings in resource consents, project design, impacts on "highly productive lands" and impacts on freshwater management. That is the type of systemic council failure that contributed to the CTV building collapse during the Canterbury Earthquake. We as ratepayers pay councils to independently do due diligence on compliance within legislation such as the RMA, the use of productive lands (NPS-HPL) and freshwater management (NPS-FM); to use integrity during vetting of construction materials and approvals, and to correctly carry out site inspections for compliance certification during construction. We do not expect councils to be using ratepayer money for acoustic reports to aid a developer. We do not expect non-complying applications to be sneaked in through the back door with "limited notifications to immediate neighbors". The reasons for the lack of impartiality by SDC on consents for solar farms, may lay in the fact that Orion NZ who manages Selwyn electricity is owned by Selwyn District Council and Christchurch City Council (10.7% and 89.3% respectively) who collectively received annual dividend payments of \$30 million from their investment; so, of course the council will benefit financially from the approval of solar farms. This presents a huge 'conflict of interest' for both Environment Canterbury and SDC that has not been declared.

The absence of public notification in the face of the ruling by Commissioner Hughes-Johnson and his findings that environmental effects are "more than minor", and in the face of long-term desecration of productive lands falls outside the remits of an impartial council that should be implementing the NPS-HPL and NPS-FM with the intent that government policy statements fully intended. Of further interest are other solar developments that were all "limited notifications" to immediate neighbors. Furthermore, there has been no consultation with locals. It is also rather ironic that the agent for the applicant (Boffa Miskell) wrote a protocol for the Ministry of the Environment called "Managing Rural Amenity Conflicts as part of RMA applications", where Boffa Miskell outlined how written brochures, videos and extensive consultation with the rural community should be engaged in before a resource consent is applied for, yet not once in the 4 years that this application has been in process has anyone in Brookside seen or heard from either Boffa Miskell, or the SDC. Also of note is the fact that just like this RMA application, other resource consents have been issued just before Christmas when the public are busy preparing for the festive season and unlikely to have the time to make comprehensive submissions. I believe Robyn Casey is now seeking a ruling from the ombudsman on procedural matters by the Selwyn District Council.

- e) Having read extensively on performance specifications of solar panels, the environmental risks from all solar technologies (panels, wiring, circuit boards, transformers, inverters, and batteries) and the "risks" these impose to soils, water, and air; I'd love to know what equipment is to be used *in situ* at Brookside. Alas, none of the materials to be used at Brookside are in either of the 2 resource consent applications filed to date for Brookside. It is the equivalent of SDC issuing a limited notified application to neighbors for a new building where those neighbors don't know whether that building will be made of adobe, brick, concrete, wood, steel, or straw. Furthermore, how can SDC assess risks when they themselves do not know the materials to be used on site, and how quickly the toxic components of these materials are released into the environment? This problem was identified in application RC225180 and still exists in application RC235464.
- f) The applicant has been very specific in the layout of solar panels and the types of soil. The soils in the main are clay loam soils that are 1) productive only when they are irrigated or have spring rains and 2) are productive when not subjected to soil compaction.
 - 1) The applicant as an addendum has stated that "irrigation may be used" but has no specifics on how this will be done. Current irrigators at the site cannot be used within the proposed layout of solar panels. How then does the applicant intend to apply water and make soils "productive"? This had to be an integral part of his resource consent application, because without irrigation these soils are unproductive over the summer and autumn months. SDC should have insisted that designs for irrigation be included if they were to be party to government directives on 'productive land'. It would seem the applicant has indulged in tokenism to get the application over the line when he knows full well the land will never again be productively used by farmers once a solar farm is established. Furthermore, if the existing landowners have become too tired to farm cows, why on earth are they going to want to farm sheep?
 - 2) The Welsh government is conscious of use of "Best and Most Valuable" (BMV) lands for solar development and commissioned a report entitled "The impact of solar photovoltaic (PV) sites on agricultural soils and land" that states "The key impact of solar PV sites on land and soil is caused by compaction leading to soil structural damage. The effects of soil compaction on soil structure led to reduced permeability to water and air as well as increased surface runoff and erosion. Compaction near the surface and generally above a depth of 45cm can be alleviated.

