Sections 104, 104B, 108, 108AA

Resource Management Act 1991

Report pursuant to section 42A of the Resource Management Act 1991 recommending whether or not an application for resource consent should be:

- Granted or declined, and, if granted, the conditions of consent

APPLICATION NUMBER:	**RC235464**
APPLICANT:	KeaX Limited
BRIEF DESCRIPTION OF APPLICATION:	Land use consent RC235464 is sought to construct and operate a new solar array on approximately 111ha.
SITE DESCRIPTION:	Address: 115, 150 & 187 Buckleys Road, Brookside Legal Description: Lot 1 DP 7545 Title Reference: CB751/93 Area: 20.7857ha Legal Description: Lot 2 DP 54392 Title Reference: CB32F/403 Area: 11.4121ha Legal Description: Lot 2 DP 387576 Title Reference: 352257 Area: 58.5830ha Legal Description: RS 8955 Title Reference: CB512/201 Area: 20.2343ha (Total area: 111.0151ha)
ZONING / OVERLAYS	**Operative Selwyn District Plan (2016), Rural Volume** Outer Plains Zone C59 – Wāhi Taonga Management Site **Partially Operative Selwyn District Plan (Appeals Version – released 27 November 2023)** General Rural Zone Plains Flood Management Overlay, Liquefaction Damage Unlikely Overlay, East Plains/Te Waihora ki Waimakariri Rural Density Overlay (SCA-RD2).
OVERALL ACTIVITY STATUS:	**Discretionary**
HEARING COMMENCES:	4th March, 2024
RECOMMENDATION:	**Granted**

Preamble

1. This report reviews the application for resource consent and addresses the relevant information and issues raised. The recommendation made in this report is not binding on the Independent Hearings Commissioner, and it should not be assumed that the Commissioner will reach the same conclusion, having considered all the evidence brought before the hearing by the applicant and the submitters.

Report Author

2. My name is Richard Willis Bigsby, and I have prepared this s 42A report for Selwyn District Council (the Council) with regard to the subject application. I have eight years' experience as a planner, including a total of almost six years at the Council and over a year at a private planning consultancy. I am currently employed by the Council as a Senior Resource Management Planner.

3. I hold the qualifications of Bachelor of Environmental Management and Planning (majoring in water science and technology), and Master of Environmental Policy and Management, both from Lincoln University. I am currently an Associate member of the New Zealand Planning Institute.

4. Whilst this is a Council hearing, I confirm that I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023 and that I have complied with it when preparing this report. My qualifications as an expert are set out above. I confirm that the issues addressed in this report are within my area of expertise and I have relied on the expert advice of others where stated. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

5. The processing of the resource consent application and preparation of this report has been undertaken with specialist advice from:

    - Andrew Craig, Director, Andrew Craig Landscape Architecture (Landscape);
    - Rudi Van der Velden, Director/Engineering Consultant, Velden Aviation Consulting Limited (Glare & reflectivity);
    - Jon Farren, Principal, Marshall Day Acoustics Limited (Noise);
    - Isobel Stout, Service Leader - Environmental Science, Pattle Delamore Partners Limited (Environmental health);
    - Jamie Gordon, Director, Macfarlane Rural Business Limited (Productive land);
    - Denise Ford, Senior Biodiversity Specialist, Selwyn District Council (Ecology);
    - Ian McCahon, Principal, Geotech Consulting Limited (Geotechnical); and
    - Mahaanui Kurataiao Ltd (Cultural).

6. Their assessments and advice have been relied upon where stated.

7. Before commencing my assessment, I recognise that Orion New Zealand Limited is a Council Controlled Organisation (CCO) owned by Christchurch City Holdings Limited (CCHL) and the Selwyn District Council. The Selwyn District Council has a 10.72% shareholding in Orion New Zealand Limited with the remainder owned by CCHL[1]. A submitter has raised that the Council has a potential conflict of interest and I consider that the appointment of an Independent Hearings Commissioner to determine this application addresses this matter.

The Application

8. The application was formally received by the Selwyn District Council on 10th of August 2023. Further information was received on the 5th, 20th & 24th of October 2023, and this information now forms part of the application.

9. The application proposes to construct and operate a new solar array covering approximately 104ha of the 111ha site, 6km north of the Leeston Township. The applicant expects an operational generating capacity of 100 Gigawatt hours (GWh) (50MW AC / 75MW DC), that will feed into the network grid via Orion's existing Brookside Substation and will be able to power the equivalent of approximately 11,200 houses[2].

[1] https://www.selwyn.govt.nz/your-council/plans-And-reports/council-controlled-organisations/orion-nz-ltd
[2] Refer Application Assessment of Environmental Effects, Section 4.0 – Proposal,

10. The total solar array will be comprised of approximately 140,000 solar panels, set within single axis tracking (SAT) tables. Each table comprises 26 pairs of solar modules (52 individual solar panels total). There will be thirteen inverters[3] to convert the direct current into the network grid, as shown below in **Figure 1**.

11. Resource consent is required for the establishment of a renewable electricity generation activity. The applicant has clarified that the resource consent is sought for an unlimited duration.

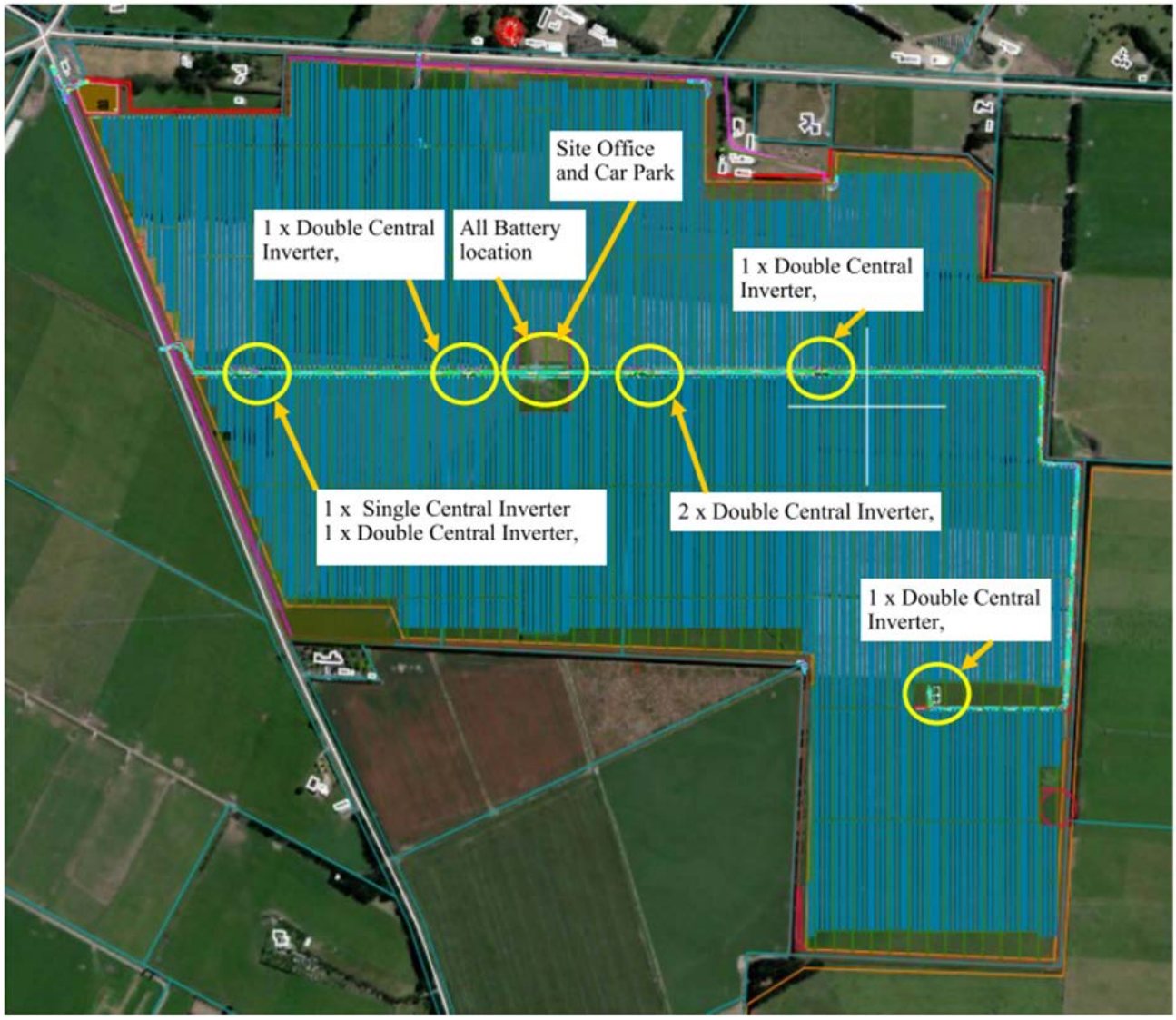

Figure 1:Proposed Site Layout and Battery Plan (Source: Applicant's s92 response, dated 20th October 2023)

12. A comprehensive description of the proposal is set out in the application document. The main aspects of the application are as follows:

a) The solar panels will be approximately 1.30m wide and 2.38m long, tilting on a single axis. When horizontal (stowed) they will be approximately 1.6m-1.8m above the existing ground levels. The panels will move between 500mm and 3m above existing ground level depending on the tracking, with a maximum angle of 60% when fully tilted. The reflectivity value of the panels will not exceed 4%.

b) The tables will be fixed to piles that are driven (likely percussive) into the ground approximately 1.8m deep and the piles will be spaced approximately 6.5m apart. The rows of panels will provide approximately 4.0m separation (between the panel edges) when the panels are horizontal/stowed for construction and maintenance access, as shown in **Figure 2** below.

[3] For electricity they are used to convert direct current (DC) into alternating current (AC).

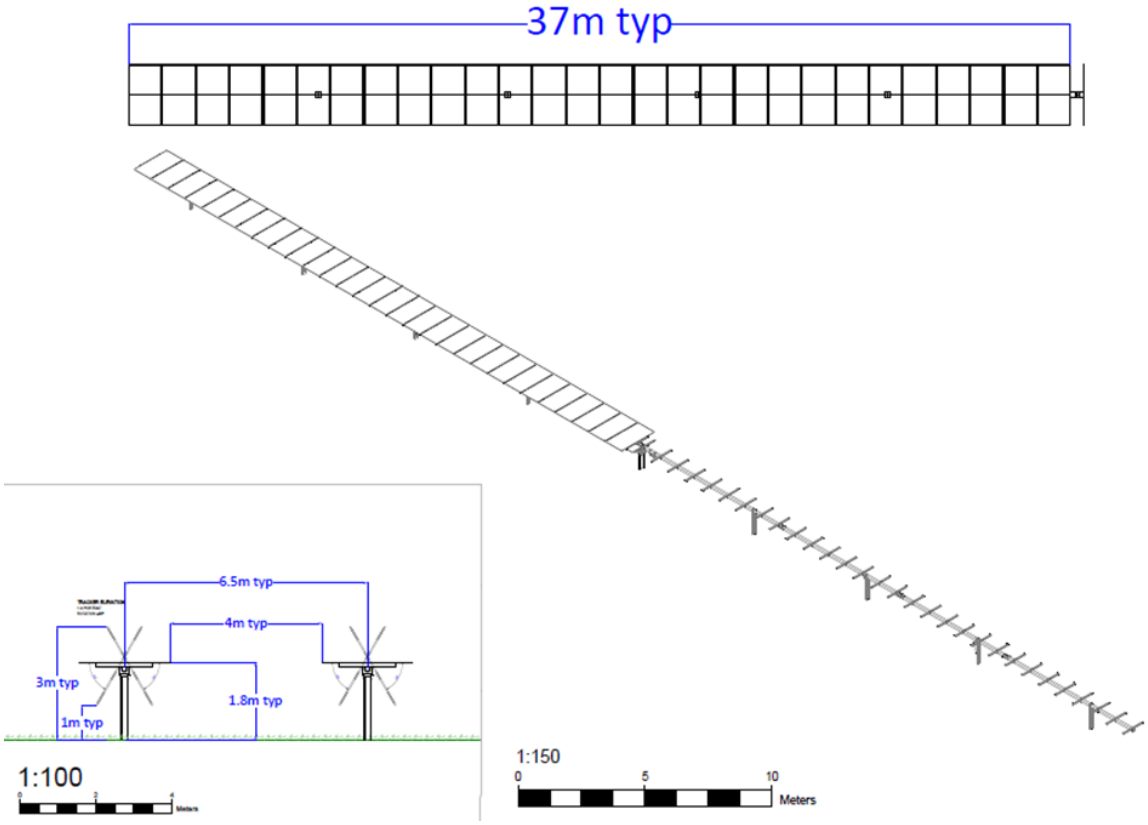

Figure 2: Indicative Tracker System Details (Source: Appendix 5 of Application)

c) It is proposed to construct the solar array in its entirety and in accordance with the following:

   i. No staging of the development or construction is proposed. Up to 100 staff may be on-site during the peak of construction works.

   ii. It is anticipated that the construction will likely take a period of 12 months to complete.

   iii. Construction will be limited to weekdays only (Mon-Fri), and between the hours of 7.30am to 6.00pm.

   iv. Piling equipment will only be used for approximately 6 months. Several piling rigs will be utilised to reduce the total required piling duration.

   v. No stockpiling of soils or material is proposed.

d) Other buildings, infrastructure and equipment will include (see **Figure 1**):

   i. A single storey relocatable site office of approximately 12m length and 4.2m width, covering approximately 50.4m^2. The site office will temporarily support construction and will be removed from the site when construction works are completed.

   ii. A total of thirteen inverters. A sole single skid inverter[4] measuring 10.2m long, 2.1m wide, and 2.25m high, covering an area of approximately 21.42m^2; and twelve twin skid inverters measuring 9.2m long, 5.4m wide, and 2.35m high, covering an area of approximately 25m^2.

   iii. Storage buildings for equipment and materials on-site, comprised of four shipping containers measuring 12.19m long, 2.44m wide, and 2.59m tall, covering an area of approximately 59.4m^2. They will be retained once the array is operational to accommodate storage of materials for maintenance and repairs. They will be positioned adjacent to the temporary site office, which is central to the site.

   iv. A potential/future battery site, located in the centre of the site comprised of 14 x 40ft batteries (within containers). The batteries are intended to manage drops in power and fluctuations, which

[4] Skid or steel platform inverters are intentionally designed for use for off-site or remote options of converting DC to AC current for use in the electrical grid.

can be caused by cloud cover. In the longer term, batteries may store and sell excess energy back to the grid during periods of high demand.

e) All internal fencing, structures, and planting internal to the site will be removed to prepare the site for the installation of the solar array structures. Unless otherwise stated, all existing perimeter boundary planting (road and internal site boundaries) will be retained.

f) Sheep grazing and other primary production is proposed to occur underneath the panels. It is also proposed to retain some of the water infrastructure, including existing water tanks, to provide water for the livestock on the site, and some irrigation. New post and wire fencing may be established in association with primary production underneath the panels for livestock management.

g) It is proposed to undertake mitigation shelterbelt planting of exotic evergreen species to fill in gaps and to plant areas where there is no existing planting or to supplement existing planting in accordance with a Landscaping Mitigation Plan (LMP). The application states that the LMP will be prepared by a suitably qualified registered Landscape Architect, consisting of the matters set out in the applicant's assessment, as follows.

   i. The planting will be located between the site boundary and the security fencing to screen the site and to protect the planting from the livestock grazing the site.

   ii. The planting will be implemented prior to any construction commencing on the site, and plants will be a minimum of 2m tall at establishment. Where existing vegetation needs replacing, a smaller grade of planting may be used. Planting would be maintained at a minimum height of 3.5m at 'maturity'. All dead or diseased existing vegetation will be replaced within the next growing season or as soon as practically possible.

   iii. New planting along Branch Drain Road will be set back 10m from the site boundary and maintained at 3.5m height (once reached) to control shading effects. Where planting is directly behind vegetation that is already at, or exceeds, 2m in height, new planting will range from 0.5m-1.5m at establishment. The existing planting along Branch Drain Road (outside of the boundary fence) will be removed once the new plantings reach 3.5m in height.

   iv. Where planting faces the roadside, the applicant will maintain vegetation with mechanical trimmers from the 10m setback area proposed. On the inside of internal fences, a 3m wide maintenance strip is proposed between the planting and the security fencing to enable mechanical trimming.

   v. Irrigation for the landscaping planting will be installed prior to commencing planting.

   vi. An additional exotic shelterbelt hedge will be planted approximately 20m from the boundary with 324 Branch Drain Road (and 33m from the existing residential unit on this site).

h) The Landscape Effects Assessment states that when the solar array has reached the end of its intended use and a change in land use is proposed, the agricultural land shall be returned to its previous state, leaving the land in a condition that is safe and suitable for subsequent land use. This includes ensuring that the components and infrastructure are disposed of in a way that maximises re-use and re-cycling. All other parts will be disposed of in an environmentally responsible way and in accordance with industry best practices.

i) Security fencing will be established along all road boundaries. The fencing will be chain-link, with barbed wire on top. This fencing will have a maximum height of 2.6m and the posts will not exceed 3.0m. Security gates will be the same height as the proposed fencing. The application states that semi-solid gates may be required for the Branch Drain Road entrance to provide visual screening (I am anticipating that the applicant will provide further detail on these at the hearing). The fencing will be positioned behind the existing and proposed planting.

j) The proposal has the following servicing features:

   i. No external lighting is proposed on the site.

   ii. The relocatable temporary site office will utilise a small solar panel and battery system.

   iii. Potable water will be transported onto the site (filled off-site) during construction for workers and staff. An above ground tank of up to 5,000L will be positioned adjacent to the site office for drinking water and ablutions.

   iv. The site office and staff facilities will be self-contained, having a surface wastewater tank (2,700L). The tank will be monitored and emptied as required, with the contents will be disposed of at a facility that is authorised to receive the wastewater.

v. Stormwater from buildings and structures will be discharged to ground.

k) The proposal includes an approximate earthworks volume of 7,020.5m^3, in relation to the below activities. An Erosion and Sediment Control Plan (ESCP) will be implemented and will incorporate a Dust Management Plan (DMP).

i. Driving piles to approximately 1.8m below ground level to support the solar tables/frames.

ii. Trenching of up to 1.0m below existing ground level to lay cables, which connect the frames of the solar panels together and to the inverters, in addition to connecting the array to the adjacent substation.

iii. Topsoil scraping & disturbance to prepare surfaces for the relocatable buildings, inverters, and the future battery site.

iv. Spreading of material to form internal tracks where required.

l) The site will be accessed from an existing farm gate located on Branch Drain Road, approximately halfway along the Branch Drain Road frontage of the site. This vehicle crossing will be formed and sealed prior to construction in accordance with Diagram E10.D (Operative Selwyn District Plan – Rural Volume), which I note exceeds the requirements of TRAN-Diagram 6 in the Partially Operative Selwyn District Plan, as the localised seal widening on the opposite side of the road is not required The existing culvert within the drain will be upgraded with pre-cast concrete headwalls with RCRRJ[5] piping and will be constructed in accordance with the Council's Engineering Code of Practice (ECOP).

m) Construction phase total equivalent car movements per day (ecm/d) will not exceed 60 (averaged over the week). This will be split between staff movements and deliveries to the site. The delivery of materials will use heavy vehicles. The movements are as follows:

i. Up to 6 trucks will enter and exit the site per day (1 truck to and from the property = 6 equivalent car movements) at times during the construction period, resulting in 36 ecm/d.

ii. Up to 12 staff vehicles will enter and exit the site per day (1 car to and from the property = 2 equivalent car movements), resulting in 24 ecm/d.

iii. Car parking and manoeuvring will be accommodated within the site and no vehicle will be required to reverse onto Branch Drain Road.

n) Staff will not be required on-site on a permanent basis and will infrequently visit the site to check operations and to undertake maintenance. This is anticipated to be only 1-2 staff visits per month, resulting in up to 4 ecm per month.

o) There will be no activity on-site at night-time and the batteries and inverter will be switched off by their Programmable Logic Controller (PLC)[6]. The solar array will operate between the hours of 7.30am to 8.00pm[7].

p) As part of the initial site preparation works, the Wāhi Taonga Management Site (C59 in the Operative Selwyn District Plan) that is located on the site will be fenced off, with a 50m buffer maintained around the feature. No earthworks are proposed within this area, or within 10m of the drains along Branch Drain Road and Buckleys Road, with the exception of the upgraded culvert.

