WE ARE CARTERTON.
CARTERTON DISTRICT COUNCIL

11 October 2023

[redacted]

Dear [redacted]

LOCAL GOVERNMENT OFFICIAL INFORMATION AND MEETINGS ACT Request: 2023-65 & 66

Thank you for your emails of 12 September 2023 to the Carterton District Council requesting the following information:

> *"Can you please provide the conditions which were imposed on Resource Consent 230034: Discretionary Activity, Construct and operate a 4.5MW community scale solar farm. Decision date 26/07/2023."*

And

> *"In relation to Resource Consent 230034: Discretionary Activity, Construct and operate a 4.5MW community scale solar farm.*
> *Decision date 26/07/2023:*
> *Can you please provide the*
> *Resource Consent Application including the*
> *Applicant's Assessment of Environmental Effects,*
> *Visual Assessment, and the*
> *Visual Mitigation Planting Assessment assessing the proposed Solar Farm.*
> *Any related correspondence between Council and the Applicant.*
> *Any correspondence from rate payers in relation to this Consent."*

Your request has been considered under the Local Government Official Information and Meeting Act 1987 (the Act).

We have identified 8 documents within scope of your request, please see attachment **Appendix One.** The table below details the listed descriptions of the documents. We are releasing 5 documents in full and 3 in part, with some information withheld under section 7(2)(a) of the Act, to protect the privacy of individuals.

#	Date	Description	Decision on Release
1		Light Years Resource Consent Application Final	**Release in Part**

			Information withheld under section 7(2)(a) of the Act.
2		NRSF-302	**Release in Full**
3		Panel cross section	**Release in Full**
4		230034 Planning Report (Final 26.07.23)	**Release in Part** Information withheld under section 7(2)(a) of the Act.
5	5 June 2023	Email: Russell Hooper to Solitaire Robertson – Small Solar Farm Norfolk Road - Solar Farm Permitted Activity_compressed.pdf	**Release in Full**
6	7 June 2023	Email: Solitaire Robertson to Russell Hooper FW: Small Solar Farm Norfolk Road	**Release in Full**
7	22 June 2023	Email: s7(2)(a) to s7(2)(a), Solitaire Robertson - RE: Proposed community scale solar farm at 331 Norfolk Road, Carterton	**Release in Part** Information withheld under section 7(2)(a) of the Act.
8	19 July 2023	Email: Solitaire Robertson to Creditors - Fwd: 331 Norfolk Road, Solar Farm - NRSF-302, Panel cross section, Planning report (Final 18.7.23)	**Release in Full**

Where information has been withheld under section 7(2), I have considered, as required under section 7(1) of the Act, the public interest considerations favouring its release. I have identified no public interest considerations which outweigh the need to withhold information at this time.

Thank you again for your emails. You have the right to ask an Ombudsman to review this decision. You can do this by writing to info@ombudsman.parliament.nz or Office of the Ombudsman, PO Box 10152, Wellington 6143.