However, the alleviation of deep compaction requires equipment such as a bulldozer and winged tine set to a depth to 60cm. The reversibility of soil compaction may take many years and in some cases compaction may be permanent. An assessment on the effect of compaction on the Best and Most Versatile agricultural land (land in MAFF Agricultural Land Classification grades 1, 2 and 3a) shows that the loss of high-quality agricultural land is likely to occur".

Soil compaction, increased run-off of contaminated floodwaters, and loss of productive soils are all inevitable outcomes at Brookside on heavy clay loam soils. The assertions by Mr. McMath that he will not degrade "productive lands" are specious and moot.

- g) The resource consent should be time-bound with commencement and finishing dates. There is no such finishing date in the application. The applicant has divided his initial development area in two in the hope of getting what he envisages as a smaller project over the line, then growing it in a piecemeal fashion into a much bigger project. If as alluded to above all parties interested in solar technologies gain consents, then potentially we are looking at 500ha of good productive land that has become redundant; 500ha of solar panels leaching heavy metals and PFAS onto soils where increased soil compaction guarantees those heavy metal and PFAS leachates are washed into waterways and eventually into Lake Ellesmere; 500ha of good land that is progressively being compacted and contaminated with leachates that will add substantially to the costs to restore it as productive land after panels are decommissioned; and, 500 ha of land in the event of a catastrophic event that irreparably damages panels (e.g., fire, severe hailstorms, extreme winds) that potentially turn Brookside into a contaminated site. All materials in solar technologies are hazardous. The hazards are exacerbated in the event of a fire through oxidation of some components into "extremely hazardous" substances that are very toxic if inhaled. Despite this there is still no fire-plan for the site. Furthermore there are still no HSNO classifications for the site. We now have notices on the fence with contact details for the site manager — what use is that in the case of an emergency? In the model 'Risk=Hazards x Exposure' where hazards are 'high' the applicant must demonstrate to locals and SDC that "exposure" to his chemical pollutants that affect air, water, or soils are "negligible" if the "risks" of the project are to be acceptably "low". He cannot of course do that. The SDC cannot do that. Collectively they have decided the Brookside rural amenity, the productivity of the land, the quality of freshwater around the site, the environment, and the "peace of mind" of current residents are all expendable "risks". These things all fall outside the guidelines within the RMA act, the NPS-FM and protection of surface waters, the NPS-HPL and "use of productive lands" for farming. Use of solar panels on depleted and unproductive soils in a remote location may not matter, but these are high yielding LUC1 and LUC2 soils in a populated landscape.



The photo on the left was one of 66 solar panel fires in the UK during the first 6 months of 2023. This fire burnt through hundreds of acres of panels. Some fires are started when the wing-span of birds causes a short circuit, others when floods short circuit panels, when batteries malfunction, or sometimes when old wiring malfunctions. Fires started by solar storage batteries are worse than solar panels because the heat makes them harder to extinguish, and the toxic compounds from ignition are more lethal.

- h) The proposed USSP facility makes use of either sheep grazing under the panels or specialist floriculture and horticultural crops to make it a "solar farm". The latter ventures have a propensity to bioaccumulate heavy metals and PFAS compounds in harvested produce. That essentially leaves mutton, wool, and lamb as productive outputs from the farms. Farmers and residents at Brookside (with an intimate knowledge of the proclivity of sheep to eat out pasture, with knowledge of how soil compaction reduces pasture production, with an insight on how panels preclude pasture renewal, and how current market prices vastly imbalance the earning capacity of sheep as opposed to cows), will demonstrate that the earning capacity from grazing sheep under solar panels is only a small fraction of the earning capacity of traditional dairy farming. A new report supplied by the applicant indicates grass growth is not impacted by solar panels. Unfortunately, this report ignores "temporal