Background

13. The application site is subject to two prior resource consent applications.

14. Resource consents RC065188 and 065189 were formally received on the 31st May 2006, with RC065188 seeking to create a 1ha allotment and a balance Lot 2 of approximately 57.5ha, and RC065189 seeking to retain an existing dwelling on an undersized allotment (now described as 105 Buckleys Road). The application was approved on the 25th September 2006, and established a 19ha (Area A) 'no dwelling' area on Lot 2 via a consent notice to preserve the existing residential density. These consents were given effect to and accordingly, there is a portion of the site that is not permitted to contain a residential unit.

15. Resource consent RC225180 was formally received on the 17th March 2022, to construct a new 258ha solar array, to retain relocated buildings on site permanently, and to undertake earthworks. The subject site was

[5] Rubber Ring Joint Concrete.
[6] Confirmed by Acoustic Engineering Services Ltd on behalf of the applicant in email correspondence dated 4th September 2023.
[7] Refer Application Assessment of Environmental Effects, Section 6.6 – Operational Effects

included in the site for this previous application. This application was limited notified on the 2nd November 2022, and a hearing was held in February 2023.

16. A Commissioner decision to decline RC225180 was issued on the 27th March 2023 in accordance with section 104(3)(d), as it was determined that the application should have been subject to public notification and was not. The Commissioner determined that it was clear that the Council's notification (s95) decision was made on the basis of what was understood to be a solar array limited to a 35-year term and that the application was clarified at the hearing to have an indefinite term sought.

17. The matter of productive land use, which was described in the notification decision to be temporary and reversible following the expiry of the 35-year team was not (at that time) examined in the context of an indefinite term. The Commissioner did not consider the question of whether limiting the consent to that term would have made any difference to the matter of notification, as it was not his role or jurisdiction to review the notification decision.

18. The Commissioner found that there was insufficient evidence to establish, with clarity, the effect of the loss of opportunity presented by the highly productive soils on the site and analysis of the productive capacity of highly productive land in the District, at the time of the notification decision. They considered the loss of productive potential across the indefinite term gives rise to environmental effects which are more than minor, and therefore formed a view that the application should have been subject to public notification and was not. S104(3)(d) of the Act requires that a consent authority must not grant a resource consent if the application should have been notified and was not.

19. A copy of that decision is available from the Council on request.

20. The following consents have been obtained by the applicant from Environment Canterbury, the Regional Council, (ECan) in relation to the use of this site (and adjoining land) for a solar array:

    a) CRC223908, issued 15th November 2022 – To undertake earthworks over aquifers.

    b) CRC223909, issued 15th November 2022 – To discharge operational phase stormwater to land.

The Existing Environment

21. The application site has an approximate area of 111ha and is comprised of the below properties. Records of title are available on request.

    - 115 and 150 Buckleys Road – Lot 1 DP 7545, RS 8955 & Lot 2 DP 387576
    - 187 Buckleys Road – Lot 2 DP 54392

22. The site is located approximately 6km to the north of the Leeston Township. It contains existing two residential units, one at 115 and one at 187 Buckleys Road, farm buildings, shelterbelt planting and irrigation infrastructure (including 2 centre pivot irrigators). The site is shown in **Figure 3** below. The site is currently used for dairy farming in conjunction with the property at 150 Buckleys Road and has relatively flat topography. The dairy farm at 150 Buckleys Road includes a small existing fixed panel solar array that supplies the on-site activities.

23. There are multiple farm accesses and vehicle crossings to Buckleys Road and an existing farm access from Branch Drain Road (refer **Figure 5** below). In addition, there are overhead powerlines located along Buckleys Road and Branch Drain Road within the road reserve. Branch Drain Road and Buckleys Road contain classified drains[8] adjoining the boundary of the site. The Buckleys Road drain has consistent water flow and is identified in the Partially Operative Selwyn District Plan as potential habitat for the threatened (nationally critical) Kowaro/Canterbury Mudfish.

24. The shelterbelt planting is well established in some parts of the site, with mature planting along the boundaries (refer **Figure 6**). In other areas, there are gaps in the planting where there are either small plantings or no planting at all. Existing vegetation is comprised of pasture grasses, in addition to shelterbelt and road boundary plantings. The south-eastern portion of the site contains Wāhi Taonga Management Site - C59, which is identified in the Operative Selwyn District Plan (Rural Volume) and is not listed in the Partially Operative Plan.

25. The surrounding area is comprised of predominantly rural land uses, including dairy farming, cropping, and the rearing of livestock, while also including residential activities. There is an existing Orion New Zealand Limited (Orion) substation located in the north-western corner of the site, at the intersection of Buckleys Road and Branch Drain Road, referred to as the Brookside Substation (see **Figure 4** below).

[8] Within the Leeston Land Drainage Scheme - https://www.selwyn.govt.nz/__data/assets/pdf_file/0005/827141/LD-Proposed-Boundaries-2022.pdf

Figure 3:Application Site and Immediate Surrounds (Source: Canterbury maps)

Figure 4: Location of the adjacent Brookside Substation relative to the site (shown pink) (Source: Canterbury Maps)

Figure 5:View north-west along Branch Drain Road towards the sub-station (Source: Site visit)

Figure 6:View from Branch Drain Road towards established shelterbelt planting along southern site boundary (adjoining 324 Branch Drain Road) (Source: Site visit)

Figure 7: Additional image from Branch Drain Road along established shelterbelt adjacent to 324 Branch Drain Road (Source: Site visit)

Figure 8:View west across the property at 821 Hanmer Road towards the application site (Source: Site visit)

26. I undertook a site visit on Thursday, 21st September 2023. My site visit included travelling across the property using the existing farm track that bisects the property. I also travelled around the perimeter of the site on the adjoining road network.

Activity Status

Partially Operative Selwyn District Plan (Appeals Version – released 27 November 2023) ("the Partially Operative Plan")

27. The application site is zoned General Rural (GRUZ). The site is also subject to the following overlays:

    Plains Flood Management Overlay, Liquefaction Damage Unlikely Overlay, and the East Plains/Te Waihora ki Waimakariri Rural Density Overlay (SCA-RD2).

28. The Council released the Appeals Version of the Partially Operative Plan on 27 November 2023. Many provisions are beyond challenge and are operative/treated as operative (pursuant to cl 103 of Schedule 1 and s 86F of the Act). Those subject to appeal continue to have legal effect pursuant to s 86B.

Land Use

29. The proposed land use activity does not meet the following rule:

Treated as operative:

RULE	TOPIC	COMPLIANCE	STATUS
EI-R31	Other Renewable Electricity Generation and Renewable Electricity Generation Activities	The establishment of a new renewable electricity generation activity requires consent.	Discretionary (EI-R31.1)

30. The rule framework relevant to this proposal is located within the Energy & Infrastructure, and the Transportation Chapters. Useful guidance is contained in the 'Note for Plan Users', preceding the rules contained in the Energy & Infrastructure Chapter. Relevant extracts from this guidance explain that:

As required by the National Planning Standards, unless relating specifically to a Special Purpose Zone, the 'Energy, Infrastructure and Transport' heading has been created to be self-contained for all energy, transport and infrastructure works and activities. In this Plan, energy and infrastructure matters are contained in a separate chapter to transport matters…..

….Regarding energy or important infrastructure activities, while most of the relevant provisions are contained within this chapter, all activities must be assessed against the Transport chapter. Additionally, the objectives, policies, and methods for managing reverse sensitivity effects relating to noise sensitive activities establishing in proximity to important infrastructure are managed under the Noise Chapter of this Plan. Except where there are direct cross-references, in all other circumstances this chapter sets out all other provisions for energy or infrastructure activities. [my underlined emphasis]

Where a rule or rule requirement from another chapter has been cross-referenced within this chapter, the relevant associated objectives and policies also apply when assessing an application for resource consent.

Where an activity is within an Overlay, the associated objectives and policies from the relevant chapter for that overlay also apply when assessing an application for resource consent....

31. For clarification, the Kea Group, including KeaX and Kea Energy, are a "participant" (i.e. a generator) with regard to the Electricity Industry Act (2010), but not an "operator". Consequently, the activity does not meet the definition of "important infrastructure" under the Partially Operative Plan. However, a new "renewable electricity generation" activity (defined in the Partially Operative Plan is an "energy activity" (not defined) that is relevant to this chapter.

32. The proposal requires resource consent under EI-R31 for the establishment of a new renewable electricity generation activity. EI-R31 has no applicable rule requirements. There are no rules from the Transportation Chapter that are not complied with.

33. The "General District Wide Matters" Chapters (including earthworks and noise) and corresponding rules do not apply. There are no appealed rules relevant to this proposal.

34. Therefore, the land use proposal is a Discretionary activity under the Partially Operative Plan.

Operative Selwyn District Plan (2016), Rural Volume ("the Operative Plan")

35. The application site is zoned Outer Plains. The site is also subject to C59 – Wāhi Taonga Management Site.

36. As discussed prior, the Council released the Appeals Version of the Partially Operative Selwyn District Plan on 27 November 2023, which I note was after the notification (s95) decision on this application. There are now many provisions that are beyond challenge and are operative/treated as operative (pursuant to cl 103 of Schedule 1 and s 86F of the Act), and the corresponding provisions in the Operative Plan are treated as inoperative.

37. There are no Operative Plan rules that still apply following appeals, which the proposal does not comply with. The notification decision previously identified that Rule 5.1.2 (Utilities – activities) of the Operative Plan was not complied with. However, the equivalent rule in the Partially Operative Plan is EI-R31 and this rule is now confirmed to be not subject to appeal/treated as operative. Therefore, Rule 5.1.2 is now inoperative.

38. For completeness and the avoidance of doubt, for those relevant transportation provisions from the Partially Operative Plan that are appealed, the equivalent provisions from the Operative Plan are complied with.

39. Therefore, the land use proposal is now a Permitted activity under the Operative Plan.

National Environmental Standards

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS)

40. The NES-CS manages activities which involve the disturbance of land which may be contaminated. This is determined by whether activities listed in the Hazardous Activities and Industries List (HAIL) have or are likely to have occurred on the site.

41. The applicant has provided an assessment which I accept, concluding that a HAIL activity (A1, Agrichemicals including commercial premises used by spray contractors for filling, storing or washing out tanks for agrichemical application) has and will continue to occur on the site. Clause 5 (8) of the NES-CS sets out the activities that trigger if the NES-CS regulations apply. Regulated activities include disturbing soil under or around buildings used for residential purposes, and changing the use of a piece of land in a way that causes the piece of land to stop being production land. I agree with the applicant that none of the activities described in Clause 5 (8) are included in the proposal.

42. On that basis, the proposal is not a change of use of the land, as the land will not stop being used as production land. Therefore, the NES-CS does not apply.

Overall Activity Status

43. At the time of lodgement, the application was assessed/treated as being for a **Discretionary** activity.

44. As per the Activity Status section above, at the time of writing this report the proposal is still for a **Discretionary** activity (i.e. the most restrictive status applicable).

45. Therefore, the proposal is being considered as a **Discretionary** activity overall.

Written Approvals (Section 104(3)(a)(ii))

46. The provision of written approvals is relevant to the notification and substantive assessments of the effects of a proposal under section 104(3)(a)(ii). Where written approval has been provided, the consent authority must not have regard to any effect on that person.

47. Written approval has been provided from the following owners/occupiers of these properties (identified in **Figure 9** below):

- 105 Buckleys Road
- 150 Buckleys Road (the application site)
- 10 Stewart Road
- 187 Buckleys Road (the application site)

- 115 Buckleys Road (the application site)
- 821 Hanmer Road
- 883 Hanmer Road

The Limited Notification

48. A decision regarding notification pursuant to Sections 95/95A-E has been undertaken separately by a Commissioner on 7th November 2023 acting under delegated authority from the Selwyn District Council. This decision is available to any party on request.

49. In summary, it was determined that the application be limited notified, with the following being affected persons for the purposes of notification (identified in **Figure 10** below):

Te Taumutu Rūnanga; and

The owners and occupiers of:

- 23 Buckleys Road
- 79 Buckleys Road
- 80 Buckleys Road
- 15 Stewarts Road
- 29 Irwell Rakaia Road
- 313 Branch Drain Road
- 324 Branch Drain Road
- 198 Branch Drain Road

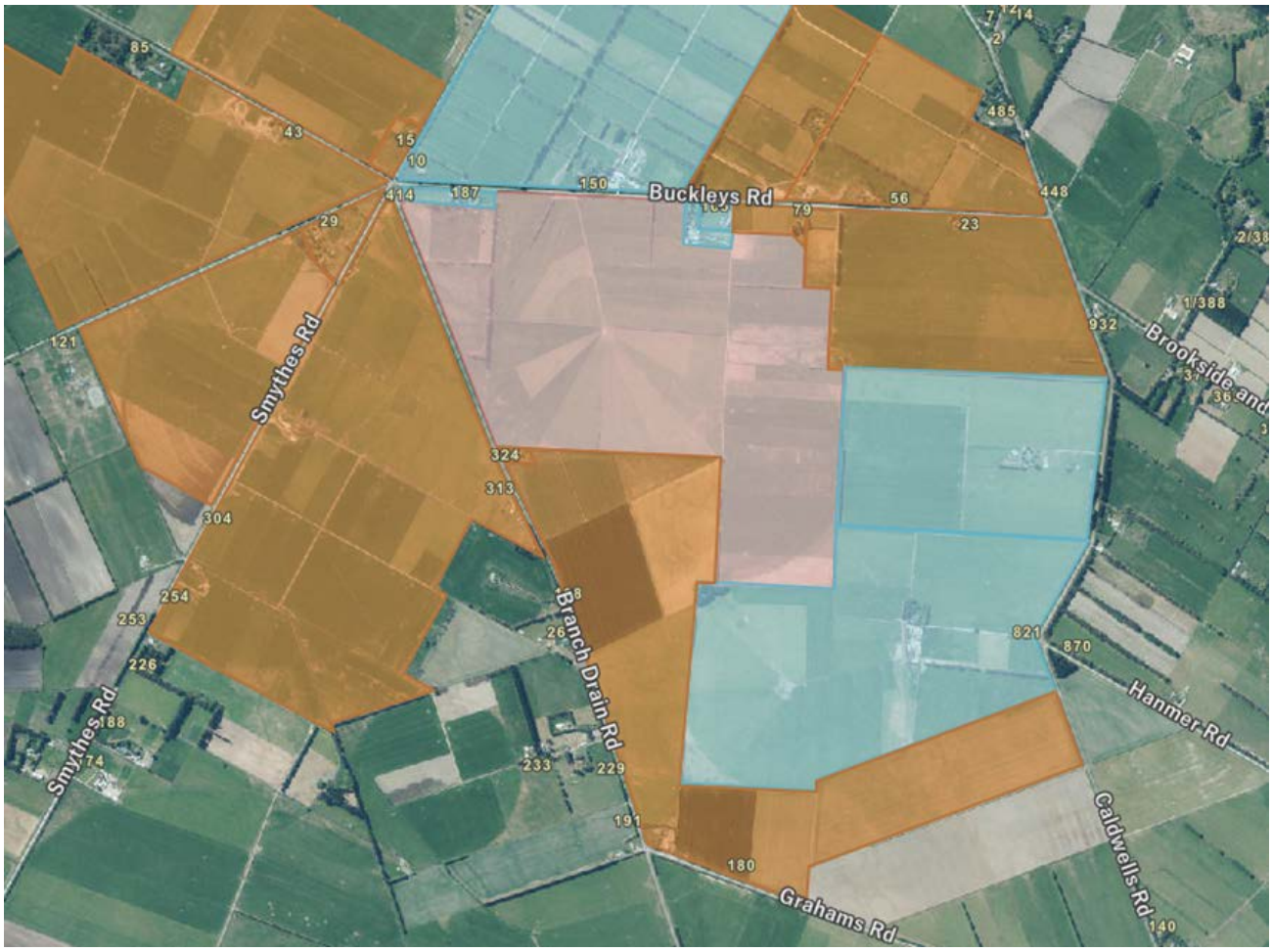

Figure 9: Aerial photo illustrating the location of adjacent properties notified (orange) relative to the application site (pink), and those properties (including owners/occupiers of the site) that provided written approval (blue) (Source: Canterbury Maps)

Submissions

50. A total of eight submissions were received. Full copies of all submissions are included in **Appendix A**. It is noted that full copies of the submissions have been provided to the Commissioner and that the submissions have also been available on the Council's website since the closure of the submissions period. A map and corresponding key of where the submitters live in relation to the application site is included in **Figure 10** below.

Figure 10: Map of where the submitters live in relation to the application site (shown pink) (Source: Canterbury Maps)

- 79 Buckleys Road – S Robinson (shown red)
- 23 & 80 Buckleys Road – M Dalley for Haurere Farms Limited (shown green)
- 15 Stewarts Road – C Krygsman (shown purple)
- 313 Branch Drain Road – D Green for Glenmore Farming Company Limited (shown blue)
- 324 Branch Drain Road – D & D Kewish (shown orange)
- 198 Branch Drain Road – C Casey (shown black)
- 233 Branch Drain Road – R Henderson (shown light green)
- 150 Buckleys Road – A & P Ward for Pitcairn Farm Limited (shown light purple)

51. I have read each of the submissions. Eight of the submissions were in opposition to the proposal and covered a range of matters, as follows.

a) Rural character and amenity

b) Use of highly productive land

c) Agricultural management

d) Contamination
e) Electromagnetic fields (EMF)
f) Ecology
g) Heat island effect
h) Noise
i) Dust
j) Increase in flooding and run-off
k) An indefinite consent duration
l) Glare
m) Reverse sensitivity
n) Disruption of internet
o) Health effects
p) Notification, including a lack of public notification
q) Lack of impartiality from Council on consents for solar farms
r) Impacts on land valuation
s) Future expansion, including future applications
t) Costs of re-development to existing sub-station
u) Fire risk and management
v) Increase in traffic, including effects on safety
w) Inconsistency with freshwater management policy directives

52. One of these submissions was from Mr Raymond Henderson, who owns/occupies 233 Branch Drain Road. This submitter was not deemed an affected person and not notified. The submission stated that it was from Te Taumutu Rūnanga (Raymond John Henderson). I note that Te Taumutu Rūnanga were notified via Mahaanui Kurataiao Ltd, a resource and environmental advisory company established by the six Papatipu Rūnanga of Te Tai o Mahaanui (inclusive of Te Taumutu Rūnanga). Mahaanui Kurataiao Ltd were consulted with prior to the notification decision and provided a Cultural Advice Report. However, they did not make a submission following notification.