Yours sincerely

K Vatsu

Kelly Vatselias
Corporate Services Manager
Carterton District Council

APPENDIX ONE - Document 1

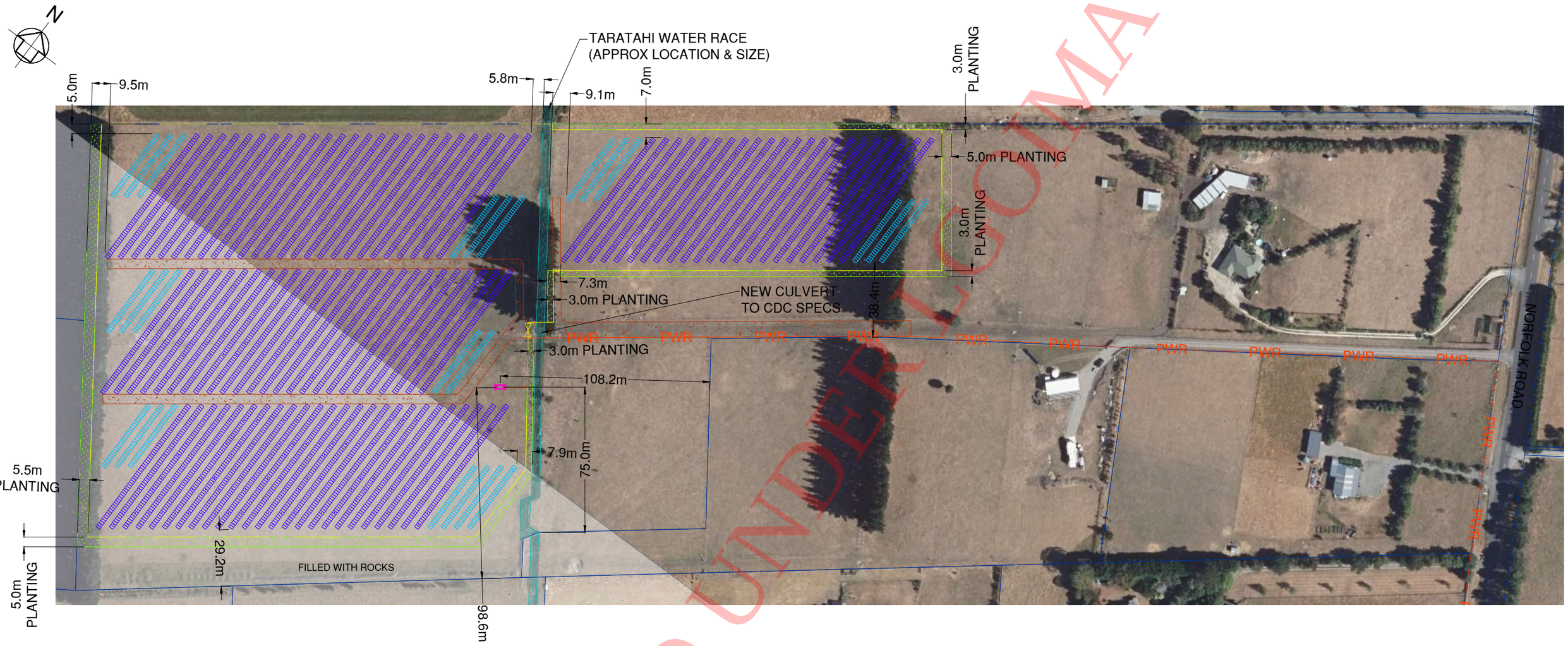
Resource Consent Application

Proposal for a community scale solar farm

Light Years Solar Ltd

331 Norfolk Road

Waingawa



SYSTEM CONFIGURATION	
SOLAR MODULE DETAILS	CANADIAN SOLAR 685W BIFACIAL
STRING CONFIGURATION	30 MODULES PER STRING
TRACKER CONFIGURATION	1inP
TRACKER SYSTEM MAKE/MODULE	TBC
AZIMUTH ANGLE	0° (TRUE NORTH)
ROW SPACING (CENTRE TO CENTRE)	5.5m
GCR - GROUND COVERAGE RATIO	0.43
DC SYSTEM VOLTAGE	1500V
POWER CONVERSION UNIT (PCU)	SMA 4200-S2
PCU AC NAMEPLATE CAPACITY	4.30MW

SYSTEM PARAMETERS	
ITEM	**QUANTITIY**
TOTAL NAME PLATE CAPACITY (MWp)	4.52
DC/AC RATIO	1.05
TOTAL NUMBER OF TRACKER TABLES	121
TOTAL STRINGS	219
TOTAL MODULES	6570

QUANTITIES		
ITEM		**No.**
TRACKER 1 x 60		98
TRACKER 1 x 30		24

LEGEND	
PROPERTY BOUNDARY	
SECURITY FENCE 2.2m HIGH 1297m LENGTH	
PLANTING	
INTERNAL ACCESS WAY	
GATE	
20ft CONTAINER INVERTER STATION 5890 x 2350	
UG CABLE	PWR

NOTES:
1. PROPOSED ACCESS ROADS, FENCE, PCU FOOTPRINT AND SITE ACCESS ARE INDICATIVE ONLY.
2. INTERNAL ACCESS ROADS ARE MINIMUM 4m WIDE.
3. SYSTEM PARAMETERS ARE CONCEPTUAL AND PRELIMINARY IN NATURE; THE PRESENTED QUANTITIES INCLUDE SEVERAL ASSUMPTIONS THAT MAY NOT REFLECT THE ACTUAL CONDITIONS OF THE SITE AND THE OPTIMAL CONFIGURATION OF THE SYSTEM.
4. PCU CONFIGURATION TBC.
5. PROPERTY BOUNDARY & IMAGES SOURCED FROM THE LINZ DATA SERVICE AND LICENSED FOR REUSE UNDER THE CC BY 4.0 LICENCE.
6. SITE BOUNDARIES TBC BY SURVEYOR. TOTAL FENCED AREA 6.31 HECTARES