change" and seasonal effects as solar panels and their associated technologies increasingly change soils as described in the literature. Contaminants in soil destroy plant mycorrhiza, soil micro-organisms, and impact macro-organisms (e.g., earthworms). The leachates from solar panels increase soil flocculation that result in clods, they exacerbate the compaction of soils outlined above, they result in poor water dispersion in soils, and eventually result in poor plant growth. In one trial after panels had been shedding contaminants for almost a decade then 'total organic carbon' and 'total nitrogen' were lowered by 61% and 50% respectively (Moscatelli *et al.* 2022). Other changes to soils under different types of panels have been noted by other authors during ongoing international research, that also demonstrate long-term impacts on soil productivity.

- i) Leachates under panels. It is trite to use short-term examples of pasture growth under panels and then extrapolate from this to long-term assumptions about future pasture production as the applicant has. This is particularly evident at Brookside where changes to soil structure, soil compaction, and poor water dispersion happen within a heavy clay loam as iron is added and organic matter becomes depleted. In the words of Lambert *et al.* (2021), "long-term monitoring of soils is essential to evaluate the effects of solar panels on vegetation".

Although this is just an overview I will present two photographs of solar arrays at Brookside, one provided by the applicant in his resource consent application and the other photo taken at Michael Dalley's property. I should point out these are old-style Kyocera polycrystalline solar panels that are of moderate efficiency (only about 16-18% of solar energy was converted to electricity) that were considered "safe" forms of solar panel in their day. They are no longer competitive in a marketplace where efficiency is now at 25-30% of solar energy harnessed for electricity from different panel types.



Photo A. Photo supplied by applicant in RC

We can see in photo A (supplied by the applicant in his consent application) that spring growth superficially looks good, but there are early warning signs circled in red. Alongside supports there are bare patches where heavy metals have accumulated and depleted growth, and in the dripline at the edge of panels where heavy metals have accumulated and the vegetation is bronzed and stunted. A soil analysis from under similar older-style panels at Michael Dalley's property showed high levels of iron (2,040 mg/kg or 2x base levels in 'control' soils) and copper (22% above base levels). These are only short-term effects (i.e., 9 years within a 25–30-year lifespan of panels). The soil analysis produced these results because these photovoltaic panels contain pyrite (FeS_2), a conductor used in panels that leaches onto soils where it accumulates and reacts to make soils acidic ($\text{pH}=5.9$) in the reaction $\text{FeS}_2 + 3.75\text{O}_2 + 3.5\text{O}_2 \rightarrow \text{Fe(OH)}_3 + 4\text{H}^+ + 2\text{SO}_4^{2-}$. This reaction shows where the assayed iron (Fe(OH)_3) comes from in soil samples and the literature shows that this iron when above 'trace levels' in soils causes "bronzed and stunted growth of vegetation" (exactly as shown in the photo). Clovers die out quickly under panels where measured heavy metals (e.g., Fe, Cu, B, Mn, Mg, Pb, Al) kill soil micro-organisms and kill the mycorrhizae in plant roots. There are no clovers in this pasture, and of course lambs thrive on clovers for rapid growth of muscle and bodyweight. Between panels growth of grass is primarily enhanced by elevated nitrate/nitrogen (up 40% from leaching of Na_3N and Si_3N_4 off panels) and increased Sulphur (up 333% from leaching of metal sulphates and metal sulfides off panels).

Let us assume for a moment that the applicant had put 500ha of panels over Brookside, like he eventually aspires to, and let us assume he used the polycrystalline panels described above. After 30 years all those soils would have an iron pan; the iron (Fe) aids soil flocculation and the formation of hard clods, the iron assists soil compaction and turns friable soils into hard compact soils, and the

iron impacts soil micro-organisms. After 30 years of leaching some of the electrical compounds that were elevated during soil tests will also be impacting soil micro-organisms. If, however, we have catastrophic events (wind damage, hail, and in a worst-case fire) it may not take 30 years to reach an endpoint where the cumulative effects of these leachates have completely changed productive lands into unproductive and contaminated soils. To state that solar technologies will not impact productive soils is simply not true.