53. In regard to Mr. Henderson's submission, I have queried the submission with Mahaanui Kurataiao Ltd, who directly referred me to the Rūnanga. Ms. Faye White, Kaitiakitanga Kaitohutohu and Climate Change Advisor for Te Taumutu Rūnanga said:

"This is not a resource consent submission that has been completed by our mandated whānau representatives who represent Te Taumutu Rūnanga in this capacity. Those representatives are Les Wanhalla and Rachel Robilliard.

Raymond Johnson who completed this submission does whakapapa to other local hapū according to the Ngāi Tahu whakapapa unit. However, Ngāi Tahu whakapapa unit has confirmed that Raymond does not whakapapa to Taumutu….

Therefore this submission cannot be used to represent the position of Te Taumutu Rūnanga".

54. A ninth submission was received from 150 Buckleys Road, in support of the proposal. However, this property was not limited notified, and I recognise that written approval has already been obtained from the owners and occupiers of this site, which I note is part of the application site.

Section 104 Assessment

55. Section 104 of the Act sets out the matters the Council must have regard to when considering an application for resource consent.

56. Section 104(1), in particular, states as follows:

104 Consideration of applications

(1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2 and section 77M [Effect of incorporation of MDRS in district plan]*, have regard to–*

(a) any actual and potential effects on the environment of allowing the activity; and

(ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and

(b) any relevant provisions of—

(i) a national environmental standard:

(ii) other regulations:

(iii) a national policy statement:

(iv) a New Zealand coastal policy statement:

(v) a regional policy statement or proposed regional policy statement:

(vi) a plan or proposed plan; and

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

…

57. Section 104(2) states that a consent authority may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan, i.e. the operative plan, permits an activity with that effect.

58. Section 104B applies to discretionary and non-complying activities. It allows that the consent authority may grant or refuse the application, and, if granted, it may impose conditions under s 108.

Assessment of Environmental Effects (s 104(1)(a))

Permitted Baseline

59. It is firstly recognised that the permitted baseline is relevant (section 104(2)), and regard must not be had to any person who has given their written approval (section 104(3)(a)(ii)).

60. Under s 104(2), the consent authority "may disregard an adverse effect" if a rule or a national environmental standard permits an activity with that effect, a concept known as 'the permitted baseline'. The application of the permitted baseline is discretionary, as denoted by the use of the word "may". It is understood that its intention is to identify and exclude those adverse effects that would be permitted by the Plan from consideration.

61. There is no particularly useful permitted baseline in terms of activities that generate similar effects overall. However, throughout my Assessment below, I have identified individual rules that are useful as a guide and relevant to the permitted baseline.

Assessment

62. The status of the activity is Discretionary. As such, the Council's discretion is unrestricted, and all adverse effects must be considered.

63. The receiving environment for this proposal includes the existing environment and the future environment as it could be, i.e. as modified by non-fanciful permitted activities and unimplemented resource consents. As previously stated, the receiving environment is characterised by predominantly rural land uses, including dairy farming, cropping, and the rearing of livestock, while also including residential activities (on rural and rural-residential properties).

64. Notably, the receiving environment is considered to include a potential future residential unit at 198 Branch Drain Road (Lot 2 DP 78273), at 23 Buckleys Road (RS 5723), and Stewarts Road (Lot 2 DP 78863 & Lot 3 DP 300831), on individual titles of sufficient land area to establish a residential unit.

65. I consider that the effects relevant to the proposal (including those matters raised in submissions) may be considered under the following headings:

- Rural character and amenity
- Glare and reflectivity
- Transportation

- Noise
- Environmental health
- Loss of highly productive land
- Reverse sensitivity
- Earthworks
- Cultural effects
- Ecological effects
- Hazard effects
- Servicing

Rural character and amenity

66. The Resource Management Act 1991 (RMA) defines '*amenity values*' as being '*those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes*'. It encompasses consideration of what types of activities are anticipated in the area and by neighbours, along with what can be seen/heard/perceived from adjoining properties.

67. The application included an assessment of landscape effects. This assessment was initially peer reviewed on behalf of the Council for the notification report by Ms Bron Faulkner, Landscape Architect. Unfortunately, Ms Faulkner will be overseas and unavailable for the 'window' within which the Council was obligated to hold the hearing within the statutory timeframes. Consequently, Mr Andrew Craig, Landscape Architect, was engaged to provide landscape evidence on the Council's behalf, and this evidence is included as **Appendix B**.

68. The Partially Operative Plan permits plantation forestry (GRUZ-R24) and the establishment of structures (GRUZ-R2), including tunnel houses, shadehouses and greenhouses with no limitation on building coverage and with a maximum height of 12m. Both of these activities are referred to in the applicant's Landscape Effects Assessment (LEA), within the permitted baseline discussion.

69. In regard to structures, such as permitted utility structures, tunnel houses, shadehouses and greenhouses, in my view, it would be fanciful for a rural property to have structures fully covering 104ha. Therefore, I do not agree that the landscape/visual and rural character adverse effects of structures across the entirety of the site may be disregarded.

70. In regard to adverse visual effects, and their mitigation measures, Mr Craig agrees that the exotic mitigation planting (both existing and proposed) will effectively screen the panels and ensure that visual effects (for both view quality and view obstruction) resulting from the proposal are less than minor. However, this will only occur once the exotic planting has reached a minimum height of 3.5m with sufficient spread to fully screen the array.

71. Mr Craig recognises that, in the interim, there will be limited views through to the array, albeit mitigated to a degree by the implementation of exotic planting prior to the commencement of construction. The application states that this planting will be comprised of fast growing exotic species with areas of new planting a minimum of 2m high at establishment. Further, the exotic species proposed have rapid growth rates, with Mr Craig estimating that the 2m high plants can reach a height of 3.5m within two years.

72. The smaller grades proposed would take approximately four years to reach 3.5m high. Therefore, full visual screening should be achievable within two to three years, ensuring adverse visual effects will be temporary and ultimately less than minor. Mr Craig recognises that there will be limited views into the arrays in the interim, although immediately mitigated to some extent by the exotic planting establishing prior to construction.

73. In regard to landscape effects, Mr Craig recognises that these effects can arise from changes to the landscape, irrespective of whether they are visible or not and in his terms, centre on the values ascribed to any one particular landscape. It is the District Plan that expresses the qualities and characteristics envisaged or anticipated for an area and Mr Craig has considered the Rural zones of each Plan.

74. Mr Craig's evidence carefully considers the landscape within which the proposed activity is located and other 'rural' activities which are reasonably common, including horticulture, viticulture, forestry, quarrying and intensive farming, along with some infrastructure and large scale processing. On the Plains, he considers it is the prominence of vegetation exhibiting a degree of naturalness, in combination with the predominance of open space, which give the Plains its amenity values.

75. This is consistent with the rural amenity explanations provided in each Plan, whereby the Operative Plan outlines that rural amenity is derived from *'…for example, rolling hills, meandering streams, and fields with animals and crops, which are all typical rural scenes',* and the Partially Operative Plan states that *'Generally, character and*

amenity within the General Rural Zone is characterised by a landscape dominated by openness and vegetation, and with significant visual separation between neighbouring residential buildings'.

76. Mr Craig concludes that the site '*is not exceptional in any way in as much it does not harbour features or combination thereof that are particularly unique or distinctive. Consequently, in landscape terms there is nothing special or particular about the Site and its immediate setting that would rule out the proposed activity'*. Mr Craig also concludes that there will be no adverse cumulative landscape effect arising from the proposal.

77. Mr Craig in considering whether the attributes of vegetation prominence and openness will be maintained should consent be granted, notes that pasture or horticulture will remain on the site, although it will not be visible due to the screening of the mitigation planting proposed. Mr Craig also acknowledges that the proposed activity is not irreversible, compared to buildings with a greater degree of permanence.

78. In regard to openness, Mr Craig acknowledges that 'openness' is a difficult concept to address, including that it is not defined in either Plan. In his opinion, the key elements would be an environment free of 'cover' and 'enclosure', and that the standards addressing building coverage would appear to address 'cover'. A certain degree of openness is determined to be maintained due to pasture within the array.

79. In regard to enclosure, the Plains are characterised by prevalent shelterbelts enclosing pasture and fields, with an effect of negating openness and obstructing views. It is however recognised that most people would be aware of and appreciate the presence of open space beyond shelterbelts, even if it is not directly visible, and that this constitutes a landscape effect. Mr Craig states that due to the mitigation planting proposed around the site perimeter, those in the non-adjacent environment will likely erroneously perceive that the interior of the site is comprised of open space utilised for a pastoral or horticultural activity.

80. He states that views available near the gates may dismiss that impression, but aside from the gates, there is nothing that is considered to outwardly signal the presence of the activity. Mr Craig considers that, while the array will reduce openness by virtue of the land it covers, the sense of sense of openness perceived by the public will not be particularly noticeable due to the array structure height, the positioning of the site surrounded by rural open space, and the mitigation planting once it achieves maturity and complete screening.

81. I agree with Mr Craig that the Partially Operative Plan contemplates the establishment of renewable electricity generation across all zones, including the General Rural Zone, subject to the matters listed under Policy EI-P9 at a broad level; however, the Plan also makes such activity a fully discretionary activity in the General Rural Zone. As such, the Plan is indicating that assessment on a location-specific and application-specific basis is necessary, and not all proposals will be appropriate. I also agree that the location of solar arrays is dictated to a degree by the need to locate adjacent to major transmission lines and substations, which is aligned with the Partially Operative Plan intent (EI-P2.1) to encourage the co-location of structures and facilities, where efficient and possible.

82. Mr Craig also considers the eight submissions received. I anticipate that the submitters will elaborate on those characteristics of the area that contribute to their appreciation of its pleasantness and aesthetic coherence at the hearing. Some of the submissions expressed concerns with regard to rural character and amenity, in particular relating to a decrease in rural amenity, glare and the change from a rural to industrial landscape character.

83. The submissions also raise concerns with a change in the character of the site from rural to industrial. I agree with Mr Craig that the typical natural components of rural activities, being vegetation and open space, will be modified by an activity with different physical characteristics. I agree that the proposal will have an adverse effect on rural amenity, which is largely derived from the relative predominance of natural character. Mr Craig accepts that the adverse effects will be minimised by the exotic mitigation planting, whilst also acknowledging what can reasonably be expected to occur in the existing environment.

84. One submission concerned the mitigation planting specifically, with a preference for native planting over the exotic planting proposed. Te Taumutu Rūnanga have advised that indigenous species would be required to mitigate adverse cultural effects. Mr Craig recognises that visual screening is the principal objective of the mitigation planting and is neutral regarding the species used, provided the visual screening is rapidly achieved in order to minimise effects on amenity values (EI-P2.2). In his opinion, exotic species are typically faster growing, whereas native species will be slower in comparison. Consequently, visual screening using solely indigenous species may take longer to establish, although a diverse indigenous plant mix would result in a better landscape outcome.

85. Mr Craig has advised[9] that it may not be feasible for the applicant to obtain indigenous plant species in the grades and volumes required to achieve visual screening of 2m high prior to the commencement of construction.

[9] Pers comm., 9th February 2024.

Indigenous plant species would also require irrigation and would take a few more years than exotic species to grow to a minimum of 3.5m. Overall, there will be an adverse visual effect, but not at the top end of severity.

86. Mr Craig has indicated it would be more feasible for the applicant to undertake a combination of indigenous and exotic species, given the potential constraints for sourcing the volumes and grades required for visual screening equivalent to the exotic species proposed by the applicant. The applicant could undertake the exotic planting as generally set out in the application to ensure sufficient visual screening, with indigenous species planted at the same time to eventually replace those exotic species. Varieties including Pittosporums and Kanuka could achieve suitable screening, although the overall planting would require more space initially, with some practical constraints to be considered by the applicant in the context of their planned layout.

87. I support the implementation of a combination of indigenous and exotic planting, but I recognise that depending on the grades and balance in composition between the two, there would be a greater degree of adverse visual effect. I also recognise that the Cultural Advice Report recommended an equivalent condition (Condition 7), as the following:

'The Applicant must replace fast-growing exotic plantings with indigenous eco-sourced plants over time'.

88. It is in my view, somewhat complex to balance the mitigation of both the adverse visuals and the adverse cultural effects. The applicant will need to expand on the plant species at the hearing.

89. Overall, Mr Craig summarises that:

'It is my opinion that there will be a significant landscape effect resulting from the large scale introduction of a physical structure into an environment that currently rests more toward the natural end of the modification spectrum. But as described, such effects are not unexpected (by the District Plan) and is consistent with the predominantly productive character of the rural Canterbury plains. In associative landscape terms, this means that people would not be surprised to appreciate the presence of such activity as that proposed in this particular setting.

Overall, I conclude that adverse landscape effects will therefore be minor.

Regarding visual effects, I am satisfied that the proposed mitigation planting in combination with that existing will effectively screen the activity from both neighbouring residences and adjoining roads. Further, the solar array will not adversely affect views to significant landscape features. Consequently, visual effects will be less than minor'.

90. For the reasons set out in the preceding assessment and in Mr. Craig's evidence, I agree, and I conclude that adverse effects relating to rural character and amenity will be minor.

Glare and reflectivity

91. The application included an assessment of glare and reflectivity effects for the solar array. The assessment was reviewed on behalf of the Council by Mr Rudi Van der Velden (of Velden Aviation Consulting Ltd), and his review for the notification report is included as **Appendix C**.

92. Subsequent to this, Mr Van der Velden has prepared evidence, which is included as **Appendix D**. Mr Van der Velden agrees that the applicant's assessment parameters are appropriate, being based on Australian New South Wales Government Guidelines on Large Scale Solar Energy Development, and these are considered to be more conservative than the parameters adopted by other States.

93. In regard to glare and reflectivity effects on residential units, Mr Van der Velden determined that there would be some potential glare for a residential unit at 115 Buckleys Road and at 277 Branch Drain Road, but it was less than 10 hours per year and less than 10 hours per day, and therefore considered to be low impact and unlikely to require mitigation. The assessment concluded that the combination of existing and planned planting would ensure the overall effects on residential units are less than minor.

94. For potential effects on road users, the application identified an area of glare at the junction of Caldwells Road and Hanmer Road that would align with a gap in the proposed mitigation planting to accommodate a Wāhi Taonga management site. Consequently, the applicant has proposed that the panels in this section of the solar array do not include any back tracking to avoid the potential glare for this location.

95. The applicant's assessment also considered a larger vehicle (i.e. bus, truck, tractor) with an operator eye level at 2.5m high, and concluded that four roads in the vicinity of the site have potential for glare. Potential glare north onto Buckleys Road is not oriented in the direction of travel (east-west) for road users and no mitigation is considered necessary. Potential glare onto Brookside and Irwell Roads will be screened by an intervening shelterbelt hedge that the applicant will maintain. Potential glare at Hanmer and Caldwells Roads will be mitigated by an area of extended backtracking to the south-eastern portion of the site until the planting establishes to a suitable height to prevent glare for a 2.5m eye level.

96. Of the submissions received, 80 Buckleys Road and 233 Branch Drain Road raised direct concerns with regard to glare and reflectivity effects. Mr Van der Velden has considered the submitters concerns and believes that the effects are less than minor. Mr Van der Velden concludes that the overall impact from glare and reflectivity, taking into account proposed mitigation measures, will be less than minor for both residential units and road users.

97. I accept Mr Van der Velden's view and conclude that adverse effects relating to glare and reflectivity (including glint) will be adequately mitigated.

Transportation

98. The application proposes vehicle access to the site during construction and the on-going operation of the solar array using an existing entrance from Branch Drain Road. It is understood this is the only required point of access to the site. Branch Drain Road is a formed and sealed local classification road under the Partially Operative Plan with a posted speed limit of 100km/hr[10]. The applicant has confirmed that this existing access will be upgraded prior to the commencement of construction on the site[11]. The formation standard of the access will be in accordance with Diagram E10.D (Operative District Plan – Rural Volume), which is the applicable standard for heavy vehicle access under the Operative Plan. Notably, this standard exceeds the formation requirement (TRAN-DIAGRAM6) contained in the Partially Operative Plan and includes localised seal widening on the opposite side of the road, which I consider will assist efficient traffic flow.

99. As set out in the application, the construction of the array will not be staged or deferred in any manner. Up to 100 staff will be on site during the peak of the construction works and the total duration of construction is expected to be 12 months. In regard to traffic generation, the construction phase total equivalent car movements[12] (ecm) per day will not exceed 60 (averaged over the week). This is split between staff movements and deliveries to the site. Car parking for cars/minibuses will be adjacent to the site office and manoeuvring for all light and heavy vehicles will be accommodated within the site, and therefore no vehicles will be required to reverse onto Branch Drain Road.

100. Once the construction phase is completed, the application states that the activity is likely to generate approximately 4 ecm per month, associated with staff visiting the site to inspect the array and undertake maintenance. The Partially Operative Plan permits up to 60 ecm/d per site (averaged over any one-week period) for any activity accessing a local classification road that is formed, sealed, and maintained by the Council. Branch Drain Road is maintained by the Council. The Partially Operative Plan also permits a crossing in the General Rural Zone to be used for an activity generating up to 40 vehicle movements per day, and the application indicates the activity will not exceed 36 vehicle movements per day. The provision of parking spaces for minibuses is stated in the application and I expect that they will be required to be used to achieve compliance with the permitted thresholds, and that the applicant will confirm this at the hearing. Notably, vehicle movements[13] are defined separately to 'ecm' in the Partially Operative Plan.

101. Of the submissions received relating to transportation, concerns were raised in relation to an increase in traffic around the Brookside Substation by 313 Branch Drain Road, and safety effects associated with glare from panels onto busy roads by 80 Buckleys and 233 Branch Drain Road. The effects of glare and reflectivity on the transportation network are addressed in the preceding assessment. In regard to an increase in traffic around the intersection of the Brookside Substation, this will be limited to the construction period of approximately 12 months. Following this, the operational traffic will be minimal (4 ecm per month).

102. Whilst the construction phase will cause an increase in traffic at this intersection, the vehicle movements generated by the activity are permitted by both Plans and there is considered to be no adverse safety effect. This is supported by the Partially Operative Plan (TRAN-P4) which only requires management of the adverse effects of activities within the General Rural Zone that exceed the maximum number of vehicle movements. In respect of the use of the substation as a pick-up and drop-off point for school bus children, all motorists are required to slow down to 20km/hr when passing a stationary school bus (regardless of the direction)[14].

103. Overall, I consider that the transportation related adverse effects will be minimal.

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[10] Per National Speed Limit Register.
[11] Per Page 4, Section 4.2 of the revised AEE; and the s92 response dated 20/10/2023.
[12] Defined as: The following averaged over a one-week period: 1 car to and from the property = 2 equivalent car movements; 1 truck to and from the property = 6 equivalent car movements; 1 truck and trailer to and from the property = 10 equivalent car movements.
[13] Defined as: A single motor vehicle journey to or from a site.
[14] https://www.nzta.govt.nz/roadcode/heavy-vehicle-road-code/road-code/about-limits/speed-limits/

Noise

104. The application included an acoustic assessment that addresses adverse noise effects during both the construction phase and the operational phase of the solar array. The application assessment was peer reviewed on the behalf of the Council by Mr Jon Farren, Marshall Day Acoustics Limited, at the time of notification. Mr Farren has also provided evidence on the behalf of the Council, and this is included as **Appendix E**.