CONCEPT DESIGN

REV.	DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE
A	SF BOUNDARY CHANGED. SPACING REDUCED FROM 6m TO 5.5m.	S. SINGH	-	-	21/09/2022
B	TF'S , SWITCHROOM AND PLANTING WITH 7m OFFSET ADDED	DJ U			11/04/2023
C	DRAWING TIDY UP	S. SINGH	-	-	18/04/2023

CLIENT:

ADDITIONAL INFORMATION:

UNITS: mm | SHEET SIZE: A3 | SCALE: NTS (U.N.O.) | PROJECTION:

LIGHTYEARS SOLAR
AUCKLAND, NEW ZEALAND
www.lightyearssolar.co.nz

DESIGNED:	M. SHANKS, S. SINGH
DRAWN:	S. SINGH
DATE:	29/08/2022
CHECKED:	-
APPROVED:	-

TITLE: NORFOLK RD SOLAR FARM
WAINGAWA
SITE LAYOUT

DRG. NO.: NRSF-010

REVISION: C

PLOTTED: 19/06/2023 3:42:50 PM

NRSF-010

Appendices

A	**Site Plan**	**C**	**Visual Impact Assessment**	**E**	**Inverter Specifications**
B	**Record of Title**	**D**	**Landscape Plan**		

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1.0 Application Overview

Applicant:	Light Years Solar Ltd
Consent Type:	Land Use
Proposal:	Construct and operate a 4.5MW community scale solar farm
Site Address:	331 Norfolk Road, Waingawa, Carterton
Legal Description:	Lot 2 DP 462824 (RT 611213)
Activity Status:	Discretionary Activity
Zone:	Rural (Primary Production)
Management Area:	None
Service Address:	Light Years Solar Ltd C/ Russell Hooper russellhooperconsulting@gmail.com (no need for hard copies thanks)
Invoice Address:	Light Years Solar Ltd C/ Matt Shanks matt.shanks@lightyearssolar.co.nz

This application has been prepared by Russell Hooper on behalf of the applicant.

s 7(2)(a)

Russell Hooper
Planning Consultant
21st June 2023

2.0 Site Description

This site is located at 331 Norfolk Road, Waingawa, just over 3km from the Norfolk Road / State Highway Two intersection.

The legal description of the property is Lot 2 DP 462824 and the record of title shows the site is 12.2ha. There is an easement providing right of way and services in favour of 327 Norfolk Road – see Area A on DP 533512.

The site is an "L" shaped lifestyle block on the southwestern side of the road. There is an established house and associated sheds 130m back from Norfolk Road and a second house under construction in between this house and the road.

With the buildings on the front half of the site, the back of the site is used for grazing cattle.

The site is flat with gardens established around the dwelling. There are three established pine shelterbelts running in a northwest-southeast direction. One along the rear boundary and two within the site. These trees are approximately 25 years old.

A section of the Taratahi water race runs through the mid part of the site in a northwest to southeast direction.

The site is made up of stony soil types typical of the area and with little moisture holding potential is summer dry. The majority of the site has a Land Use Capability class of "4" with LUC class "6" at the rear. The Land Use Capability maps give the soil a "soil" limitation, which is to be expected given the stony soil profile.

Surrounding sites are lifestyle blocks with a larger farm property adjoining to the north (371 Norfolk Road). The sites adjoining to the west and south are accessed from Jordan Road and Maungahau Road. These properties were developed in 2008 and all now contain residential dwellings.

There are no hazards identified within, or in close proximity, to the site.