In an overview of solar technologies, these polycrystalline panels are not the really “bad boys” of solar panels. Other panels have been demonstrated to leach high levels of cadmium, chromium, arsenic, mercury, silver, etc, etc. onto soils and into waterways. We of course have no idea what sort of solar panels the applicant is going to put on site, so we can only speculate on likely impacts rather than model them. What we can state unequivocally from a literature review, and soil tests done at Michael Dalley's property is that all solar panels leach contaminants onto soils. Because we do not know what materials will be used on site, this is a major shortcoming in application RC235464 that has highlighted previously in RC225180.

Photo B (below) was taken at Michael Dalley's solar arrays next door (i.e., 200m away from photo A) during summer. What a difference a little water in Brookside soil makes!! The bottom photograph represents what the proposed solar farm will become over summer and autumn without rain and without irrigation, and through changed soil composition. We can also see in this picture patches of bare dirt where heavy metals have pooled (at this stage mainly Fe^{2+} and Cu^{2+}) as leachates from the solar panels above.



Photo B. Photo taken at Michael Dalley's property over summer 2022/23.

- j) Recently published science literature (viz. since the previous hearing on a Brookside USSP) further highlights the risks of contaminants. The ecologist report fails to understand the nature of Brookside soils where moisture absorption by clay-loams is slow, the propensity for flooding is high (especially after soil compaction following planned earthworks); and run-off of rain and floodwaters with contaminants is high. Therefore, it is likely the effects of excess water run-off will get considerably worse following the construction of a solar farm on site. I do not see a permit for long-term discharge of these floodwaters into drains. The likelihood of floodwaters containing contaminants is “high”. The ecologists report contains no reference to any of this. The report also fails to detail the ecotoxicological impacts of contaminant uptake by earthworms, plants (especially briar and blackberry that bioaccumulate high levels of contaminants), and the likely impact to vertebrates feeding on worms and/or berries. The ecologist's report makes no reference to the impacts of those contaminants on the health and welfare of various species in the food-web at Brookside. Furthermore, the ramifications of contaminants on invertebrates are an oversight. The ecologists report also makes invalid assumptions about species, with royal spoonbill (photographed feeding in shallow waters at Brookside) and Australian bittern (almost photographed near Boggy Creek) both noted on occasions in surface waters where frogs and small fish are present, and one transient parakeet has been seen in the area following the establishment of a native forest by Te Ara Kakariki

at 233 Branch Drain Rd. A colony of white-faced herons are regularly seen throughout the year on the properties of Robyn Casey and Ray Henderson and have nested in trees on these properties, while pied stilts and pied oyster catchers regularly nest in the area and have been photographed by a colleague at nest sites in Brookside paddocks (Keven Drew). The little German owl frequents the properties of Donald Green, Grant Lowe, and Ray Henderson (and presumably other landowners in the district), the common skink is abundant in the area, and there was and probably still is a colony of cave weta at 233 Branch Drain Road. To state birds "opportunistically use pasture sites for temporary feeding" is a mile away from reality. The estimate for bird strikes on reflective panels is at the lower end of published figures. The ecologist understates the impacts of the solar farm on species abundance and species diversity, and I can only conclude the report was written from the confines of a suburban office because in many respects it is inaccurate. When it comes to ecotoxicology it is well known that mice feed on the fruits of briar and blackberry (exotic vegetation in the area with a high propensity to bioaccumulate heavy metals), and the little German owl feeds on mice; so, inevitably owls will bioaccumulate heavy metals and PFAS compounds from the solar farm which will then either sub-lethally impact their welfare, prevent the species successfully breeding (thin egg shells, contaminants in albumen and yolk), or bioaccumulate to the stage where they are lethal. Heavy metals and PFAS washed into drains will eventually kill the endangered mudfish and contaminate foods eaten by Maori at Te Waihora. Heavy metals and PFAS that have bioaccumulated in earthworms or berries will be eaten by exotic birds, and either kill them inhumanely (these materials bioaccumulate in livers, kidneys, and the brain) or impede the breeding success of females. She may state ecological effects are "negligible", but I have been in ecology for 45 years and ecotoxicology for 20 years and know what is written understates the real impacts to aquatic and terrestrial ecosystems; the effects are greater than "minor".