105. The application proposes to limit the construction hours of operation to weekdays only (Monday – Friday), and between the hours of 7.30am to 6.00pm. The application assessment concludes that noise and vibration from construction activities can comply with the Partially Operative Plan noise limits and guidelines, noting that the panels will be positioned so that there is a 50m setback between the piling rig and adjacent residential units.

106. For the on-going operations, the applicant has confirmed that there is no activity on-site during the night, and that the inverter and batteries (if established) will be switched off by their controller, which would be from 8.00pm to 7.30am the following day. Notwithstanding, Mr Farren recommends that a night-time noise limit of 40dB L_{Aeq} is adopted. This limit is more stringent than both District Plans limits and is below the World Health Organization (WHO) guidance of 45dB L_{Aeq}.

107. In regard to operational noise, the main sources of noise will be the inverters, transformers and batteries, which will be distributed as shown on the site plan earlier in **Figure 1**. The application has predicted noise levels based on data provided by the manufacturer and Mr Farren agrees that the resulting noise levels are plausible. However, the application assessment considered that a 5dB penalty for special audible characteristics was not appropriate for some noise sources (inverters and batteries).

108. Mr Farren considers that, should consent be granted, this should be verified through compliance monitoring. In regard to the operating noise limits, the application proposes a day-time noise limit of 50dB L_{Aeq} at the notional boundary of the nearest residential unit, and Mr Farren agrees this would be an adequate limit, noting it is more stringent than both District Plans. Overall, Mr Farren agrees that the operational noise effects will be acceptable in the context of the receiving environment.

109. During construction the removal of trees and piling activities would produce the highest noise levels, with piling anticipated to be 69dB L_{Aeq} at 324 Branch Drain Road, which is just under the maximum threshold in the Partially Operative Plan of 70dB $L_{Aeq.}$ The construction noise levels were modelled based on data supplied by the applicant based on? British Standard 5228-1:2009, which Mr Farren agrees is suitably conservative.

110. It is identified that noise from the piling activity has the potential to cause the greatest adverse effect at the adjacent residential units. It is understood that driven (percussive) piling is proposed and that several piling rigs may operate simultaneously across the site for a period of approximately 6 months. Mr Farren states that the piling will be clearly audible for most of the piling duration at residential units adjacent to the site. Based on prior experience, Mr Farren considers the quantity, noise level and duration of percussive piling that is proposed will potentially result in adverse community reaction.

111. It is considered that construction noise should be managed and assessed in accordance with New Zealand Standard NZS 6803: 1999 Acoustics - Construction Noise (NZS 6803). NZS 6803 includes a requirement to adopt the best practicable option (BPO) to ensure that noise emissions are minimised. Mr Farren considers that this would be best demonstrated through a Construction Noise and Vibration Management Plan (CNVMP), prepared in accordance with NZS 6803 and submitted to Council for certification prior to construction commencing. Provided that the CNVMP condition and process was to be adopted, Mr Farren considers that the construction noise effects will be reasonable and appropriately managed.

112. In respect of vibration, Mr Farren agrees that the vibration effects during the operational phase are likely to comfortably comply with NOISE-R14 in the Partially Operative Plan. He also considers that the construction vibration effects can be effectively managed with the CNVMP and will be mostly determined by the piling methodology used.

113. The majority of the submissions raised concerns in relation to noise, which Mr Farren has reviewed and considers are largely addressed by the noise assessment in the application and the recommended conditions of consent.

114. Other concerns included the potential noise effects on birds and bees, which is outside of Mr Farren's expertise. The District Plans manage noise effects on the environment as a whole, and where a degree of noise effect is permitted by a District Plan, then the noise effect is generally anticipated. Based on the preceding assessment, I consider that the potential noise effects are unlikely to have a significant long-term adverse impact on fauna.

115. One submission raised concerns in relation to a low frequency hum and effects associated with a future upgrade to the existing substation. Mr Farren notes that the application assessment has accounted for the low frequency hum, with a penalty applied for the special audible characteristics of the transformers that will be established. The substation sits outside the scope of this application and does not require assessment for this proposal; however, the applicant may be able to provide further information in this regard at the hearing.

116. I accept Mr Farren's evidence. Overall, I consider that the adverse noise effects would be appropriately mitigated by the conditions of consent recommended by Mr Farren.

Environmental Health

117. The matter of contamination was previously assessed under the heading of 'hazard related effects' within the notification report. There are a range of submission points relating to both contamination and matters that I consider are appropriately described as environmental health. Therefore, these matters are addressed within this section of the report. All submissions in opposition to the proposal raised similar concerns about adverse effects from the electromagnetic fields (EMF) that will be generated, and the leaching or release of contaminants into the ground, water and soils.

118. Ms Isobel Stout, Service Leader - Environmental Science at Pattle Delamore Partners Limited (PDP) has provided assessment of these matters, and her evidence is included as **Appendix F**. Ms Stout considers that there are three potential sources of contaminants, being the photovoltaic (PV) panels, the supporting frames, and the inverter/transformer/battery modules.

119. In regard to the PV panels, Ms. Stout states that there are three main types of PV cells used and that the 'thin film' type may contain toxic metals, such as cadmium. The type of PV cell to be used in the proposal is not stated, but it is likely to be crystalline silicon and it is expected that the applicant will confirm this in their evidence. The submissions raise concerns regarding toxic compounds in the composition of the PV cells and that these may be released into the environment. Metals used in the production of the proposed cells may be released when panels are broken, although with the maintenance described in the application, the sealed units are not perceived a risk to the environment. Ms Stout considers that panel breakage would be more likely to occur as a consequence of adverse weather events.

120. I consider that the regular monitoring and inspection of the pasture by the operator would ensure that the risk to the environment is adequately mitigated, and I recognise that this already forms conditions 6 & 7 of the ECan discharge consent (CRC223909), which are the following:

…..Inspections and Maintenance

6. The land shall be maintained by:

a. Inspecting the pasture at least once every three months in the first two years, thereafter every six months.

b. Removing Inspections and Maintenance any visible hydrocarbons, debris or litter within five working days of the inspection.

c. Repairing any scour or erosion within ten working days of the inspection.

7. The land shall be:

a. Maintained so that vegetation or grass is in a healthy and uniform state with the exception of seasonal browning off

b. Replanted where erosion or die-off has resulted in bare or patchy soil cover.

c. Maintained so that vegetation or grass is at a minimum length of 50-150 millimetres.

……

121. The possible release of per-and polyfluoroalkyl substances (PFAs) was also a concern identified in the submissions. Ms Stout indicated it is possible that related compounds were used in solar panels to repel water and dirt from panels, but they were not PFAs, which have now been banned. It is understood that no PFAs will be used. The application states that rainfall will be sufficient to clean the panels and Ms Stout observes that the panels will be readily accessible from the ground should they require cleaning as part of the regular maintenance schedule.

122. The frames and supporting piles are understood to be Zinc galvanised steel, and it is expected that the applicant will confirm this in their evidence. Ms Stout recognises that Zinc may leach into the soil, mostly where in direct contact with soils. However, it is an essential trace element and is not a 'priority contaminant' in New Zealand. In response to submitters' concerns regarding potable water supply, there is no maximum acceptable value for zinc in drinking water, nor is any direct discharge to water proposed. Ms Stout indicates that zinc would not be worn off onto livestock that could rub against the frames, nor would it be ingested within feed in concentrations of concern. I also acknowledge Ms Stout's observation that zinc sources are likely to be present on most farms in varying forms.

123. In respect of the contaminants from inverters, transformers and batteries, the transformers contain oil and are typically constructed with alarmed safety systems to prevent leakage and fire, although reviewing for leakages could also be included in the regular monitoring and inspection of the panels by the operator. The proposal also

includes the potential to establish a battery system for storing energy. The batteries anticipated to be used would be lithium and it is expected that the applicant will confirm this in their evidence. The application confirms that the batteries will be housed in containers. Whilst lithium fires are a known hazard, containers can include fire detection and suppression systems to readily avoid or mitigate the potential risk. If granted, I would recommend a condition of consent to require fire detection and suppression systems are installed and maintained within the battery containers.

124. Some submissions raised concerns around the release or discharge of contaminants to air, which Ms Stout has indicated is only likely to occur in the event of a fire. Ms Stout recognises that there are extensive codes of practice and standards (listed in the application, page 33 of the AEE document) that must be followed in the installation of electrical equipment. The risk and management of fire is discussed in further detail under the 'Hazards' heading.

125. In regard to the impacts of the proposed solar array on water resources, it is noted that the applicant has obtained a resource consent (CRC223909) from ECan for the discharge of operational phase stormwater to land within the site. Whilst Ms Stout has elaborated on potential contamination effects, I consider that the stormwater related effects of the solar array would be within the scope of, and dealt with by, this consent.

126. One of the submissions considers that if this land use consent were granted, the discharge consent from ECan should be reviewed (by ECan) in light of the replacement land use consent, given that the discharge consent was for the previous land use proposal on a site of approximately 258ha. The relevant review condition (Condition 11) outlines that this would be the responsibility of ECan and consequently, it is not within my remit to consider the need for a review of that consent.

127. In regard to contamination, Ms Stout concludes that, with the regulating controls in place regarding electrical installations, the level of adverse effect from the solar array would be less than minor. I note that the applicant's Landscape Effects Assessment included within the recommendations section, a recommendation[15] stating the following:

Decommissioning and Site Rehabilitation: when the solar farm has reached its end-of-life cycle and a change in land use is sought, the agricultural land shall be returned to its previous state, leaving the land in a condition that is safe and suitable for subsequent land use. Ensuring that the components and infrastructure are disposed of in a way that maximises reuse and recycling. For any parts that cannot be reused or recycled, ensure that they are disposed of in an environmentally responsible way in accordance with industry best practices.

128. I agree with the intent of this recommendation, and consider that a condition of consent would be appropriate should consent be granted. I consider that this should include a requirement for soil testing and remediation of contaminated soils where necessary for agricultural use, at the expense of the consent holder. Ms Hannah Mirabueno, Senior Scientist, Environment Canterbury Contaminated Land Team, has advised that currently ECan do not consider solar arrays to be Hazardous Activities and Industries List (HAIL) sites in regard to soil contamination, but recognise there is potential for soil contamination to occur.

129. I consider that a condition such as that outlined above would further appropriately mitigate the potential effects of soil contamination, and therefore, any effects relating to contamination would be less than minor.

130. Ms Stout's evidence has also addressed the potential effects of EMF that will be generated. The strongest fields will be those around the parts of the system where the electric charges converge, being at the inverters and transformers. Field strengths are also larger around higher voltage lines than lower voltage lines. Potential adverse health effects from EMF were raised as concerns by a number of submitters. Ms Stout concluded that the proposed array would make no appreciable difference to the environment beyond the site and may be too weak to effectively measure at the boundary of the site. Consequently, I consider that any health related adverse effects from EMF will be insignificant.

131. Ms Stout has also considered the concerns from a submission in relation to solar waves and potential localised or latent heat effects. Ms Stout considers that in the environment of the application site, any temperature change that may be created locally would not have an effect on the open space beyond the site boundaries.

132. Overall, Ms Stout concludes that with the regulatory controls regarding electrical installations, the level of adverse effect from the solar array from contaminants and electromagnetic fields is less than minor. I accept her view and conclude that these adverse effects will be insignificant.

[15] Appendix 13 – Landscape Effects Assessment – Section 7.0 Recommendations – 4. "Decommissioning and Site Rehabilitation".

Loss of highly productive land

133. The subject site is located on Land Use Capability (LUC) 2 & 3 soils, with approximately 92% LUC 2 and 8% LUC 3. All land is defined as HPL if it is located on LUC 1, 2 or 3 soils. The application included an assessment effects on Highly Productive Land (HPL) based on a solar array of 104ha. The application assessment was peer-reviewed on behalf of the Council for the notification report by Mr Jamie Gordon, MacFarlane Rural Business Limited (MRB). Mr Gordon has also provided evidence on behalf of the Council, included as **Appendix G**.

134. The assessment from the application considers two forms of primary production, with the first being the grazing of small animals (e.g. sheep), and the second use being horticulture. Overall, the applicant's assessment concludes that *the proposal allows for the land to support land based primary production in the long term both as enhanced pastoral production and in the potential for horticultural production.* It also concludes that the land use of Agrisolar meets the requirements of the NPS-HPL in that it minimises the actual loss of any HPL and productive capacity, as it allows for the land to support land-based primary production in the long term. The specific provisions of the NPS-HPL will be addressed in detail within a subsequent section of this report.

135. Mr Gordon's evidence focuses on pastoral production rather than horticultural activities, although it was concluded in his peer review that some cropping could also take place in conjunction with pastoral activities. He considers that the most probable activity once the solar array is completed will be sheep breeding or finishing, as well as conserving or selling silage or baleage.

136. Mr Gordon agrees in his evidence that pastoral production can continue with the proposed solar array, and that it is likely that the SAT panels will reduce the impact of shading in comparison to fixed panels. However, he notes that the application does not contain detail on how the property, pastures, crops and livestock would be managed. Whilst the solar panels will likely impact on pasture growth, Mr Gordon considers that it is potentially more significant that the applicant can undertake good pastoral management practices under the solar panels. These practices are detailed in his evidence. In particular, the utilisation and control of pasture during high growth periods will require extra livestock feed demand and/or mowing and removal of the surplus feed.

137. Mr Gordon notes that sheep breeding and finishing is undertaken in a variety of environments, and considers it highly probable that sheep can be farmed on this site, including under a dryland system with no irrigation. The height of the solar panels will be important for stock movement and, in his opinion, the 500mm maximum panel tilt height would be too low for sheep to comfortably move under. I accept Mr Gordon's comments and I anticipate that the applicant can confirm the approximate duration of maximum panel tilt and the likely corresponding impact on livestock movement within their evidence.

138. Mr Gordon also considers that fencing subdivision will be important to enable good grazing management and livestock movement, and this would be achievable with planning and temporary fencing. Moving sheep within the array would be more difficult, but still achievable with correct fencing. Renewal and maintenance of pasture and weed control will be required to optimise pasture and livestock production.

139. Mr Gordon considers that in order to maintain pasture and livestock production, it is probable that farm vehicles will need to access and work within the array for a variety of activities. The tilting of the panels could impact agricultural work under the solar panels, although I acknowledge that the range of tilt will vary throughout the day. This may require careful planning, or potentially overriding the panel tilt to undertake planned agricultural work. The applicant has confirmed in respect of natural hazard mitigation that the panel tilt can be overridden or manually adjusted. Where space is constrained between the rows of panels, specialist machinery and vehicles are likely to be required.

140. The majority of the submissions raised concerns with the use of highly productive land, including adverse effects resulting from soil compaction, contamination, and reduced profitability. In regard to soil compaction, Mr Gordon acknowledges that this could impact pastoral production, although compaction as a result of construction activities would repair over time under a pastoral system. Consequently, the effect is unlikely to be long-term and can be accounted for and managed within the pastoral production methods.

141. The effects of contamination have been assessed and it was confirmed by Ms Mirabueno at ECan that solar is not categorised as a HAIL activity. The prior conclusions regarding contamination remain equally applicable to the submitters' concerns in regard to the use of highly productive land.

142. Mr Gordon concludes that assuming that potential pasture production is not negatively impacted by the solar arrays and that the land could continue to support primary production, the potential productive capacity would be maintained.

143. Productive capacity is defined in the NPS-HPL as:

…the ability of the land to support land-based primary production over the long term, based on an assessment of:

(a) physical characteristics (such as soil type, properties, and versatility); and

(b) legal constraints (such as consent notices, local authority covenants, and easements); and

(c) the size and shape of existing and proposed land parcels

144. The NPS-HPL implementation guide states that the key measure of productive capacity depends on the 'potential' capacity of the land to support land-based primary production activities. In this context, there are no relevant legal constraints, and the proposal will not alter the size and shape of any existing parcels. In regard to physical characteristics, the proposal will require earthworks for trenching and piling, although I agree that these are minimal in the context of the site and scale proposed. The prior conclusions regarding soil contamination are equally applicable in respect of the impacts on the soil properties.

145. In my view, Mr Gordon's evidence confirms that the land can continue to support land-based primary production over the long term, with sheep breeding and finishing appearing to be the most likely and viable activity. This activity can also occur across the significant majority of the site, except where it will be excluded by the proposed planting and energy infrastructure.

146. Based on the evidence provided (in regard to both rural production and environmental health), I accept that land-based primary production can continue in the long-term, and that the potential loss of productive capacity is minimised. I consider that the adverse effects on highly productive land will be minimal.

Reverse sensitivity

147. The General Rural Zone is described by the Partially Operative Plan as "areas predominantly used for primary production activities, including intensive indoor primary production". The zone may also be used for a range of activities that support primary production activities, including associated rural industry, and other activities that require a rural location". The potential for reverse sensitivity[16] effects can exist when a new and sensitive activity establishes, and then complains about or objects to the effects generated by a lawfully established existing activity or a permitted activity.

148. Land-based primary production activities can produce effects such as noise, dust, traffic and odour effects, which may be perceived as potential nuisance effects, particularly where a new activity does not generate those same effects and may be more sensitive to those 'typical' primary production effects. In this context, the proposed use of the site will include land-based primary production (i.e. grazing or horticulture), which may decrease the potential risk of reverse sensitivity effects.

149. The site office will not be permanently retained on the site for use as an office by staff and it will be located ample distance from the site boundaries, reducing the potential for reverse sensitivity effects to result during the construction stage. In regard to operational activities and dust from adjoining primary production, the application stated that rain is sufficient to keep the panels clean and that the proposed planting would also provide some mitigation from dust generated on adjoining properties.

150. Concerns raised in submissions included the potential for reverse sensitivity. Mr Gordon stated it is unclear exactly what activities occurring on adjoining farms would result in reverse sensitivity and I expect that the relevant submitters will elaborate on this matter. Mr Gordon considered that the most likely causes of potential effects would be dust from cultivation and drilling or spray drift and that this is unlikely to be different from normal agricultural practices and could be mitigated to some degree by the vegetation on the site boundaries.

151. I recognise that cultivation, drilling, and soil disturbance on adjacent sites would be undertaken seasonally, rather than on a continuous basis. Therefore, the duration where dust could be generated and potentially not intercepted by mitigation planting is effectively limited.

152. One submission identified potential nuisance (dust) effects associated with the use of an unsealed portion of Stewarts Road by maintenance vehicles. It is anticipated that vehicles during the construction phase would be likely to utilise sealed roads such as, Dunsandel and Brookside Road or Brookside and Burnham Road (to Buckleys Road) in order to access the site, which would avoid these effects. It is however noted that the construction phase traffic generation would be temporary and, in any event, within the thresholds permitted by the Plans. The applicant could consider volunteering a condition to avoid the use of Stewarts Road during the construction phase. The operational traffic will be minimal (4 ecm per month), and I consider that any potential

[16] The Partially Operative Plan defines reverse sensitivity as:
"The potential for an approved (whether by consent or designation), lawfully established existing or permitted activity to be compromised, constrained, or curtailed by the more recent establishment, intensification, or alteration of another activity that may be sensitive to the actual, potential or perceived adverse environmental effects generated by the approved, lawfully established existing or permitted activity".

nuisance effects, including from maintenance vehicles using unsealed roads, will be minimal. On balance and overall, I consider that reverse sensitivity effects can be appropriately mitigated.