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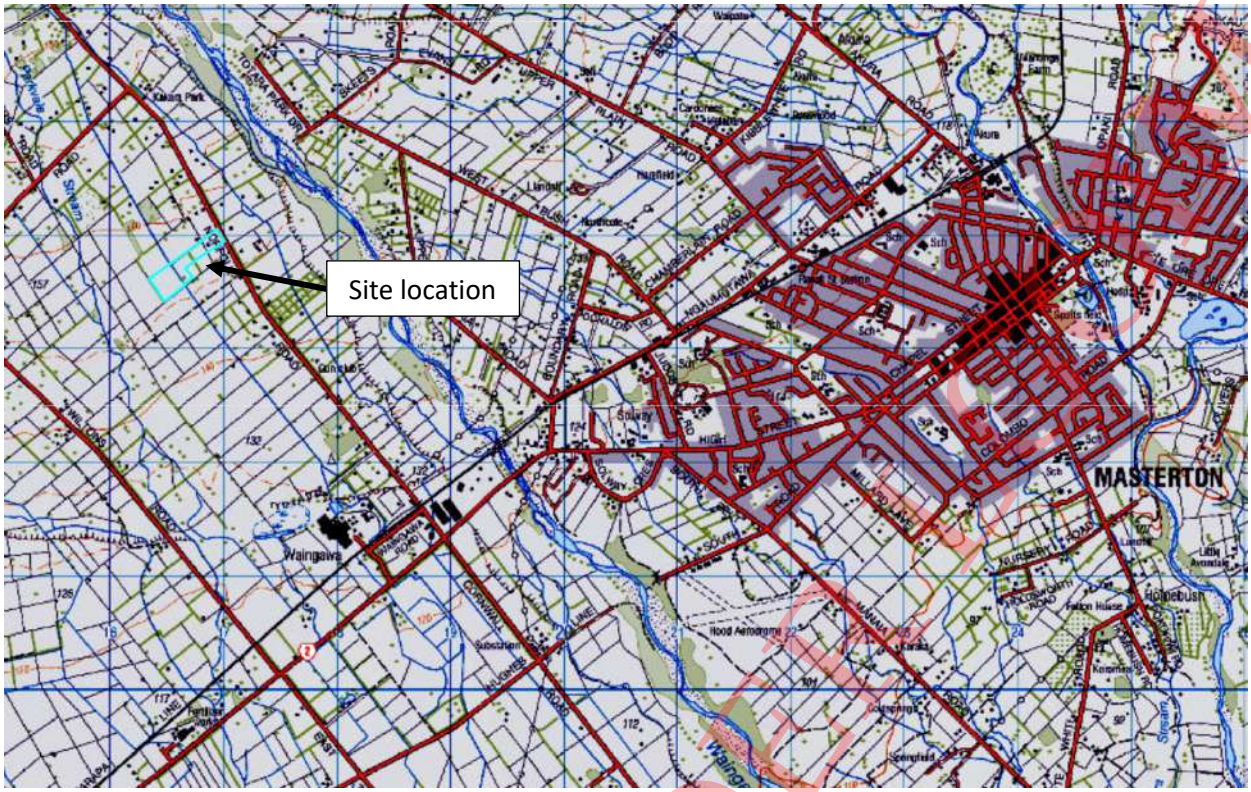

Figure 1 - Location diagram

Figure 2 - Aerial photograph of site (shown red)

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Photograph 1 - Laneway to farm alongside 327 Norfolk Road (facing Norfolk Road)

Photograph 2 - Section of water race within site

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Photograph 3 - Site from western corner

Photograph 4 – Facing rear of site

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3.0 Proposal

This proposal is for a 6.5ha community scale solar farm generating 4.5MW to be established at the rear of the site.

The objective of the Norfolk Project is to develop a safe, reliable, compliant, and efficient ground mount renewable solar generation plant within proximity to Powerco's Norfolk Zone substation which feeds the Waingawa Industrial Area.

Solar energy is an important part of supporting New Zealand's future electricity demand requirements and assisting New Zealand's transition to a low emission economy.

The proposal aligns with the Paris Agreement (a global agreement on climate change), where New Zealand committed to a target to reduce greenhouse gas emissions by 30 per cent by 2030, a target which has now been increased to 50 per cent.

The Norfolk Project will produce clean electrical energy and offset electricity produced elsewhere in New Zealand using fossil fuels, producing enough energy to power approximately 1,000 homes per year. The project will contribute to New Zealand's goal to become carbon neutral. A solar farm sends the energy it creates directly into the power grid, adding much needed diversity into the grid at a time where demand for electricity is high, and will only continue to grow. The output profile from a solar farm is weighted towards daytime summer and aligns particularly well with electricity consumption in the local area as a result of the local timber mill a short distance from the site. The project will have a net carbon benefit of 25,000t CO_2 (offsetting this amount of carbon producing power generation in the NZ grid).

This project directly aligns with New Zealand's emissions reduction strategy by providing investment in renewable electricity generation to assist New Zealand transition to a low emissions future and meet its climate change targets.

This project is being designed to meet the definition of an "agrivoltaic" project or "dual-use" solar farm, a facility that is designed to continue the agricultural use of the property at the same time as harvesting power via the solar panels. In this case sheep will be grazed amongst the solar panels.

The application site, and Carterton in general, has high solar potential within New Zealand.