- k) All solar technologies must be recycled. The most recent cost for that recycling varies from \$US15-45 per panel (US Energy Dept 2022). Although the number of panels is not included in resource application RC235464 (another oversight by the applicant), the area is around half the size of that proposed in RC225180 and if the number of panels is more than halved (c.150,000 panels) and assumed costs for recycling remain the same (approximately \$NZ50 per panel); then to recycle the panels at the end of life (c. 25 years) would cost approximately \$7.5 million. To this must be added the costs of recycling batteries and other materials listed in the application which are all expensive (c. \$3 million). Who pays for this expense of around \$10.5 million? My understanding from RC225180 is that the applicant was going to walk away and leave solar technologies to farmers. Furthermore, if as stated above the site is contaminated or soil is severely compacted who pays for site restoration of lands? These end-of-life details for the project should have been included in the resource consent application, along with details on who is liable for disposal of materials and site restoration.
- l) The arguments put forward by Mr. McMath that this is the only site available because of the substation at Hights Corner were accepted by Commissioner Hughes-Johnson. A new development on Telegraph Road demonstrates these arguments by Mr. McMath were specious and moot. The site at Telegraph Road had no amenities to either receive or transmit electricity, yet a large solar farm is being established there following the construction of a new substation. Furthermore, if development did take place at Brookside, it would require substantial upgrades to the substation and the installation of new transmission wires. Does this make the upgrade almost as expensive as the new substation installation shown? If the development were to proceed, then after the development of the Ward solar farm, there will be solar development at the Price Farm, and possibly further development on properties owned by Tim Green and Chris Green. How large will the substation be at that stage? If the project proceeded as planned, would it be better just to build an entirely new substation at the outset along with new transmission lines at a different site on unproductive land? If and when all these upgrades happen, how much noise will be emitted from the substation? I have included a photo of the new substation on Telegraph Road that emitted a lot of irascible noise while I was there; something similar will eventually be required at Brookside. The evidence presented by Mr. McMath at the February 2023 hearing I believe was both misleading and inaccurate.



The existing substation at Hights Corner measures 61x19m or 0.12Ha and makes a quiet humming noise.



An upgraded substation like that on Telegraph Road measured 169 x 119m or around 2ha and emits an irascible noise.

- m) Noise. The applicant and SDC have gone to great lengths to demonstrate the acoustics from on-site inverters, transformers, and batteries are compliant with noise volumes in the district plan. What they haven't done is examine the type of noise (a low frequency hum) and its impact on human health. Nowhere is the type of noise from an upgraded substation at Hights Corner discussed.
- n) The applicant went to great lengths to demonstrate electromagnetic fields were low and inconsequential in his initial application. Take a look at the photo of the substation at Telegraph Road above and try and tell me the EMFs around it are "low" and having no impact on people's health and the surrounding ecosystem. That is what is likely at Brookside within 5-10 years, and once again it is a "nuisance" that impacts the health of affected people.
- o) We will address these issues in detail prior to the hearing. The Public Health Act 1956 describes the "nuisance" effects of EMFs and noise, and penalties if they impact the mental and physical health of people. In the case of serious health outcomes (cancer, mental disability) then the applicant must be held liable.
- p) The previous hearing on consent application RC225180 was imbalanced. The applicant and his witnesses were provided an entire day to present their evidence; those objecting to the development were given less than half a day and eventually oral evidence and visual presentations were omitted to conclude proceedings by 5pm. If it was a trial the prosecution and plaintiff presented the entirety of its evidence, and the defendant was allowed to present half their case. We believe for this reason the impact of solar technologies at Brookside is understated in the Hughes-Johnson report.

4. Submission at the Hearing

☒ I / We wish to speak in support of my / our submission.

☐ I / We do not wish to speak in support of my / our submission.