Earthworks

153. The application proposes earthworks of approximately 7,020.5m^3 (63.2m^3/ha) associated with trenching (up to 1.0m below existing ground level) to lay cables, which will be backfilled once the cables are in place. These cables will connect the frames of the solar panels to the inverters, in addition to providing a connection to the adjacent substation. Piles will also be driven up to 1.8m depth below existing ground level to support the frames/tables of the solar panels. Notably, the volume of proposed earthworks is permitted by the Partially Operative Plan, which in the General Rural zone is now proportional to the total site area.

154. Earthworks will also include topsoil scraping & disturbance to prepare surfaces for the relocatable office, storage buildings, inverters, and the future battery site, in addition to spreading of material to form internal tracks where required. No stockpiling of material is proposed. Fencing will be installed around the Wāhi Taonga Management Site – C59 prior to construction. No earthworks are proposed within this area or within 10m of the drains that run adjacent to the site boundaries, with the exception of the culvert replacement for the existing access on Branch Drain Road.

155. There were no submissions received specifically concerning the earthworks proposed. The applicant has volunteered that an Erosion and Sediment Control Plan (ESCP) will be implemented and will incorporate a Dust Management Plan (DMP). They state that this is a precautionary measure to ensure that dust and sediment effects are mitigated and to protect the drains adjoining the site.

156. I consider that the effects will be appropriately managed by the proposed ESCP and DMP, and I conclude that earthworks related adverse effects will be insignificant.

Cultural effects

157. The Operative District Plan (Rural Volume) identified a Wāhi Taonga Management Site – C59 within the south-eastern portion of the site. The Operative Plan states that Wāhi Taonga Management Areas contain sites of past settlement or occupation by Tāngata Whenua. Most of these sites have been uncovered by archaeologists and their location and what they contain is recorded. The Plan indicates that earthworks in and around these sites are appropriate, provided that the artefacts and remnants which are contained within the sites are not removed, damaged or destroyed. Notably, whilst Wāhi Taonga and Wāhi Tapu sites are included in the Partially Operative Plan, there is no overlay in respect of this site.

158. The application details that previous engagement occurred with Te Taumutu Rūnanga. In regard to mitigating adverse cultural effects, the applicant proposes to establish a 50m fenced buffer around the identified Wāhi Taonga Management Site, for the purposes of excluding both earthworks and the solar array. The applicant considers that this will ensure that the risks of adverse effects on the cultural site are minimised. The application also volunteered to adhere to an Accidental Discovery Protocol (ADP) across the entirety of the site, should any unexpected artefacts be encountered during the earthworks.

159. As previously discussed, Te Taumutu Rūnanga (via Mahaanui Kurataiao Ltd) were consulted by the Council prior to the notification decision being made and a Cultural Advice Report was provided to Council. A copy of this report is included as **Appendix H**. With regard to the cultural effects discussed in the cultural advice report, and conditions recommended, I consider that a range of the identified matters are addressed or addressed in-part by the application, in addition to those conditions of the relevant ECan consents.

160. In regard to earthworks, the Rūnanga support the implementation of an ESCP, in particular to avoid effects on water within the drains along Branch Drain Road and Buckleys Road. I note that an ESCP is volunteered by the applicant, and that no earthworks are proposed within 10m of the drains along each respective road, with the exception of the culvert replacement for the existing access on Branch Drain Road. The minimum panel setback (corresponding with the piling positioning) from Buckleys Road will be 25m, and approximately 21m from Branch Drain Road.

161. In addition, the applicant has agreed to an ADP, and an exclusion area around the identified Wāhi Taonga Management Site. CRC223908 was obtained by the applicant from ECan for earthworks over an aquifer and includes a consent condition requiring an ESCP. The Cultural Advice Report identified the need to avoid oil spills or other hazardous substances, which I consider will be addressed by condition 18 (spills) of CRC223908. There were also concerns raised regarding contamination, which I consider are addressed by CRC223909, being the consent obtained from ECan for discharge of operational phase stormwater to land within the boundary of the site.

162. The Cultural Advice Report has identified a need to plant and maintain a riparian buffer of indigenous vegetation on-site to mitigate the impacts of earthworks and the on-going operations for the protection of the drains. The report indicated that the riparian strip would function as an erosion and sediment control for both construction and

operational phases. In addition, the Report identified the need to replace exotic plant species with indigenous eco-sourced species over time. This is not proposed by the applicant and consequently, Te Taumutu Rūnanga were identified as an affected party and notified. There was no submission received from Te Taumutu Rūnanga via Mahaanui Kurataio Ltd.

163. As outlined in the landscape evidence, the primary purpose of the planting is to achieve visual screening and there is no preference from that perspective, provided that the screening is achieved in a relatively short duration. However, Mr Craig has detailed that the exotic species proposed by the applicant are faster growing and would achieve earlier visual screening, whereas indigenous species tend to be slower growing, delaying the visual screening. If a diverse mix was achieved, it is Mr Craig's view that native plant species would provide better for fauna, both indigenous and exotic.

164. As previously discussed, a submission was received from Mr Henderson of 233 Branch Drain Road, who was not deemed affected or notified. The Rūnanga have subsequently informed me that this is not a resource consent submission that has been completed by our mandated whānau representatives who represent Te Taumutu Rūnanga in this capacity, and that Ngāi Tahu whakapapa unit has confirmed that Raymond does not whakapapa to Taumutu, and therefore, this submission cannot be used to represent the position of Te Taumutu Rūnanga

165. I will leave it to the Commissioner to consider the status of this submission, although I have considered all of the issues raised by Mr Henderson in any event. I note that the submission expressed a preference for indigenous planting. Other specific cultural concerns mentioned by the submitter include Maori consents and breaches of co-governance of Te Waihora.

166. The absence of a submission from the Rūnanga makes it difficult to assess the magnitude of potential effect; however, I do rely on the Cultural Advice Report in coming to a conclusion on cultural effects, notwithstanding that they will not be represented at the hearing. The Rūnanga have provided cultural expert advice regarding the mitigation of effects. As discussed, I support the implementation of indigenous planting, albeit acknowledging that there would be a greater duration of adverse visual effect.

Ecological effects

167. The application included a desktop-based assessment of the terrestrial ecological effects resulting from the solar array. It concluded that the level of effect of the construction and operation of the proposed solar array on ecological values were generally expected to be very low. However, on a precautionary basis, the application stated that the level of effect could possibly be low if bird strike to some indigenous species were to occur.

168. Ms Denise Ford, Council's Senior Biodiversity Specialist, has reviewed the applicant's assessment on behalf of the Council. Ms Ford agrees with the recommendations for impact management from the applicant's assessment. Ms Ford considers that some form of monitoring of bird strike should be undertaken.

169. Some of the submissions raised concerns regarding the potential effects of EMF on vertebrates and invertebrates (in particular, bees). Ms Stout has concluded in regard to EMF that the proposed solar array would make no appreciable difference to the environment beyond the site and may be too weak to effectively measure at the boundary of the site. She has also stated that the same reduction in field strength exists above the array and so no adverse effect would be expected for birds or bees, the same as it is for existing electrical infrastructure such as the substation.

170. Some of the submissions also concerned solar waves, which Ms Stout considered in her assessment was likely to relate to the effects of reflected light. It is anticipated that the submitter will elaborate at the hearing. Ms. Stout's assessment confirms that sunlight is a waveform and, with the panel reflectivity of 4% outlined in the application, some light would be reflected. Reflected light is likely to be polarised. In regard to flying insects, there would be many sources of reflected light in the environment already with no particular effects observed. I also recognise the ecological assessment concluded that this possible effect is considered unlikely to be of any ecological concern, as it is unlikely that any important populations of indigenous invertebrates are present at the site.

171. Overall, I consider that the ecological effects of the proposal will not be of significance, subject to the adoption of the 'recommendations required for impact management' from the ecological assessment, and that monitoring of bird strike forms a condition of consent if consent is granted.

Hazard effects

172. The application site is located within the Plains Flood Management Overlay (PFMO) in the Partially Operative Plan, which the Plan explains identifies areas where flooding from a 200-year Average Recurrence Interval (ARI) flood event needs to be managed. Some discrete plots on the site are also identified by the flood model to be located within what is a defined 'high hazard' area, where in a 500-year average recurrence interval (ARI) flood event, either the water depth is greater than 1 m, or the water depth (in metres) x the water velocity (in metres per second) is equal to or greater than 1.

173. The application included assessment of the flood hazard risks applicable to the site. I consider that the proposed earthworks are not of a scale or manner that will exacerbate flood effects on adjoining sites, nor will the earthworks modify existing overland flow paths in the absence of filling. The tilted panels will generally exceed flooding depths, and I accept that in the modelled flood events, the panels can be moved to stow position at approximately 1.8m above existing ground levels. The application confirms panels are sealed to avoid water damage. Inverters and batteries will be established at least 1m above existing ground levels to provide adequate mitigation from the modelled flood depths.

174. Some of the submissions expressed concerns in relation to the proposed solar array increasing water run-off and carrying contaminants onto their sites. I consider that the discharge consent obtained from ECan by the applicant addresses this matter and authorises stormwater discharge for the activity. I consider that the flood hazard adverse effects will be adequately mitigated.

175. Assessment of geotechnical hazards in the application concluded that the development is unlikely to accelerate, worsen or result in geotechnical hazards. The geotechnical assessment was peer reviewed on the behalf of Council by Mr Ian McCahon of Geotech Consulting Ltd. Mr McCahon concluded that the report is representative of the site conditions and agrees with the conclusions provided. On that basis, I consider that geotechnical adverse effects will be insignificant.

176. In regard to fire hazard, the application considers this risk, and the applicant acknowledges their role required in reducing fire risk, particularly where long grass could interfere with panels and other assets. The application states that under the Health and Safety at Work Act (2015) and Fire and Emergency New Zealand Act (2017), they will need to prepare a Health and Safety Management Plan and a Fire Emergency Plan.

177. Of the eight submissions received, five of them had concerns about the risk of fire hazard, in particular the management plan. The applicant notes that the Fire Emergency Plan will need to be approved by the local fire service in accordance with the relevant legislation. Fire and Emergency New Zealand (FENZ)[17] have advised that the Fire Emergency Plan would be received via the local district and would be reviewed by a Risk Advisor in the Canterbury Risk Reduction Team.

178. The applicant also notes the various electrical codes of practice that they are required to comply with under the Electricity Act (1992). Should resource consent be approved, a consent holder is still obligated to comply with these requirements. For completeness, if consent was to granted, I would recommend that a copy of the fire emergency plan be provided to Council prior to commissioning.

179. The effects of contamination have been addressed under the heading of Environmental Health.

180. Based on this assessment, I consider that any hazard related adverse effects will be adequately mitigated.

Servicing

181. The application proposes to establish buildings and facilities for use during the construction phase activities, which will require servicing. It is intended to transport potable water to the site for construction workers and staff, which will be stored within a 5,000L above-ground tank. This tank will be positioned adjacent to the temporary relocatable site office. In addition, the site office and staff facilities will have an above-ground wastewater storage tank with an approximate capacity of 2,700L that will be emptied as required. The applicant has not clarified if these tanks will be retained beyond the construction phase. However, I anticipate that the tanks will be removed once they fulfil the intended purpose, and that the applicant can confirm this matter at the hearing. Stormwater runoff from buildings and structures will be discharged to ground, and as discussed, the applicant has previously obtained resource consent from ECan for this activity.

182. I consider that the servicing related adverse effects will be insignificant.

Positive Effects

183. It is also appropriate to consider the positive effects of the proposal at this section 104 stage. The application outlines a range of anticipated positive effects, which I summarise as:

a) The establishment of a renewable energy supply that is anticipated to be sufficient to supply, on average, the equivalent of 11,200 homes annually.

b) Reduced network losses due to the proximity of the site to the existing substation.

c) A likely reduction in the volume of nitrogen being discharged to groundwater compared to the existing land use.

[17] Pers comm., Tim Mitchell, National Wildfire Manager, FENZ, 22nd January 2024.

184. I agree with the applicant that these are positive effects associated with the establishment of a renewable energy generation activity. The proposal will assist in achieving targets for electricity from renewable sources and also reducing reliance on fossil fuels.

Conclusion

185. Overall and subject to the conditions of consent discussed in my assessment, I consider that the adverse effects of the proposal on the environment will be adequately mitigated and minor.

Section 104(1)(b) – Relevant Provisions of Statutory Documents

District Plans (section 104(1)(b)(vi))

Operative Plan – Objectives and Policies

186. As discussed, the rules that previously applied at the time of the notification decision and that were not complied with are now inoperative. Therefore, the objectives and policies in the Operative Plan are not discussed in any detail, as I give the Partially Operative Plan significantly more weight. This is discussed further below in the weighting section.

187. Due to the permitted status of the proposal under the Operative Plan and the minimal weight to be given to its objectives and policies, I consider the proposal to be consistent with the Operative Plan.

Partially Operative Plan – Objectives and Policies

188. The Partially Operative Plan objectives and policies that I consider are most relevant to the activity and its non-compliance relate to strategic directions and energy and infrastructure.

189. The overarching direction for the Plan is expressed through the strategic directions. Due to the formatting and preparation of the Plan, all other objectives and policies in all other chapters of the Plan are to be read and implemented in a manner that gives effect to and is consistent with these Strategic Directions. All strategic objectives have equal standing, and they must be read as a whole. Those objectives and policies that I consider relevant and reference are included under the relevant heading in **Appendix I**.

Strategic Directions

190. Those provisions relevant to the District Identity and this proposal seek that:

- Selwyn is an attractive and pleasant place to live, work and visit (SD-DI-O1);
- The economy and community well-being are supported through efficient use of land, resources, and infrastructure, while ensuring existing activities are protected from incompatible activities and reverse sensitivity effects (SD-DI-O2);
- Land and water resources are managed in an integrated manner, recognising the relationship of ecosystems and processes and ki uta ki tai (SD-DI-O3);
- The matters that make an important contribution to the composition of Selwyn's environment, cultural heritage, or are of significance to Ngāi Tahu, are identified, recognised and protected (SD-DI-O4); and
- Highly productive land is retained for rural production activities and that rural communities retain their rural character (SD-DI-O6).

191. The proposed development has in my view taken into account the existing and anticipated rural character of the site and the surrounding setting, as whilst there will be a minor effect on rural character, the application has included visual screening to mitigate the degree of amenity effects. The site contains highly productive land (GRUZ-P1A) and the proposal will maintain land-based primary production.

192. The proposal is considered to be an efficient use of the land as a resource. Whilst the productivity in respect of land-based primary production will likely decrease compared to the present dairying land use, the primary production will be continued on the site and will co-exist with the solar array and generation of renewable electricity. The site is efficiently located directly adjacent to the existing substation and infrastructure, and reverse sensitivity effects are adequately addressed (GRUZ-P7).

193. Both land and water resources have been considered in an integrated manner, recognising that the applicant has obtained a stormwater discharge consent from ECan and that the preceding assessment regarding contamination concluded that the effects will be acceptable. Stormwater will not directly discharge to any of the drains surrounding the site and a recommended condition of consent will implement an ESCP.

194. With respect to the important matters that derive Selwyn's environment, heritage and cultural importance, the site is not located within an Outstanding Natural Landscapes Overlay, Visual Amenity Landscapes Overlay, or Indigenous Biodiversity Overlay. An area of cultural significance has been identified by the Rūnanga and a condition of consent would prevent development and disturbance should the consent be granted.

195. The infrastructure, risk and resilience provisions that are relevant to the proposal relate to natural hazards (SD-IR-O3) specifcially. As previously discussed, the activity does not meet the definition of "important infrastructure" under the PODP. The prior assessment concludes that the risks from natural hazards are sufficient mitigated.

196. Te Taumutu Rūnanga (via Mahaanui Kurataiao Ltd) were consulted. I consider that the desired outcomes contained in the cultural advice report that have been included within the proposal are consistent with SD-MWV-O1, although I note that indigenous planting is not proposed in the application. Those strategic direction provisions relating to an urban environment are not of direct relevance to this proposal, noting the rural location of the site.

Energy and Infrastructure

197. In regard to the other objectives and policies contained within the Plan, it is again important to acknowledge the structure of the PODP. As discussed, the energy and infrastructure chapter specifically concerns renewable electricity, important infrastructure, and network utilities. It is the intention for energy and infrastructure activities to be largely 'self-contained'.

198. The notes for Plan users direct that where a rule or rule requirement from another chapter has been cross-referenced within this chapter, the relevant associated objectives and policies also apply when assessing an application for resource consent. I note that EI-R31 has no cross-referenced rules or rule requirements, although provisions relevant to the activity are used where necessary, as assessment cannot occur within a 'vacuum'. Where an activity is within an overlay, the associated objectives and policies from the relevant chapter for that overlay also apply when assessing an application for resource consent.

199. The objectives within the energy and infrastructure chapter partly relate to important infrastructure, which I have assessed that the proposal does not meet the definition of, and the objectives also relate to renewable electricity generation. The relevant renewable electricity objective (EI-O4) seeks to '*optimise and increase renewable electricity generation outputs for national, regional, and local use while minimising adverse effects on the environment and sensitive activities'.* In regard to the Plan structure, the Plan clarifies that the policies represent strategies to achieve an objective, representing the general courses of action and outcomes anticipated.

200. EI-P2 seeks to minimise the adverse effects of renewable electricity generation on the physical and natural environment, and lists a range of subsequent actions. This policy seeks to encourage the co-location of structures and facilities where it is efficient and possible. I consider that it is both highly efficient and practical for the proposed solar array to be established directly adjacent to the existing Brookside Substation.

201. In my view, there has been consideration to locate, design and operate the proposed solar array in a manner that will minimise adverse effects. Notably, the language in this policy does not require that effects are avoided altogether. In regard to rural character and amenity values, the open pastoral landscape will change from a dairy farm to a landscape containing energy infrastructure. The General Rural Zone description anticipates that character and amenity will be characterised by a landscape dominated by openness and vegetation (reflected within GRUZ-O1 & GRUZ-P1). However, there is some tension with the anticipated amenity values, recognising the proposed establishment of energy infrastructure across the site. The proposal includes extensive visual screening and the maintenance of land-based primary production, both of which I consider will minimise adverse effects on the amenity values of the surrounding environment.

202. With reference to the health and safety of people, the assessment of environmental effects concluded that glare and reflectivity effects will be acceptable with the mitigation proposed, minimising adverse effects from the proposal on the safe, efficient and effective operation of the surrounding road network (TRAN-P7). The conclusion on environmental health effects, including contamination (CL-O1), is that human health will be protected. With regard to hazards (NH-O1), the development will be undertaken in a manner that ensures that the risk of hazards to people, property and infrastructure is appropriately mitigated.

203. The solar array is not located within Outstanding Natural Landscapes, Visual Amenity Landscapes, natural character areas, areas of significant indigenous vegetation and habitats of indigenous fauna, sites of historic heritage and sites and areas of significance to Māori[18]. There is an area of identified cultural significance and the application has avoided development within this area. The ecological effects of the proposal are considered to be sufficiently mitigated, and no biodiversity off-setting is considered. Overall, I consider that the proposal is in keeping with EI-P2.