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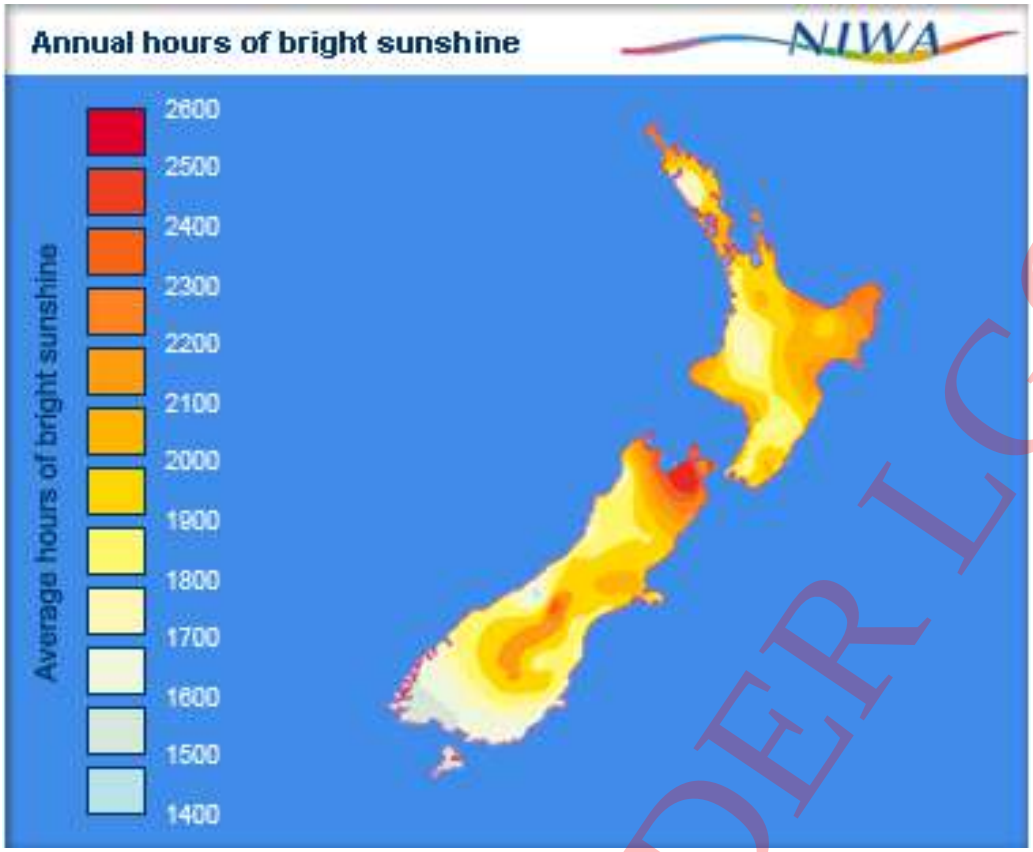

Figure 3: NIWA solar energy map

The solar farm will consist of solar panels, an inverter station, and underground cabling connecting the panels to the inverter station and out to a transformer in Norfolk Road before connection to the 11kV lines fronting the site. There will also be associated fencing, landscaping and access.

The solar panels convert incoming sunlight into electrical power using the photo-voltaic (PV) principle. The power is collected with wires between each panel and sent to a power conversion unit (inverter station). The power is then converted to the voltage of the local Powerco network through a transformer.

Solar power is quiet and has few moving parts. A solar farm sends the energy it creates directly into the power grid, adding much needed diversity into the grid at a time where demand for electricity is high, and will only continue to grow. The project will provide a net carbon benefit (offsetting carbon producing power generation in the NZ grid).

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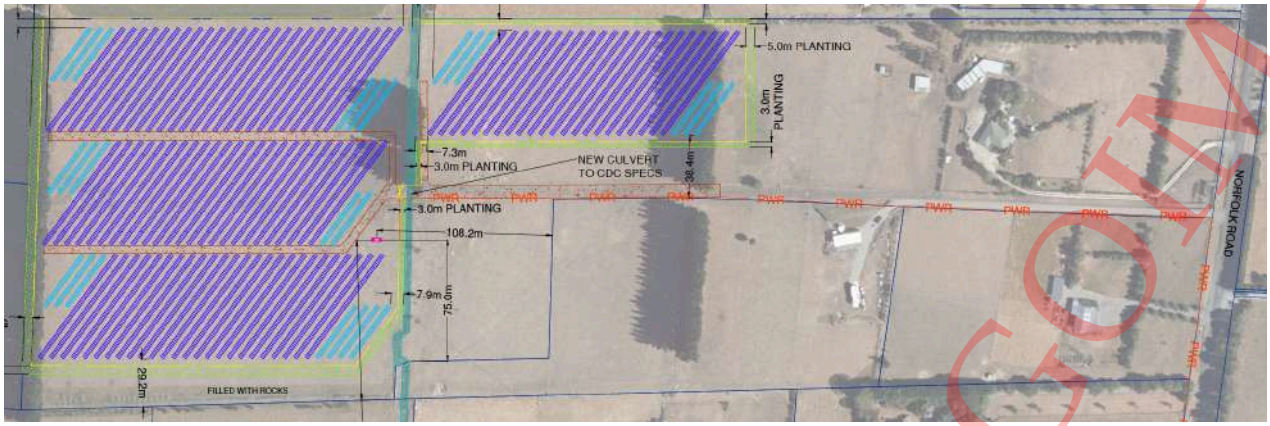