☐ If others make a similar submission I / We will consider presenting a joint case with them at the hearing.

☐ Pursuant to section 100A of the Resource Management Act 1991 I / We request that the Council delegate its functions, powers, and duties required to hear and decide the application to one or more hearings commissioners who are not members of the Council. (Please note that if you make such a request you may be liable to meet or contribute to the costs of the commissioner(s). Requests can also be made separately in writing no later than 5 working days after the close of submissions.)

5. Signature

(Of submitter(s) or person authorised to sign on behalf of submitter(s))

Signature:.....

Date: 11/12/2023

Signature:.....

Date:

Note: A signature is not required if you make your submission by electronic means.

6. Privacy Information

The personal information requested in the form is being collected by Selwyn District Council so that we can process your application. This information is required by the Resource Management Act 1991. This information will be held by the Council. You may ask to check and correct any of this personal information if you wish. The personal information collected will not be shared with any departments of the Council not involved in processing your application. However under the Official Information and Meetings Act 1987 this information may be made available on request to parties within and outside the Council.

7. Important Information

1. The Council must receive this submission before the closing date and time for submissions on this application.
2. You must also send a copy of this submission to the applicant as soon as reasonably practicable, at the applicant's address for service.
3. All submitters will be advised of hearing details at least 10 working days before the hearing. If you change your mind about whether you wish to speak at the hearing, please contact the Council by telephone on 347-2868 or by email at
4. Only those submitters who indicate that they wish to speak at the hearing will be sent a copy of the planning report.

For Office Use Only

Received at the Office on at am / pm

Yasmine Binnie

From: [REDACTED]
Sent: Tuesday, 19 December 2023 9:24 am
To: Online Resource Consent Applications; Richard Bigsby
Subject: FW: KeaX Submission
Attachments: Selwyn DC Submission form.pdf; submission for solar.docx

Categories: Yasmine

Hello,

I am passing on this submission as requested, in the knowledge that the Wards were not limited notified.

Kind regards
Claire.

Claire Kelly | Planner | Senior Principal | Full Member, New Zealand Planning Institute

[REDACTED] | LEVEL 1 | 141 CAMBRIDGE
TERRACE | CHRISTCHURCH 8013 | NEW ZEALAND

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From: [REDACTED]
Sent: Tuesday, December 19, 2023 9:13 AM
To: [REDACTED]
Subject: KeaX Submission

Hi Claire

Please find attached a copy of our submission in Favour of the solar array going ahead.

I was not sure who I should be sending this to, so I trust if it is someone other than yourself you can pass it on for me.

Have a Happy Christmas and a safe and enjoyable New Year.

Regards
Paul Ward

This electronic message together with any attachments is confidential. If you receive it in error: (i) you must not use, disclose, copy or retain it; (ii) please contact the sender immediately by reply email and then delete the emails. Views expressed in this email may not be those of Boffa Miskell Limited. **Electronic Data.** By accepting or using electronic data files provided by Boffa Miskell Limited, you acknowledge and agree that (i) The purpose for which the files were prepared may differ from the purpose that you intend to use the files, and Boffa Miskell makes no representation that the files are suitable for your intended use; (ii) Boffa Miskell gives no representation as to the accuracy, completeness or correctness of the information in the files. You acknowledge that it is your responsibility to confirm all measurements and data in the files; (iii) The provision of the files does not transfer any copyright or other intellectual property rights in the files or any information contained therein. All references to Boffa Miskell shall be removed if any information in the files is copied or altered in any way; and (iv) To the full extent permitted by law, Boffa Miskell accepts and shall have no liability whatsoever (including in negligence) for any loss, damage or liability arising from the receipt or use of the files. This e-mail message has been scanned for Viruses and Content.