[18] As identified within the Partially Operative Plan.

204. This Policy EI-P2 is subject to appeal[19] from both Transpower New Zealand & Christchurch International Airport. The Transpower appeal supports the policy in-part, and seeks that the adverse effects are to be 'managed' instead of 'minimised', and that the policy also applies to effects of 'new and major upgrades to', important infrastructure and renewable electricity generation, whilst incorporating other discrete amendments which are sought to align with the National Policy Statement on Electricity Transmission (NPSET).

205. The Christchurch International Airport appeal similarly seeks that adverse effects of important infrastructure should be 'managed', rather than 'minimised', and that the policy explicitly acknowledges operational and technical constraints, which are set out in the relief sought. In this context, I am satisfied that the proposal achieves the 'minimised' threshold set out in the policy and I perceive little conflict between this proposal and the nature of these appeals.

206. EI-P4 seeks to manage adverse effects from the construction and operation of renewable electricity generation, including noise and vibration. Although the rules do not apply, I note that the noise and vibration effects of the proposal would be permitted by the Partially Operative Plan (NOISE-P1), and, should the consent be granted, conditions of consent would ensure that adverse effects are appropriately managed. Therefore, I consider that the proposal is in keeping with this policy.

207. This policy is subject to a single appeal[20] from Transpower New Zealand Limited. The appeal generally supports the policy, seeking limited amendments so that it clearly directs compliance with standards and/or regulations that have formal recognition and standing. In this instance, the recommended conditions of consent clearly reference the relevant standards and I perceive little conflict between the proposal and the nature of this appeal.

208. EI-P5 is the policy provision to manage radio, electric, and magnetic fields. My assessment of environmental effects concluded that subject to the regulatory controls regarding electrical installations, the level of adverse effect from electromagnetic fields is insignificant. I conclude that the proposal is consistent with this provision.

209. EI-P9 seeks to provide for renewable electricity generation activities across the District, while having particular regard to the following matters:

    1. *The potential benefits of the proposed activity, particularly contributions to national energy objectives, renewable electricity generation targets, or climate change mitigation;*
    2. *The technical and operational requirements of renewable electricity generation activities;*
    3. *The availability of renewable electricity generation sources;*
    4. *The location and efficient use of existing electricity generation and distribution infrastructure;*
    5. *The potential to provide an affordable, self-sufficient source of electricity to individuals and small communities.*

210. The potential benefits of the proposed solar array are significant in respect of the scale of renewable energy generated (i.e. equivalent to approximately 11,200 homes annually), which I consider will assist in meeting national targets for 100% renewable electricity generation by 2030 and net zero emissions by 2050[21].

211. The applicant has considered the technical and operational requirements of the activity and has advised that they are aware of their obligations under the Electrical Codes of Practice. In addition, the proposal seeks the ability to establish batteries given the variable nature of solar (i.e. cloud cover), ensuring that energy may be stored and utilised when conditions require, or in periods of high demand.

212. The application site is positioned adjacent to the existing Brookside Substation and local lines that can be utilised by the proposed activity. The applicant has advised that there will be an initial need for one new connection to the distribution network, and upgrades to existing infrastructure can be sought as required. I consider that the proposal is consistent with this policy.

213. Overall, I consider the proposal to be consistent with the Partially Operative Plan.

Plan Weighting

214. Section 104(1)(b)(vi) requires the consent authority to have regard to an [operative] plan or proposed plan. Where there is conflict between the provisions of an operative and proposed plan, a weighting assessment is required to determine which plan may be afforded more weight.

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[19] Transpower New Zealand - ENV-2023-CHC-109 & Christchurch International Airport - ENV-2023-CHC-120
[20] Transpower New Zealand - ENV-2023-CHC-109
[21] Electricity Authority – Te Mana Hiko - https://www.ea.govt.nz/about-us/what-we-do/powering-the-future/

215. Case law indicates that the extent to which the provisions of the proposed plan are relevant should be considered on a case-by-case basis and might include:

- how far through the plan making process the proposed plan is, and the extent to which it has been tested and undergone independent decision making;
- any circumstances of injustice if the provisions are given more or less weight;
- the extent to which a new provision, or the absence of a provision, implements a coherent pattern of objectives and policies;
- whether the new provisions represent a significant shift in Council policy; and
- whether the new provisions are in accordance with Part 2 of the Act.

216. The proposal is permitted by the Operative Plan and the requirement for resource consent results entirely from the Partially Operative Plan. As the proposal is permitted by the Operative Plan, I have concluded that it is in keeping with the Operative Plan.

217. The Partially Operative Plan rule relevant to the activity from the Operative Plan has not been appealed and is to be treated as operative. For those appeals on policies most relevant to the proposal, the appeals express support in-part and the specified relief sought would not conflict with this application. For these reasons I give significantly greater weight to the Partially Operative Plan.

Other Relevant Documents (section 104(1)(b)(i)-(v))

Canterbury Regional Policy Statement (CRPS)

218. The Partially Operative Plan gives effect to the relevant higher order documents, including the CRPS. For completeness and the avoidance of doubt, the provisions from the CRPS that might be considered relevant are addressed in turn below and are referred to are included under the relevant heading in **Appendix I**.

219. Chapter 5 of the CRPS focuses on matters including the strategic integration of land uses and regionally significant infrastructure, in addition to the recognition of the importance of regionally significant infrastructure to a community's economic wellbeing, social wellbeing, health and safety; and the need to provide for its establishment, retention and enhancement, as appropriate. This specific provisions in Chapter 5 that I consider are of relevance include:

a) Objective 5.2.2 Integration of land-use and regionally significant infrastructure (Wider Region)

b) Policy 5.3.2 Development conditions (Wider Region)

c) Policy 5.3.9 Regionally significant infrastructure (Wider Region)

d) Policy 5.3.12 Rural production (Wider Region)

220. The definition of 'regionally significant infrastructure' in the CRPS includes '*national, regional and local renewable electricity generation activities of any scale'*. The CRPS defines 'renewable electricity generation' as *'the generation of electricity from solar, wind, hydro electricity, geothermal, biomass, tidal, wave, or ocean current energy sources'*.

221. 'Renewable electricity generation activities' are defined as '*the construction, operation and maintenance of structures associated with renewable electricity generation. This includes small and community-scale distributed generation activities, the system of electricity conveyance required to convey electricity to the distribution network and/or the national grid, and electricity storage technologies associated with renewable electricity'*.

222. The proposed solar array involves activities clearly described in each of these definitions, linking back to the overarching regionally significant infrastructure definition. I consider that the adverse effects resulting from the development and operation of the solar array will be avoided and mitigated, as fully as practicable. Policy 5.3.9 clearly provides for the development of new infrastructure, whilst recognising the logistical/technical constraints of this infrastructure and the need to locate activities where in this case, a physical resource of the substation exists. In regard to reverse sensitivity, I consider that the proposal would not limit or preclude primary production on adjacent land.

223. Chapter 15 of the CRPS focuses on the regions soil resources. Objective 15.2.1 seeks the maintenance of soil quality, whilst Policy 15.3.1 seeks to avoid, remedy or mitigate soil degradation. The assessment acknowledges that the proposed activity will maintain primary production. Overall, I consider the proposal is consistent with these provisions.

224. Chapter 16 of the CRPS addresses resource management issues regarding energy within the region. The specific provisions that I consider are of relevance include:

a) Objective 16.2.2 Promote a diverse and secure supply of energy

b) Policy 16.3.3 Benefits of renewable energy generation facilities

c) Policy 16.3.5 Efficient, reliable and resilient electricity generation within Canterbury

225. I consider that the proposal is consistent with these provisions, with particular emphasis on the proposal's use of solar energy as a renewable natural resource, rather than the use of finite resources. The proposal will also help meet emissions reductions targets as previously discussed.

226. Chapter 17 of the CRPS seeks to address contaminated land. Notably, the establishment of solar is not considered by ECan to be a HAIL activity. In this context, the preceding assessment of environmental effects concludes that the effects of contamination on the soil resource and on other environmental receptors will be sufficiently mitigated.

227. Overall, I consider the proposal to be consistent with the CRPS.

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS)

228. The NES-CS was discussed earlier in this report, with my conclusion being that it does not apply.

National Policy Statement for Renewable Electricity Generation (NPS-REG)

229. The NPS-REG sets out an objective and supporting policies to enable the sustainable management of renewable electricity generation under the Act. The objective is the following:

'To recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation'.

230. Policy A requires decision makers to recognise and provide for the national significance of renewable electricity generating activities, including the benefits relevant to the activity. Such benefits including increasing the supply of generation capacity whilst reducing emissions, and increasing the security of supply by diversifying the types and locations of electricity generation. I note that solar is an emerging and growing activity at both a local and national context, and the proposal supports the diversity in supply anticipated by this policy. In addition, the proposal includes the potential for battery storage to manage the security of the supply in alignment with this policy.

231. I consider that it is of particular relevance that Policy B requires that decision makers have particular regard to meeting or exceeding the National target of 100% renewable energy from renewable sources by the year 2030, which requires the significant development of renewable electricity generation activities.

232. Policy C1 requires decisionmakers to have particular regard to specified matters, which include the location of existing structures and infrastructure including the distribution network and the national grid in relation to the renewable electricity generation activity and the ability to connect the activity to the grid. The application site is located directly adjacent to the existing Brookside Substation and existing distribution network, with evident operational benefits to the applicant.

233. Overall, I consider that the NPS-REG provides strong policy support for the proposed solar array and that the proposal is entirely consistent with the relevant provisions.

234. I also note that that the Ministry of Business, Innovation and Employment (MBIE) and the Ministry for the Environment (MfE) are proposing changes to strengthen national direction on renewable electricity generation (REG), and a proposed change included the creation of new National Environmental Standards for Renewable Electricity Generation (NES-REG). I'm not aware of anything that has progressed beyond the consultation stage.

National Policy Statement for Freshwater Management (NPS-FM)

235. The NPS-FM applies to all freshwater (including groundwater) and, to the extent that they are affected by freshwater, to receiving environments (which may include estuaries and the wider coastal marine area). A comprehensive assessment of the NPS-FM was undertaken by ECan, and it was concluded that the proposal was consistent with the relevant policies in the NPS-FM. I agree that the proposal is consistent with the NPS-FM and will not address this in any further detail.

National Policy Statement for Highly Productive Land (NPS-HPL)

236. Firstly, I note that this site was subject to a previous application for a solar array of a larger scale and over a greater area of land. A decision to decline the previous application in accordance with section 104(3)(d) was reached by the Commissioner, as it was determined that the application should have been subject to public notification and was not.

237. The Commissioner explained that it was clear that the Council's notification decision on that occasion was made based on what was understood to be a solar array limited to a 35-year term, when in fact, an indefinite term was later clarified to be sought by the applicant. The matter of productive land use, which was described in the notification decision to be temporary and reversible following the expiry of the 35-year team was not (at that time) examined in the context of an indefinite term.

238. The Commissioner found that there was insufficient evidence to establish, with clarity, the effect of the loss of opportunity presented by the highly productive soils on the site and analysis of the productive capacity of highly productive land in the District, at the time of the notification decision. In the absence of detailed evidence for an indefinite term, he considered the loss of productive potential across the indefinite term gave rise to environmental effects which were more than minor, and therefore formed a view that the application should have been subject to public notification and was not.

239. The NPS-HPL requires that regional councils and territorial authorities (i.e. the Selwyn District Council) must identify highly productive land, and manage the effects of subdivision, use and development of highly productive land in an integrated way. The purpose of the NPS-HPL is to ensure that highly productive land is protected for use in land-based primary production.

240. The site is located on Land Use Capability (LUC) 2 & 3 soils[22], with approximately 92% LUC 2, and 8% LUC 3. All land is defined as highly productive land (HPL) if it is located on LUC 1, 2 or 3 soils. Therefore, the NPS-HPL applies to this proposal.

241. The relevant provisions of the NPS-HPL include the following:

> **2.1 Objective**
>
> Objective: Highly productive land is protected for use in land-based primary production, both now and for future generations.
>
> **2.2 Policies**
>
> Policy 1: Highly productive land is recognised as a resource with finite characteristics and long-term values for land-based primary production.
>
> Policy 4: The use of highly productive land for land-based primary production is prioritised and supported.
>
> Policy 8: Highly productive land is protected from inappropriate use and development.
>
> Policy 9: Reverse sensitivity effects are managed so as not to constrain land-based primary production activities on highly productive land.

242. Land-based primary production is defined in the NPS-HPL as *'production, from agricultural, pastoral, horticultural, or forestry activities, that is reliant on the soil resource of the land'*.

243. The proposal would result in a change from the current dairying land use to a use that includes a combination of energy infrastructure and what Mr Gordon's evidence states is most likely to be pastoral activities, including sheep breeding and finishing. The ability to undertake one of these activities on this site would not preclude the other from establishing. It is proposed to continue land-based primary production on the site, albeit in a different form to the present activities. I consider that the proposal will support land-based primary production, although it will not be prioritised and so the proposal is not entirely consistent in that regard.

244. In order to consider Policy 8, and uses that are 'inappropriate', it is necessary to consider Clause 3.9 of the NPS-HPL, which is the following:

> *3.9 Protecting highly productive land from inappropriate use and development*
>
> *(1) Territorial authorities must avoid the inappropriate use or development of highly productive land that is not land-based primary production.*

[22] LUC 1, 2, or 3 land means land identified as Land Use Capability Class 1, 2, or 3, as mapped by the New Zealand Land Resource Inventory or by any more detailed mapping that uses the Land Use Capability classification.

(2) A use or development of highly productive land is inappropriate except where at least one of the following applies to the use or development, and the measures in subclause (3) are applied:

…...

(j) it is associated with one of the following, and there is a functional or operational need for the use or development to be on the highly productive land:

(i) the maintenance, operation, upgrade, or expansion of specified infrastructure: ……

(3) Territorial authorities must take measures to ensure that any use or development on highly productive land:

(a) minimises or mitigates any actual loss or potential cumulative loss of the availability and productive capacity of highly productive land in their district; and

(b) avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on land-based primary production activities from the use or development.

245. Clause 3.9(1) requires avoidance of the 'inappropriate' use or development of highly productive land that is not land-based primary production. Clause 3.9(2) then outlines that the use of highly productive land is 'inappropriate', except where one of the 'exemptions' is met and the measures in subclause 3 apply.

246. The application states that Clause 3.9(2)(j)(i) applies to the proposal, as it is proposed to construct a solar array on the site. Specified infrastructure is defined in the NPS-HPL as including *'infrastructure that is recognised as regionally or nationally significant in a National Policy Statement, New Zealand Coastal Policy Statement, regional policy statement or regional plan'*. As previously discussed, the CRPS defines 'regionally significant infrastructure' as *'national, regional and local renewable electricity generation activities of any scale'*. Therefore, I consider that the proposal includes the establishment of 'specified infrastructure'.

247. The Clause states that the use or development needs to be associated with the *'maintenance, operation, upgrade, or expansion of specified infrastructure'*. The application refers to the NPS-HPL implementation guidelines[23], which state that the intention of the clause is to recognise situations where the use or development of specified infrastructure may occur on HPL. Whilst the word 'development' or 'construction' is absent from the sub-clause, it is my view that the 'new' development of specified infrastructure on highly productive land is anticipated by Clause (j) when considered and read as a whole, where the measures in subclause 3 are satisfied.

248. The specified infrastructure needs to demonstrate a functional or operational need for the use or development to be located on highly productive land. The terms 'functional need' and 'operational need' are both defined in the Partially Operative Plan (per the National Planning Standards) as:

A functional need *'means the need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment'*.

An operational need *'means the need for a proposal or activity to traverse, locate or operate in a particular environment because of technical, logistical or operational characteristics or constraints'.*

249. NPS-HPL implementation guidelines offer the following guidance on 'functional need' and 'operational need' in the context of specified infrastructure:

'Specified infrastructure – this test recognises that the functional and operational needs of specified infrastructure (as defined in Clause 1.3 of the NPS-HPL) means that they may need to be located on HPL – such as where a new road or transmission lines may need to traverse over an area of HPL.

Further, in many cases, the presence of specified infrastructure on HPL does not preclude the balance of the HPL being used by land-based primary production. For example, land surrounding structures used for infrastructure can often be used for animal grazing or some forms of horticulture'.

250. The application details a range of factors[24] relevant to site selection for a solar array activity which I will not repeat, and I accept that the characteristics of this site, including the proximity to the adjacent substation, demonstrate an operational need (being that greater than that of an advantage) to locate on the site. Therefore, I consider that the proposal meets subclause 2.

251. The measures in subclause 3 still apply to any use or development. The first matter requiring that the Council must take measures to ensure that any use or development on highly productive land minimises or mitigates any

[23] https://environment.govt.nz/assets/publications/National-Policy-Statement-Highly-Productive-Land-Guide-to-implementation-March-2023.pdf

[24] Refer Application Assessment of Environmental Effects, Section 7.3 – National Policy Statement for Highly Productive Land, page 40 of the document.

actual loss or potential cumulative loss of the availability and productive capacity of highly productive land in their district.

252. Productive capacity is defined in the NPS-HPL as:

…the ability of the land to support land-based primary production over the long term, based on an assessment of:

(a) physical characteristics (such as soil type, properties, and versatility); and

(b) legal constraints (such as consent notices, local authority covenants, and easements); and

(c) the size and shape of existing and proposed land parcels

253. The NPS-HPL implementation guide states that the key measure of productive capacity depends on the 'potential' capacity of the land to support land-based primary production activities. In this context, there are no relevant legal constraints, and the proposal will not alter the size and shape of any existing parcels. In regard to physical characteristics, the proposal will require earthworks for trenching and piling, although I agree that these are minimal in the context of the site and scale proposed.

254. The NPS-HPL implementation guide states that:

Clause 3.9(3)(a) requires territorial authorities to focus on minimising or mitigating any actual loss or potential cumulative loss of the availability and productivity capacity of HPL, when considering any proposed use and development on HPL.

When considering if a use or development "minimises" or "mitigates" a loss of productive capacity, territorial authorities should consider:

- *the location of the activity – whether it can be sited somewhere on the subject site that minimises the impact on the productive capacity of HPL.*
- *the footprint of the activity – whether efforts have been made to keep the footprint of the activity as small as possible to minimise the actual loss of HPL.*
- *clustering of activities – whether there is an option to group a number of activities in a similar location to mitigate the cumulative loss of HPL that would occur through activities being spread out across a wider area of HPL (eg, clustering of buildings, co-location of telecommunications infrastructure or containing multiple activities in the same building, such as using an existing residential dwelling for a home business or visitor accommodation activity, rather than constructing multiple buildings)*
- *co-existing with land-based primary production – whether the activity can be designed in such a way that is does not preclude being able to carry out land-based primary production around the activity (eg, the potential for using the land around specified infrastructure to be used for vegetable production or animal grazing).*

255. Mr Gordon has confirmed that forms of land-based primary production can continue on the site. It is important to note that productive capacity is not framed in an economic sense, and that whilst grazing sheep may not generate the same economic value as the present land use, I recognise that there is no compulsion for any rural landowner to do so. I agree with the application that the limited occupation of the piles and the elevated positioning of the panels have minimised the impact and loss of highly productive land, with the solar array able to co-exist and enable land-based primary production to occur.