Figure 4 - Site Plan showing location of solar farm (see Appendix A for detail)

3.1 The Panels

Each solar panel is 2.4m long and 1.3m in width. Approximately 10,380 solar panels will be installed on steel piles with steel and aluminum framing in rows up to 90m in length. The rows have a 5.5m spacing between the support posts.

The solar panels have a very low reflectance or glare (less than a typical residential roof), as they are designed to absorb sunlight rather than reflect it. The proposed panels are bi-facial type which means they generate electricity from both sides of the panel – from direct sunlight on the front and reflected sunlight off the ground onto the rear of the panel.

Each row of panels is attached to a solar tracking system and will tilt throughout the day to capture the maximum amount of sunshine.

The panels will have a maximum height of 2.5m above ground when fully tilted (morning and evening). This height is the lowest profile widely used in solar farm operations. Solar panels with a maximum height of 4.5m are more typical.

The figure below shows a basic representation of the modules and trackers.

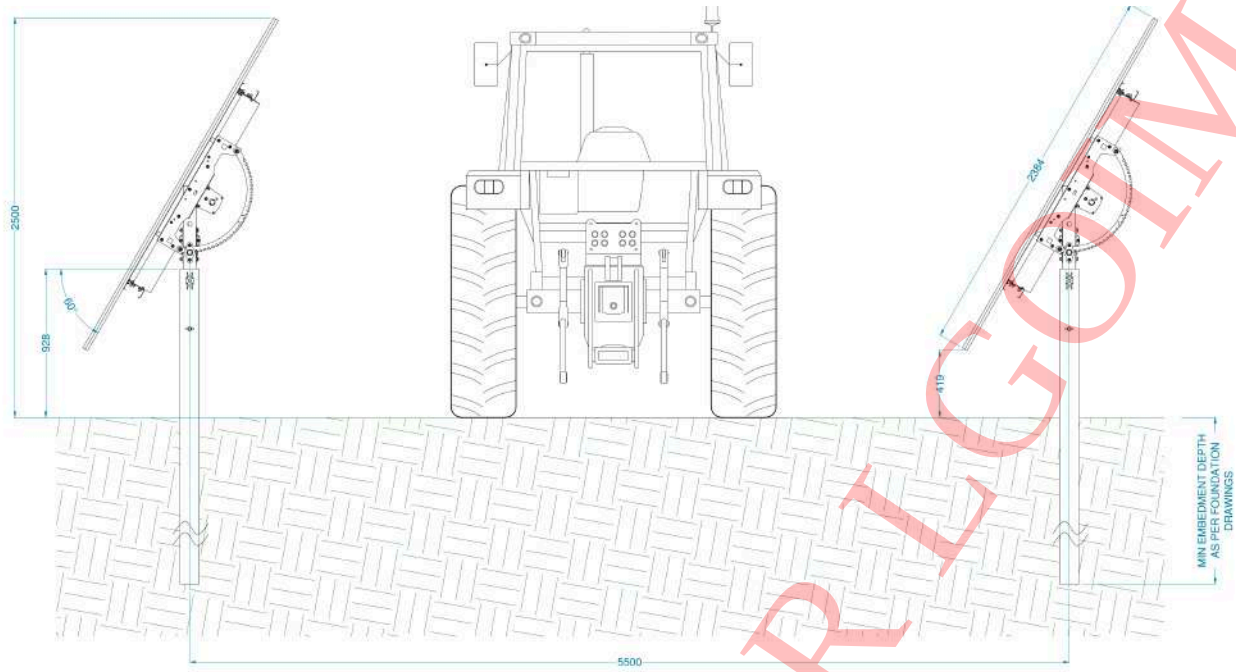

Figure 5 - Dimensions of solar panels, showing 2.5m maximum height

Figure 6 – Photograph of solar panel support structures

3.2 Inverter Station

Each panel is connected via underground cabling to a single inverter station. This inverter station converts the direct current (DC) electricity generated by the panels to alternating current (AC) electricity so it can be used in homes and businesses. The inverter station also contains the site transformer and electrical switchgear to protect the equipment in case of any fault or disconnect the system from the grid during maintenance activities.