Planning Unit

Notice of Submission on an Application for Resource Consent

Application Reference:

RC 235464

Resource Management Act 1991 - Form 13

Send or deliver your application to: Selwyn District Council, PO Box 90, Rolleston 7643

For enquiries phone: (03) 347-2868

For enquiries email: planninginfo@selwyn.govt.nz

1. Submitter Details

Name of Submitter(s) (state full name(s)): Pitcairn Farm Ltd, AM Ward, PA Ward

Physical Address: 150 Buckleys Rd, RD 2, Leeston, 7682

Address for Service (if different):

Email:

Telephone (day):

Mobile:

2. Application Details

Application Reference Number (if not stated above):

Name of Applicant (state full name): Kea X

Application Site Address: 115, 150 + 187 Buckleys Rd, Brookside

Description of Proposed Activity: to construct + operate a new Solar array

3. Submission Details

- I / We: ☒ Support all or part of the application
☐ Oppose all or part of the application
☐ Are neutral towards all or part of the application

The specific parts of the application that my / our submission relates to are: (give details, continue on a separate sheet)

In support of the overall application.

The reasons for my / our submission are:

To give a positive side to the discussion

The decision I / We would like the Council to make is: (give details including, if relevant, the parts of the application you wish to have amended and the general nature of any conditions sought.)

Support the application.

RC 235464

Paul, Jenny, Matthew, Priscilla and Angela Ward, the owners of Pitcairn Farm Ltd are fully in favour of this development going ahead.

A lot of work has gone into investigating the pros and cons of the solar system and we are convinced this is the way ahead.

Once the development work is completed it has a very passive effect on the environment. Being next to a sub-station also cuts down on the amount of infrastructure required for the power generated to be utilized.

The Selwyn district is one of the fastest growing areas in New Zealand, the need for sustainable, environmentally friendly power generation systems, will help to meet Selwyn's energy demands going forward.

Also, the rural character will not be affected, due to not being able to see, smell or hear the panels, once established.

As the land owners, we will be leasing the land for the solar and being able to farm underneath the panels. We have been farming here for 50 years and have an excellent understanding of the land and how to farm it. With the majority of the land still able to be farmed, this will keep the area tidy. At this stage we intend to harvest surplus grass as balage and graze with either young cattle or sheep. Lincoln University is doing research into different crops and other options for farming beneath the panels. There is research being undertaken by Halter NZ to find out if dairy cows controlled by virtual fencing can be grazed around the panels.

The panels create a micro climate underneath which helps to retain moisture and reduces wind and evapotranspiration. This may lead to other options for different types of agriculture.

We already have a small area of panels on a waste piece of unirrigated land which is growing more grass than before and is being grazed by cattle.

Due to the panels tracking from east to west and back overnight any rainfall will be dispersed across an area of ground and not always running onto one place as with fixed panels. This means there will not be any more risk from water runoff than when it was grazing cows. In fact, as there will be less stock on the area, the risk of leaching Nitrates will be greatly reduced as will the pugging damage.

The risk of toxins from the panels leaching into the soil is virtually nil. The panels when they reach the end of their life are able to be fully recycled. If for some reason the operation was no longer viable, the panels and frames can be removed and the land returned to traditional farming, as the land is not being damaged in any way.

Having trees planted right around the perimeter of the solar area will mean it will not have an effect on the rural aspect of the area as the panels will not be able to be seen, apart from maybe the smallest glimpse as you pass a gateway.

We, as farmers, had intended to complete the boundary plantings, even if the solar had not gone ahead. Both for attractiveness and for practical reasons. This will have a positive effect on the environment, reducing the wind and helping to create a pathway of trees across the plains which helps to encourage more native birds into the area.

The existing trees growing internally will be removed for the panels, but these trees will have to be removed some-time soon anyway as they are becoming difficult to manage with the pivots going over the top. The new trees to be planted around the perimeter will more than make up for the trees removed. Some irrigation will be retained to water the trees so they will grow to their potential.

New internal fencing will be put up after the panels are in place to make managing stock easier and water for the stock will be put into suitable places.

Another positive is that we will no longer need to cross the road twice a day with the cows, as the remaining cows will be able to be grazed only on the other side of the road. There will also be a few less cows in Ellesmere which seems to be what the general public would prefer.

Thank you for listening and we hope you look positively on this application.

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