256. The second matter in subclause 3 seeks to avoid if possible, or otherwise mitigate, any actual or potential reverse sensitivity effects on land-based primary production activities from the use or development. As discussed in the assessment of environmental effects, I consider that the proposal will mitigate reverse sensitivity effects on adjoining land-based primary production activities.

257. On that basis, I conclude that the proposal is not an 'inappropriate' use or development of highly productive land and is not inconsistent with the overall intent of the NPS-REG.

Section 104(1)(c) – Other Matters

Mahaanui Iwi Management Plan

258. The Mahaanui Iwi Management Plan 2013 (MIMP) is the mana whenua planning document reflecting the collective efforts of six Papatipu Rūnanga that represent the hapū who hold mana whenua rights over lands and waters within the takiwā from the Hurunui River to the Hakatere River and inland to Kā Tiritiri o Te Moana. The Site is within the Papatipu Rūnanga of Te Taumutu.

259. A detailed analysis of the proposal in regard to the MIMP was contained in the Cultural Advice Report obtained from Mahaanui Kurataiao Limited. Notably, the proposal does not entirely align with the expectations of the Rūnanga with regard to the preference for indigenous planting. However, the proposal is considered to be consistent in the other respects.

Impacts on Land Valuation

260. One submission raised concerns regarding the potential impact that the proposal will have on the value and saleability of their property, inclusive of a supporting assessment from a registered valuer. While I recognise that reductions in property values can result from adverse environmental effects, it is those effects that I am required to consider. I have concluded that the adverse effects of the proposal on the environment will be adequately mitigated and minor.

Section 104(3)(d) – Notification consideration

261. Section 104(3)(d) states that a consent authority must not grant a resource consent if the application should have been notified and was not. This consideration under s 104 does not raise any issues that would lead me to the conclusion that the application should have been notified. Therefore, it is my view that section 104(3)(d) does not preclude the granting of consent in this case.

Part 2 – Purpose and principles

262. The consideration under section 104 is subject to Part 2 of the Act – Purpose and principles.

263. The purpose of the Act is contained within section 5 and it is to promote the sustainable management of natural and physical resources. *Sustainable management* means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while: sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and avoiding, remedying, or mitigating any adverse effects of activities on the environment.

264. The other sections of Part 2, sections 6, 7 and 8, address matters of national importance, other matters and Te Tiriti o Waitangi (the Treaty of Waitangi) respectively.

265. The relevant District Plans have been prepared having regard to Part 2, with a coherent set of policies designed to achieve clear environmental outcomes; therefore, taking into account relevant case law, I consider that assessment under Part 2 is unlikely to be necessary. For the sake of completeness, however, Part 2 is briefly assessed below.

266. In addition to section 5, I note that the following clauses of Part 2 would be particularly relevant:

> *7(b) the efficient use and development of natural and physical resources:*
>
> *7(c) the maintenance and enhancement of amenity values:*
>
> *7(f) maintenance and enhancement of the quality of the environment:*
>
> *7(g) any finite characteristics of natural and physical resources:*
>
> *7(i) the effects of climate change:*
>
> *7(j) the benefits to be derived from the use and development of renewable energy*.

267. Based on my assessment of the proposal in this report, I conclude that the proposal will be consistent with Part 2 of the Act, as the proposal will make efficient use of the natural and physical resources, the proposal includes recommended conditions to maintain both amenity values and the environment. The proposed renewable solar energy will also assist in reducing emissions to manage the on-coming effects of climate change.

Conclusions

268. This is a land use consent application to construct and operate a new solar array on approximately 111ha.

269. The proposal has been considered as a Discretionary activity.

270. Subject to my recommended conditions of consent below, I consider that the adverse effects of the proposal on the environment will be adequately mitigated and minor.

271. I consider that the proposal is consistent with the objectives and policies of both District Plans, and that significantly greater weight must be given to the Partially Operative Plan.

272. I conclude that the proposal is consistent with the relevant CRPS provisions, NPS-REG provisions, NPS-FM provisions, and that the proposal is not inconsistent with the relevant NPS-HPL provisions.

273. I conclude that the proposal will be consistent with Part 2 of the Act.

274. Having considered all relevant matters, on balance and overall, I conclude that the application may be granted, subject to conditions of consent.

Recommendation

I recommend that land use consent RC235464 is **granted**, pursuant to sections 104 and 104B of the Resource Management Act 1991, subject to the conditions of consent contained in **Appendix J**, pursuant to sections 108 and 108AA of the Act.

Report by:  Richard Bigsby, Senior Resource Management Planner	Date: 9 February 2024

Appendix A

Appendix B

Appendix C

Appendix D

Appendix E

Appendix F

Appendix G

Appendix H

Appendix I

Objectives and Policies

Partially Operative Plan – Objectives and Policies

Strategic Directions

SD-DI-O1

Selwyn is an attractive and pleasant place to live, work, and visit, where development:

1. takes into account the existing and anticipated character of individual communities;
2. is well-connected, safe, accessible, and resilient; and
3. enhances environmental, economic, cultural, social and health outcomes for the benefit of the entire District.

SD-DI-O2

Selwyn's prosperous economy and community well-being are supported through the efficient use of land, resources, and infrastructure, while ensuring existing activities are protected from incompatible activities and reverse sensitivity effects.

SD-DI-O3

Land and water resources are managed through an integrated approach, which recognises both the importance of ki uta ki tai to Ngāi Tahu and communities, and the inter-relationship between ecosystems and natural processes.

SD-DI-O4

Places, landscapes, features, and indigenous biodiversity which make an important contribution to Selwyn's environment, cultural heritage, or are of spiritual importance to Ngāi Tahu, are identified, recognised for their values, and protected for future generations.

SD-DI-O6

Outside of defined urban growth areas Selwyn's highly productive land is retained for rural production activities and rural communities retain their rural character.

SD-IR-O3

The risk from natural hazards, including the effects of climate change, to people, property, and important infrastructure is either:

1. not increased, other than where necessary to provide for important infrastructure that has no reasonable alternative; or
2. is managed to an acceptable level.

SD-MWV-O1

Strengthen the partnership between the Council and Ngāi Tahu by recognising the cultural significance of Selwyn to Ngāi Tahu and Te Taumutu and Ngāi Tūāhuriri Rūnanga by:

1. promoting active and meaningful participation by those who hold mana whenua in the resource management decision-making process;
2. recognising that only those who hold mana whenua can identify their relationship with their culture, traditions, ancestral lands, waterbodies, wāhi tapu and other taonga;
3. enabling the exercise of kaitiakitanga by those who hold mana whenua over Selwyn;
4. providing for the contemporary connections, cultural and spiritual values held by tāngata whenua; and
5. continuing to enable tāngata whenua to protect, develop and use Māori Land in a way which is consistent with their culture, traditions and aspirations.

Energy and Infrastructure

EI-O4

Optimise and increase renewable electricity generation outputs for national, regional, and local use while minimising adverse effects on the environment and sensitive activities.

EI-P2

Minimise the adverse effects of important infrastructure, and renewable electricity generation on the physical and natural environment by:

1. encouraging the co-location of structures and facilities where efficient and practicable.
2. locating, designing and operating development while minimising the effects on, the amenity values of the surrounding environment, public access and the health and safety of people.
3. limiting the presence and effects of development within Outstanding Natural Landscapes, Visual Amenity Landscapes, natural character areas, areas of significant indigenous vegetation and habitats of indigenous fauna, sites of historic heritage and sites and areas of significance to Māori to those which:
   a. are recognised as important infrastructure; and
   b. can demonstrate an operational, technical or functional requirement for the location, or there are practical constraints requiring it to locate in a particular area with high natural, visual amenity, cultural, or historic heritage value; and
   c. can demonstrate through site, route or method selection the minimisation of effects on the environment; and
   d. integrate design measures and management methods to mitigate adverse effects.
4. considering biodiversity off-setting in accordance with EIB-SCHED5 or compensation where the loss of significant indigenous vegetation or the effects on significant habitats of indigenous fauna or wetlands cannot be avoided, remedied, or mitigated.
5. using the substantial upgrade of important infrastructure and renewable electricity generation as an opportunity to reduce existing adverse effects, where the efficiency, effectiveness or resilience of the important infrastructure or renewable electricity generation is not compromised.
6. providing for the maintenance, operation, upgrade or expansion of important infrastructure on highly productive land where there is a functional or operational requirement to locate the infrastructure on that land whilst:
   a. minimising or mitigating any actual or potential cumulative loss of highly productive land; and
   b. avoiding if possible, or otherwise mitigating, any actual or potential reverse sensitivity effects on land-based primary production activities.

EI-P4

Manage the adverse effects from the construction and operation of important infrastructure, and renewable electricity generation, including noise and vibration.

EI-P5

Avoid radio, electric, and magnetic fields that do not meet the applicable and recognised standards or guidelines.

EI-P7

Enable renewable electricity generation investigations provided that adverse effects on areas of Outstanding Natural Landscapes, Visual Amenity Landscapes, areas of significant indigenous vegetation and habitats of indigenous fauna, sites of historic heritage and site and areas of significance to Māori are mitigated.

EI-P9

Provide for renewable electricity generation activities across the District, while having particular regard to:

1. The potential benefits of the proposed activity, particularly contributions to national energy objectives, renewable electricity generation targets, or climate change mitigation;
2. The technical and operational requirements of renewable electricity generation activities;
3. The availability of renewable electricity generation sources;
4. The location and efficient use of existing electricity generation and distribution infrastructure;
5. The potential to provide an affordable, self-sufficient source of electricity to individuals and small communities.

Transportation

TRAN-O1

People and places are connected through safe, efficient, and effective land transport corridors and land transport infrastructure for all transport modes, which are well integrated with land use activities and subdivision development and reduce dependency on private motor vehicles.

TRAN-P4

Manage the adverse effects of activities within the General Rural Zone that exceed the maximum number of vehicle movements for each site.

TRAN-P7

Recognise and protect the function of the District's land transport network and systems by managing land use activities and subdivision development to ensure the safe and efficient movement of people and goods by:

1. Avoiding significant adverse effects and minimising other adverse effects from activities on the safe, efficient and effective operation of land transport corridors and land transport infrastructure, particularly where it may reduce safe and efficient traffic flows within the strategic transport network and links with Christchurch City;
2. Ensuring land transport corridors and land transport infrastructure can efficiently and effectively provide for the volume and type of transport movements based on the network road classifications; and
3. Requiring the design, positioning, and maintenance of accessways, corner splays, vehicle crossings, intersections, footpaths, plantings, and signs to ensure appropriate sightline visibility is provided to road users to support safe and efficient vehicle, pedestrian, and cycle movements.

TRAN-P11

Manage vehicle access, vehicle crossings and manoeuvring areas to maintain the safe and efficient operation of land transport corridors and land transport infrastructure by:

1. Requiring all sites to have access to a road and to ensure that this access is constructed to the appropriate formation standards and is compatible with the network road classification;
2. Avoiding the need to reverse vehicles onto the strategic transport network;
3. Avoiding the establishment of new accessways and vehicle crossings to roads that require access across a rail line; and
4. Minimising the need to reverse onto Collector Roads through the provision of appropriate on-site manoeuvring areas.

Contaminated Land

CL-O1

Human health and the environment are protected from the adverse effects of the use of contaminated land.

Natural Hazards

NH-O1

New subdivision, use, and development, (except for new important infrastructure and land transport infrastructure where NH-O2 applies instead):

1. is avoided in areas where the risks from natural hazards to people, property and infrastructure are assessed as being unacceptable; and
2. in all other areas, is undertaken in a manner that ensures that the risks of natural hazards to people, property and infrastructure are appropriately mitigated.

NH-P1

Avoid new subdivision, use, or development of land in high hazard areas (except for important infrastructure and land transport infrastructure where NH-P2 applies instead), unless the subdivision, use or development either:

1. is
   a. not likely to result in loss of life or serious injuries; and
   b. is not likely to suffer significant damage or loss; and
   c. is not likely to require new or upgraded natural hazard mitigation works to mitigate or avoid the natural hazard; and either is:
   d. not likely to exacerbate the effects of the natural hazard;

NH-P12

Manage earthworks undertaken in the Waimakariri Flood Management Overlay and the Plains Flood Management Overlay to ensure that they do not exacerbate flooding on any other property by displacing or diverting floodwater on surrounding land.

Sites and Areas of Significance to Māori

SASM-O1

The historic and contemporary relationship of Ngāi Tahu mana whenua with their ancestral lands, water, sites, wāhi tapu, and wāhi taonga within the Selwyn District is recognised and protected.

SASM-P1

Recognise and protect Ngāi Tahu cultural values in identified Sites and Areas of Significance to Ngāi Tahu by:

a. avoiding any damage or disturbance to urupā except for activities associated with the identification or protection of such sites, or for interments in, such sites, which are undertaken by the relevant rūnanga;
b. protecting identified wāhi tapu and wāhi taonga from disturbance, damage, or destruction, and ensure activities do not adversely affect them;
c. avoiding buildings within wāhi tapu identified as a maunga;
d. limiting earthworks to those areas that have been previously disturbed by cultivation, building foundations or other earthworks, and controlling the depth of any excavation;
e. enabling opportunities for enhancement of cultural and ecological values within identified Sites and Areas of Significance to Ngāi Tahu, particularly where associated with mahinga kai.

SASM-P4

To encourage and facilitate the engagement of landowners and resource consent applicants with the relevant rūnanga prior to them undertaking activities and/or applying for resource consent, within or adjacent to Sites and Areas of Significance to Māori). Where prior applicant engagement has not been undertaken Council will consult with the relevant rūnanga.

Ecosystems and Indigenous Biodiversity

ECO-O1

Indigenous biodiversity within the district is managed through the exercise of kaitiakitanga and stewardship, in order that:

1. Areas of significant indigenous vegetation and significant habitats of indigenous fauna are protected, and
2. Other indigenous biodiversity values are maintained and enhanced, and
3. The restoration and enhancement of areas of indigenous biodiversity is encouraged and supported.

ECO-P3

Outside of Significant Natural Areas, provide for small scale or low impact activities that may have minor adverse effects on indigenous biodiversity values where:

1. they are of wider environmental or community benefit, or
2. they enable continuation of existing activities.

ECO-P6

Protect Threatened or At Risk Species and their habitats by avoiding significant adverse effects and avoiding, remedying or mitigating other adverse effects of activities on those species and their habitats.

Earthworks

EW-O1

Earthworks are undertaken in a manner that limits adverse effects on the surrounding environment.

EW-P1

Enable temporary, small-scale earthworks activities, while managing those with the potential to create adverse visual amenity, sediment, and nuisance effects beyond site boundaries.

EW-P3

Manage earthworks to limit erosion, inundation or siltation so that it does not impede the functioning of natural biological and physical processes.

EW-P4

Minimise any adverse visual effects, loss of privacy, dust nuisance, or shading adverse effects during and on completion of earthworks.

Noise

NOISE-O1

The health and wellbeing of people and communities and their amenity values are protected from adverse noise effects, consistent with the anticipated outcomes for the receiving environment.

NOISE-P1

Manage noise effects by setting:

1. Maximum noise limits to reflect the character and amenity of each zone;
2. Limits on the location, frequency, and duration of specific activities that generate noise;
3. A vibration standard.

General Rural Zone

GRUZ-O1

Subdivision, use, and development in rural areas that:

1. supports, maintains, or enhances the function and form, character, and amenity value of rural areas;
2. prioritises primary production, over other activities to recognise its importance to the economy and wellbeing of the district;
3. allows primary production, those activities that directly support primary production and have a functional or operational need to locate with the General Rural Zone and important infrastructure, to operate without being compromised by incompatible sensitive activities and reverse sensitivity effects;
4. retains a contrast in character to urban areas; and
5. protects highly productive land.

GRUZ-P1

Maintain or enhance rural character and amenity values of rural areas by:

1. retaining a low overall building density;
2. enabling primary production while managing adverse effects of intensive primary production, and mineral extractive industries;
3. managing the density and location of residential development;
4. retaining a clear delineation and contrast between the district's rural areas and urban areas; and
5. recognising that primary production activities can produce noise, dust, odour and traffic that may be noticeable to residents and visitors to the General Rural Zone.

GRUZ-P1A

Avoid the inappropriate use and development of highly productive land, except as provided for by the National Policy Statement for Highly Productive Land 2022.

GRUZ-P7

Avoid reverse sensitivity effects on:

1. lawfully authorised or established primary production activities;
2. activities that have a direct relationship with, or are dependent, on primary production; and
3. important infrastructure.

Canterbury Regional Policy Statement – Objectives and Policies

Chapter 5 – Land Use and Infrastructure

5.2.2 Integration of land-use and regionally significant infrastructure (Wider Region)

In relation to the integration of land use and regionally significant infrastructure:

1. To recognise the benefits of enabling people and communities to provide for their social, economic and cultural well-being and health and safety and to provide for infrastructure that is regionally significant to the extent that it promotes sustainable management in accordance with the RMA.
2. To achieve patterns and sequencing of land-use with regionally significant infrastructure in the wider region so that:
    a. development does not result in adverse effects on the operation, use and development of regionally significant infrastructure.
    b. adverse effects resulting from the development or operation of regionally significant infrastructure are avoided, remedied or mitigated as fully as practicable.
    c. there is increased sustainability, efficiency and liveability.

5.3.2 Development conditions (Wider Region)

To enable development including regionally significant infrastructure which:

1. ensure that adverse effects are avoided, remedied or mitigated, including where these would compromise or foreclose:
    a. existing or consented regionally significant infrastructure;
    b. options for accommodating the consolidated growth and development of existing urban areas;
    c. the productivity of the region's soil resources, without regard to the need to make appropriate use of soil which is valued for existing or foreseeable future primary production, or through further fragmentation of rural land;

d. the protection of sources of water for community supplies;
e. significant natural and physical resources;

2. avoid or mitigate:
   a. natural and other hazards, or land uses that would likely result in increases in the frequency and/or severity of hazards;
   b. reverse sensitivity effects and conflicts between incompatible activities, including identified mineral extraction areas;
   and

3. integrate with:
   a. the efficient and effective provision, maintenance or upgrade of infrastructure; and
   b. transport networks, connections and modes so as to provide for the sustainable and efficient movement of people, goods and services, and a logical, permeable and safe transport system.

5.3.9 Regionally significant infrastructure (Wider Region)

In relation to regionally significant infrastructure (including transport hubs):

1. avoid development which constrains the ability of this infrastructure to be developed and used without time or other operational constraints that may arise from adverse effects relating to reverse sensitivity or safety;
2. provide for the continuation of existing infrastructure, including its maintenance and operation, without prejudice to any future decision that may be required for the ongoing operation or expansion of that infrastructure; and
3. provide for the expansion of existing infrastructure and development of new infrastructure, while:
   a. recognising the logistical, technical or operational constraints of this infrastructure and any need to locate activities where a natural or physical resource base exists;
   b. avoiding any adverse effects on significant natural and physical resources and cultural values and where this is not practicable, remedying or mitigating them, and appropriately controlling other adverse effects on the environment; and
   c. when determining any proposal within a sensitive environment (including any environment the subject of section 6 of the RMA), requiring that alternative sites, routes, methods and design of all components and associated structures are considered so that the proposal satisfies sections 5(2)(a) – (c) as fully as is practicable.