The inverter station will be located relatively central to the site. The figure below shows, in general terms, what the inverter station will look like.

Figure 7 - Containerised inverter station

3.3 Landscaping

The area containing the solar panels will be fenced from the rest of the site with deer netting (2.2m high) as a security measure. Outside of the fencing, planting will be established to soften the site.

Local landscape architect Rachel Callaghan has prepared the planting plan for the proposal. The landscaping design not only considered softening the site from the views from adjoining houses but also sought to retain neighbouring properties views of the Tararua Ranges.

The species selected are a mix of the following species;

- Austroderia fulvida (toe toe)
- Coprosma virescens C. rhaminoides
- Olearia lineata Dartonii
- Olearia paniculata
- Phormium tenax (swamp flax)

These species will grow quickly to a height tall enough to screen the solar panels but not tall enough to block views of the Tararua Ranges from adjoining properties. The species selected can be established without irrigation.

The existing pine trees will be removed. Consideration was made to leaving 2-3m of the bottom of the trees along the rear boundary to assist with breaking up views of the site from the rear and to shelter of the proposed plantings. However, this was not considered to be visually appealing and the trees will be removed entirely.

3.4 Access

Access to the site will be via the existing entrance and metaled driveway to the rear. Internal metaled access tracks will be established as shown on the site plan. A new culvert will be established across the section of water race. This culvert will be constructed to Council requirements.

3.5 Construction

The construction phase of the solar farm is expected to take less than six months. This will include establishing the landscaping, fencing, access, panels, inverter station, and cabling out to the new transformer in Norfolk Road.

Construction of the solar farm will follow the steps below:

- Landscaping, fencing, and tree removal
- Access development
- Piling for the panels
- Installation of the main beam and purlins
- Panels fixed to support structures
- Cabling to connect the panels to the inverter and the inverter to Powerco's distribution lines in Norfolk Road
- Prefabricated inverter and transformer units are moved to site
- Connection to Powerco's distribution lines

3.6 Ongoing operation and maintenance

Day to day operation is minimal. The inverter station monitors the site for faults and remotely alerts the operators. It is anticipated that a routine visit of the site would occur at a minimum of three monthly intervals.

The panels require cleaning every 3 months.

The land beneath the panels will be grazed with sheep by the landowner and no mowing is required.

3.7 Lifespan of the operation

The panels and equipment are manufactured to have a working lifespan of 30 years. At the end of this lifespan the panels will either be replaced or the entire solar farm removed and the land returned to its current use.

4.0 Activity Status

An assessment of the District Wide and Rural Zone rules is set out in the below table.

The starting point for an assessment of the District Plan rules is to determine what the activity is defined as by the District Plan.

Energy Generation Facility and Network Utility definitions

The term energy generation facility is used in the District Plan (refer District Wide permitted activity 21.1.24) but not defined by the District Plan or the RMA.

"Network Utility" is defined in the District Plan, as *"any utility which is part a network and includes electrical lines, water, sewage and stormwater reticulation, streetlighting, telecommunication facilities, radiocommunications facilities, gas, roads, railway lines, airports, lighthouses, navigation aids and beacons, meteorological services and associated support structures"*.

Based on this definition an energy generation facility could fit in to the definition of "network utility" as it is not clear at what point a network begins. However, 21.1.24(a), the District Plan refers to "*construction, maintenance and upgrading of network utilities* ***and*** *energy generation facilities*" (emphasis added). This separates network utilities from energy generation facilities. If energy generation facilities were captured in the definition of network utilities, 21.1.24(a) would not refer to them separately.

Therefore, in the context of assessment under the District Plan this proposal is for a (solar) "energy generation facility" and not a "network utility".

Therefore, an energy generation facility is the activity and equipment required to create the energy to be distributed by the network utility. The point at which the energy generation facility stops and the network utility starts is the point where the electricity enters the network utility. In this context this is the connection to the electricity lines in Norfolk Road.

The District Plan directs users to start assessing activities against the District wide land use rules in Chapter 21 and then against the zone rules and standards. In this case it is the Rural zone Rules and Standards in Chapter 4.