5.3.12 Rural production (Wider Region)

Maintain and enhance natural and physical resources contributing to Canterbury's overall rural productive economy in areas which are valued for existing or foreseeable future primary production, by:

1. avoiding development, and/or fragmentation which;
   a. forecloses the ability to make appropriate use of that land for primary production; and/or
   b. results in reverse sensitivity effects that limit or precludes primary production.
2. enabling tourism, employment and recreational development in rural areas, provided that it:
   a. is consistent and compatible with rural character, activities, and an open rural environment;
   b. has a direct relationship with or is dependent upon rural activities, rural resources or raw material inputs sourced from within the rural area;
   c. is not likely to result in proliferation of employment (including that associated with industrial activities) that is not linked to activities or raw material inputs sourced from within the rural areas; and
   d. is of a scale that would not compromise the primary focus for accommodating growth in consolidate, well designed and more sustainable development patterns.

   And;

3. ensuring that rural land use intensification does not contributed to significant cumulative adverse effects on water quality and quantity.

Chapter 15 – Soils

15.2.1 Maintenance of soil quality

Maintenance and improvement of the quality of Canterbury's soil to safeguard their mauri, their life supporting capacity, their health and their productive capacity.

15.3.1 Avoid remedy or mitigate soil degradation

In relation to soil:

1. to ensure that land-uses and land management practices avoid significant long-term adverse effects on soil quality, and to remedy or mitigate significant soil degradation where it has occurred, or is occurring; and
2. to promote land-use practices that maintain and improve soil quality.

16.2.2 Promote a diverse and secure supply of energy

Reliable and resilient generation and supply of energy for the region, and wider contributions beyond Canterbury, with a particular emphasis on renewable energy, which:

1. provides for the appropriate use of the region's renewable resources to generate energy;
2. reduces dependency on fossil fuels;
3. improves the efficient end-use of energy;
4. minimises transmission losses;
5. is diverse in the location, type and scale of renewable energy development;
6. recognises the locational constraints in the development of renewable electricity generation activities; and
    a. avoids any adverse effects on significant natural and physical resources and cultural values or where this is not practicable, remedies or mitigates; and
    b. appropriately controls other adverse effects on the environment.

16.3.3 Benefits of renewable energy generation facilities

To recognise and provide for the local, regional and national benefits when considering proposed or existing renewable energy generation facilities, having particular regard to the following:

1. maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;
2. maintaining or increasing the security of supply at local and regional levels, and also wider contributions beyond Canterbury; by diversifying the type and/or location of electricity generation;
3. using renewable natural resources rather than finite resources;
4. the reversibility of the adverse effects on the environment of some renewable electricity generation facilities;
5. avoiding reliance on imported fuels for the purposes of generating electricity; and
6. assisting in meeting international climate obligations.

16.3.5 Efficient, reliable and resilient electricity generation within Canterbury

To recognise and provide for efficient, reliable and resilient electricity generation within Canterbury by:

1. avoiding subdivision, use and development which limits the generation capacity from existing or consented electricity generation infrastructure to be used, upgraded or maintained;
2. enabling the upgrade of existing, or development of new electricity generation infrastructure, with a particular emphasis on encouraging the operation, maintenance and upgrade of renewable electricity generation activities and associated infrastructure:
    a. having particular regard to the locational, functional, operational or technical constraints that result in renewable electricity generation activities being located or designed in the manner proposed;
    b. provided that, as a result of site, design and method selection:
        i. the adverse effects on significant natural and physical resources or cultural values are avoided, or where this is not practicable remedied, mitigated or offset; and
        ii. other adverse effects on the environment are appropriately controlled.
3. providing for activities associated with the investigation, identification and assessment of potential sites and energy sources for renewable electricity generation;
4. maintaining the generation output and enabling the maximum electricity supply benefit to be obtained from the existing electricity generation facilities within Canterbury, where this can be achieved without resulting in additional significant adverse effects on the environment which are not fully offset or compensated.

Appendix J

Recommended Conditions of Consent

RC235464 Land Use Consent Conditions

1. The proposal shall proceed in substantial accordance with the information submitted with the application on 10th of August 2023, the further information provided on 5th, 20th & 24th of October 2023, and the attached stamped Approved Plans entitled "RC235464 Land Use Approved Plans", except where another condition of this consent must be complied with.

2. The on-going operation of the solar array activity shall be limited to between the hours of 7.30am to 8.00pm. For completeness, there shall be no activity on-site at night-time and the batteries and inverter will be switched off by their Programmable Logic Controller (PLC) .

3. The Consent Holder shall ensure that all contractors engaged to undertake activities authorised by this resource consent are made aware at all times of the conditions and management plans that apply to this resource consent that are relevant to their work area and the measures required for compliance with the conditions.

Management Plan Certification

4. The Consent Holder shall prepare the following management plans for certification by the Council (Compliance@selwyn.govt.nz) or by their nominated appointee. The Consent Holder shall prepare the management plans in accordance with the requirements of the relevant conditions and in general accordance with the application documents:

    a) Erosion and Sediment Control Plan (ESCP), incorporating a Dust Management Plan (DMP).

    b) Construction Management Plan (CMP).

    c) Landscaping Management Plan (LMP).

    d) Construction Noise and Vibration Management Plan (CNVMP).

    e) Avifauna Monitoring Plan (AMP).

5. The Consent Holder shall ensure that all management plans are prepared by a suitably qualified and experienced person (SQEP).

6. The Consent Holder shall submit the above management plans to the Council for certification in accordance with the timeframe specified in each relevant condition below. Works must not commence until the relevant management plan(s) are certified.

7. The certification process shall be limited to confirming in writing that the Management Plan has been prepared in accordance with the relevant conditions(s) and will achieve the objectives of the Management Plan.

8. If the Council's response is that they are not able to certify the management plan, the Consent Holder shall address any reasons or recommendations provided by the certifier and re-submit an amended Management Plan for certification.

9. The Consent Holder shall comply with all certified management plans.

Site Preparation and Construction

10. The ESCP and DMP shall be complied with for the duration of all earthworks and soil disturbance occurring on the site. The ESCP and DMP shall be certified at least 20 working days prior to the commencement of site works.

11. Prior to the commencement of construction on the site, the vehicle crossing to service the site on Branch Drain Road shall be formed and sealed in accordance with Diagram E10.D of the Operative District Plan (Rural Volume), at the expense of the Consent Holder. (Note – the Consent Holder will require a vehicle crossing approval from Council's Infrastructure Department prior to installation.)

12. The relocatable site office shall temporarily support construction and be removed from the site within 30 days of the completion of construction, including the wastewater holding tank and water tanks.

13. Construction shall be limited to weekdays only (Monday-Friday), and between the hours of 7.30am to 6.00pm. No construction work shall be undertaken on public holidays.

14. All proposed works shall to be carried out in accordance with an accepted Construction Management Plan (CMP). The purpose of the CMP is to ensure that any potential effects arising from construction activities on the site is effectively managed. The CMP shall include, but not be limited to the following:

    a) Site description, topography, vegetation, soils and other reference information;

    b) Details of proposed works;

    c) Roles and responsibilities, including contact details for the site manager appointed by the Consent Holder;

    d) A complaints procedure to address any complaints from people in the area;

    e) Site establishment;

    f) Timing of works;

    g) Site access and Traffic Management measures;

    h) Storage of fuel and/or lubricants and any handling procedures;

    i) Contingency plans (including use of spill kits);

    j) Construction traffic management measures, including measures to be adopted in accordance with the NZTA Code of Practice for Temporary Traffic Management;

    k) On-site parking areas for construction staff;

    l) Measures for identification and remediation of contaminated soil; and

    m) Environmental compliance monitoring and reporting.

Noise and Vibration

15. At least 20 working days prior to construction occurring on site, a CNVMP shall be prepared and submitted to Council for certification. The CNVMP shall address, as a minimum, the measures identified in Annex E3 of NZS 6803: 1999 "Acoustics – Construction Noise".

16. For the avoidance of doubt, within the CNVMP required by Condition 13 above, the applicant shall demonstrate the proposed piling methodology has been selected with respect to the best practicable option.

17. The Consent Holder shall ensure that all activities on the site are measured in accordance with NZS6801:2008 Acoustics - Measurement of environmental sound, and assessed in accordance with the provisions of NZS6802:2008 Acoustics - Environmental noise, and noise shall not exceed the following limits at any point within the notional boundary of any residential unit, during the following timeframes:

    i. 0730 to 2000 hrs - 50 dB L_{Aeq}

    ii. 2000 to 0730 hrs - 40 dB L_{Aeq} and 75 dB L_{Amax}

18. Within 6 weeks of the solar array becoming operational, a suitably qualified and experienced acoustic consultant shall perform measurements to confirm compliance with both the daytime and night-time noise limits contained in Condition 15 above. The assessment shall include an objective analysis of any special audible characteristics during the day and at night in accordance with Appendix B4 of NZS 6802:2008 Acoustics - Environmental Noise.

19. Construction activities must be conducted in accordance with NZS 6803:1999 "Acoustics – Construction Noise" and must comply with the "long-term duration" noise limits contained within Table 2 of that Standard.

Cultural

20. As part of the initial site works, the part of the Wāhi Taonga Management Site – C59 within the site shall be fenced off, with a minimum 50m setback buffer established and maintained surrounding the area. Any form of ground disturbance shall not take place within this buffer zone for the protection of Wāhi Taonga values.

21. An Accidental Discovery Protocol (ADP) must be in place for the entirety of works and all contractors shall be made familiar with this protocol. The ADP is included as an attachment to these conditions.

22. Earthworks shall not occur within a 10m minimum setback from those existing drains running adjacent to the Branch Drain Road and Buckleys Road boundaries, with the exception of the culvert replacement for the existing access on Branch Drain Road.

Glare and Reflectivity

23. For the identified area of glare at the junction of Caldwells Road and Hanmer Road that would align with a gap in the proposed mitigation planting, the Consent Holder shall ensure that the panels in this section of the solar array do not include any back tracking to avoid glare at this intersection. The Consent Holder shall submit a map confirming the extent of no backtracking with dimensions for consent monitoring and administration.

24. Glare along Hanmer and Caldwells Roads shall be mitigated by an area of extended backtracking to the south-eastern portion of the site until the planting establishes to a minimum height of 3.0m. The Consent Holder shall submit a map confirming the extent of required mitigation planting with dimensions for consent monitoring and administration.

Landscaping

25. The LMP shall be certified at least 20 working days prior to the commencement of landscape planting.

26. All landscaping shall be implemented and maintained in accordance with the LMP, inclusive of the retention of the site boundary planting specified in the application. A full landscape plan indicating the location, planting and species of all plants must be provided within the LMP. The Consent Holder shall advise the Council once all planting required by the LMP has been established.

27. Prior to the commencement of construction on the site, the mitigation planting shall be established along the full length of the site boundaries, as depicted in Figures 3-5 of the Landscape Effects Assessment and related information submitted with the application, and in accordance with the following requirements:

    a) The planting shall be located between the site boundary and the security fencing to screen the site and with livestock fencing to protect the planting from the livestock grazing the site.

    b) The planting shall be implemented prior to any construction commencing on the site, and plants shall be a minimum of 2m tall at establishment. Plant species shall consist of fast growing, evergreen (to be confirmed) species with a rapid growth rate.

    c) Where there are gaps in the existing vegetation, 2m high, double staggered rows of fast growing, evergreen (to be confirmed) plant species shall be implemented. Where existing vegetation needs replacing, a smaller grade of planting may be used.

    d) Planting shall be maintained at a minimum height of 3.5m once achieved.

e) All dead or diseased existing vegetation will be replaced within the next growing season or as soon as practically possible.

f) New planting along Branch Drain Road shall be set back 10m from the site boundary and maintained at 3.5m in height once achieved. Where planting is directly behind vegetation that is already at, or exceeds, 2m in height, PB3 grade fast growing, evergreen shelterbelt plant species shall be implemented. The existing planting along Branch Drain Road (outside of the boundary fence) may be removed once the new plantings reach at least 3.5m in height.

g) Where planting faces the roadside, the applicant shall maintain vegetation with mechanical trimmers from the 10m setback area proposed. On the inside of internal fences, a 3m wide maintenance strip shall be maintained between the planting and the security fencing to enable mechanical trimming.

h) Irrigation and associated infrastructure for the landscaping planting will be installed prior to commencing planting.

i) All planting shall be irrigated (as required) for the duration of the solar array activity.

j) An additional visually impermeable shelterbelt hedge shall be planted and maintained at a minimum height of 3.5m approximately 20m from the boundary with 324 Branch Drain Road (and 33m from the existing residential unit on this site).

28. All security fencing shall be located internally within the site and be screened by the mitigation planting. The security fencing shall have a maximum height of 2.6m and the posts shall not exceed 3.0m. Closed board fencing shall be prohibited along the site boundaries. Where there is an entrance to the site from Branch Drain Road, a gate with reduced or no visual transparency shall be established to provide visual screening of the array.

Ecology

29. Where internal shelterbelts are to be cleared, this shall occur outside of the main bird breeding season (September – January) to avoid any risk of impacts to nesting protected indigenous birds.

30. Either:

    a) Construction of solar panel arrays shall occur outside of the main bird breeding season (September – January), to avoid adverse effects to breeding indigenous birds, inclusive of the South Island Pied Oystercatcher (SIPO); or

    b) A pre-construction survey of the site shall be carried out by a suitably qualified ecologist/ornithologist with over five years experience conducting bird surveys (SQEP), in order to:

        i. Determine whether SIPO (or other bird species observed during the survey deemed of conservation concern by the SQEP) are breeding within the solar array footprint. Subsequently:

            1. If breeding SIPO (or other species of conservation concern) are absent, works may proceed within the breeding season; or

            2. If breeding SIPO (or other species of conservation concern) are present within the site, works may proceed subject to setbacks from nests or other similar measures to avoid or otherwise manage impacts to breeding birds, as advised by the SQE.

31. At least 30 days prior to the first operation of the solar array, the Consent Holder shall submit to the Council for certification an Avifauna Monitoring Plan (AMP). The AMP shall be prepared by a suitably qualified ecologist / ornithologist (SQEP) for the purpose of monitoring any impacts of the solar array on avifauna.

32. The AMP shall include:

        i. Frequency, duration and area of surveys (for a minimum of 24 months);

ii. Monitoring methods; and

iii. Information about any bird species found dead at the site that appears to have suffered trauma injuries, including species, number, and suspected cause of death. Input from an SQEP or veterinarian may be required. (Note: Due to Wildlife Act 1953 requirements the handling of injured indigenous birds or the storage of dead indigenous birds would likely require approval from the Department of Conservation.)

33. At the conclusion of the monitoring period, an independent SQEP on behalf of the Consent Holder is to submit a report to the Council (compliance@selwyn.govt.nz) setting out:

    i. The results of the monitoring;

    ii. If the monitoring identifies that a more than low level of collision effect on At-Risk or Threatened avifauna species is detected;

    iii. details of proposed ongoing monitoring to be undertaken; and

    iv. details of collision prevention/deterrent measures that should be implemented at the site.

34. Upon receipt of the monitoring report, the Council what? Review condition? What do we think we'd want to do about it?

Land-based Primary Production

35. The Consent Holder shall ensure that at all times the site is in a condition that can facilitate land-based primary production. For clarity and interpretation, land-based primary production means production, from agricultural, pastoral, or horticultural activities, that is reliant on the soil resource.

Decommissioning and Site Rehabilitation

36. When the solar farm has reached its end-of-life cycle and a change in land use is sought, the agricultural land shall be returned to its previous state, leaving the land in a condition that is safe and suitable for agricultural land use. This shall include but is not limited to:

    a) The Consent Holder shall undertake representative soil testing and any remediation of contaminated soils, where necessary for agricultural use, shall occur at the expense of the consent holder. (Note – assessment under the NES-CS will be necessary at this time.)

    b) The Consent Holder shall ensure that the components and infrastructure are disposed of in a way that maximises reuse and recycling. For any parts that cannot be reused or recycled, the Consent Holder shall ensure that they are disposed of in an environmentally responsible way in accordance with industry best practices.

Hazard Management

37. Inverters, batteries and transformers shall be established at a minimum height of 1m above the existing ground level where they are positioned.

38. Fire detection and suppression systems shall be installed and maintained within the battery containers for the duration of the use of batteries on the site, and regularly tested in accordance with the manufacturers specifications.

39. The Consent Holder shall provide the Council with a copy of the Fire Response Plan that is prepared under the Fire and Emergency New Zealand Act 2017, prior to the operation of the solar array.

Attachments

1. RC235464 Land Use Approved Plans

Selwyn District Council Advice Notes for the Consent Holder

Lapse Period (Land Use Consent)

a) Pursuant to section 125 of the Resource Management Act 1991, if not given effect to, this land use consent shall lapse five years after the date of issue of the decision, i.e. the date of receipt of the Notice of Decision email, unless before the consent lapses an application is made to the Council to extend the period after which the consent lapses and the Council decides to grant an extension.

Resource Consent Only

b) This consent is a Selwyn District Council resource consent under the Resource Management Act. It is not an approval under any other Act, Regulation or Bylaw. Separate applications will need to be made for any other approval, such as a water race bylaw approval or vehicle crossing approval.

Building Act

c) This consent is not an authority to build or to change the use of a building under the Building Act. Building consent will be required before construction begins or the use of the building changes.

Regional Consents

d) This activity may require resource consent(s) from Environment Canterbury (ECan). It is the consent holder's responsibility to ensure that all necessary resource consents are obtained prior to the commencement of the activity.

Monitoring

e) In accordance with section 36 of the Resource Management Act 1991, the Council's specialised monitoring fee has been charged. This covers setting up a monitoring programme and two site inspections.

f) If the conditions of this consent require any reports or information to be submitted to the Council, additional monitoring fees for the review and certification of reports or information will be charged on a time and cost basis. This may include consultant fees if the Council does not employ staff with the expertise to review the reports or information.

g) Where the conditions of this consent require any reports or information to be submitted to the Council, please forward to the Council's Compliance Team, compliance@selwyn.govt.nz.

h) Any resource consent that requires additional monitoring due to non-compliance with the conditions of the resource consent will be charged additional monitoring fees at a time and cost basis.

Vehicle Crossings

i) Any new or upgraded vehicle crossing requires a vehicle crossing application from Council's Infrastructure Department prior to installation. For any questions regarding this process please contact transportation@selwyn.govt.nz. Use the following link for a vehicle crossing information pack and to apply online: Selwyn District Council - Application to Form a Vehicle Crossing (Entranceway)

Impact on Council Assets

j) Any damage to fixtures or features within the Council road reserve that results from construction or demolition on the site shall be repaired or reinstated at the expense of the consent holder.

Vehicle Parking During the Construction Phase

k) Selwyn District Council is working to keep our footpaths safe and accessible for pedestrians, including school children. The Council also seeks to avoid damage to underground utility services under footpaths, e.g. fibre broadband. During the construction phase (and at all other times), please:

- park only on the road or fully within your property – it is illegal to obstruct or park on a footpath; and
- arrange large deliveries outside of peak pedestrian hours, e.g. outside school start/finish times.

Te Taumutu Rūnanga Advice Notes for the Consent Holder

a) Where internal shelterbelts are to be cleared, this should occur outside of the main bird breeding season (September – January) to avoid any risk of impacts to nesting protected indigenous birds.

b) Construction of solar panel arrays should occur outside of the main bird breeding season (September – January), to avoid adverse effects to breeding indigenous birds in general, but particularly because there is some risk that an At Risk species (i.e. South Island Pied Oystercatcher, SIPO) may breed in pasture areas of the site.