The table below assesses the proposed solar farm against the District Wide Chapter;

District Wide Chapter		Compliance
Permitted Activities		
21.1.1	***Notable Trees and Street Trees*** No notable trees or street trees on site	N/A
21.1.2	***Sites of Historic Heritage Value*** No heritage items on site	N/A
21.1.3	***Historic Heritage Precincts***	N/A

	Site is not within a heritage precinct	
21.1.4	***Outstanding Landscapes*** Site is not within an outstanding landscape	N/A
21.1.5	***Significant Natural Areas*** No significant natural areas on site	N/A
21.1.6	***Indigenous Vegetation and Habitats*** No indigenous vegetation and habitats	N/A
21.1.7	***Wetland Restoration and Enhancement*** No wetlands on site	N/A
21.1.8	***Reserves*** No reserves on site	N/A
21.1.9	***Significant Waterbodies*** No significant waterbodies on or adjacent to site	N/A
21.1.10	***Activities on the Surface of Freshwater*** No activities on the surface of freshwater proposed	N/A
21.1.11	***Outdoor Artificial Light*** *(a) The emission of outdoor artificial light (including glare) meets the following standard:* *(i) A maximum artificial light level of 8 lux (lumens per square metre) measured at 1.5m above ground level at the site boundary.* *(ii) Within the Dark Sky Management Area identified within Appendix 16, all outdoor lighting shall have a colour temperature of light emitted of 3000K Kelvin or lower.* *(iii) Within the Dark Sky Management Area identified within Appendix 16, all outdoor lighting with a light output of 500 lamp lumens or greater shall be shielded or tilted so as to not emit any light at or above a horizontal plane measured at the light source.* The Carterton District is within the Dark Sky Management Area. The solar farm will not be lit at night. Lighting associated with the inverter station will comply with the above permitted standards.	Will comply
21.1.12	***Dust and Odour*** Dust from establishment of the solar farm will be controlled and	Will comply

	there will be no odour.	
21.1.13	***Noise*** The construction phase will meet the construction noise standards in 21.1.13(c) which is set out in "*NZS 6801:1999 Acoustics – Measurement of Sound*". Once constructed, the inverter station will make a slight hum, similar to an electricity transformer. The inverter station will be located within the centre of the site to minimize noise and any noise will be well within the rural noise limits. The transformer at Norfolk Road will also meet the rural noise standards.	Will comply
21.1.14	**Derelict Vehicles**	N/A
21.1.15	**Access to Premises**	N/A
21.1.16	**Temporary Activities** *(a) Activities ancillary to or incidental to building and construction shall be:* *(i) Limited either to the duration of the project or for a period not exceeding 12 months, whichever is the lesser;* *(ii) Within construction noise limits set out in 21.1.13* The solar farm will be constructed within 6 months and comply with the construction noise limits in 21.1.13. Construction noise would be very similar to establishing a vineyard, which is a common occurrence in the district.	Will comply
21.1.17	**Coastal Environment Management Area**	N/A
21.1.18	**Foreshore Protection Area**	N/A
21.1.19	**Faultline Hazard Area**	N/A
21.1.20	**Flood Hazard and Erosion Area**	N/A
21.1.21	**Soil Conservation and River Control Works**	N/A
21.1.22	**Hazardous Substances and Facilities** There are no HSNO materials involved in the solar farm.	N/A
21.1.23	**Activities within Contaminated Land**	N/A
21.1.24	**Network Utilities and Energy Generation Facilities** *(a) The construction, maintenance and upgrading of network utilities and energy generation facilities which meets the following standards:* *(i) Maximum Height and Setbacks* *All above ground network utility and meteorological structures, except lines, poles,*	N/A Applies to network utilities

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	towers, masts, aerials, antennas and their brackets or attachments, must comply with the maximum height standards, maximum height to boundary, and minimum building setback, for the Environmental Zone in which they are located, except…	
	(ii) Antennas *Rural, Commercial and Industrial Zones:* *(3) No dish antenna shall exceed 5m in diameter;* *(4) No panel antenna shall exceed 2.5m in any dimension.* This standard applies to the construction of an energy generation facility. This is because it falls directly beneath 21.1.24(a) which applies to "the construction, maintenance and upgrading of network utilities and energy generation facilities". No antennas in excess of the above are proposed.	Complies. Applies to the construction, maintenance and upgrading of network utilities and energy generation facilities.
	(iii) Building *(1) No building located above ground for network utility purposes shall exceed 10m2 in gross floor area.* *(2) Buildings used for network utilities purposes may encroach the minimum building setbacks in the respective Environmental Zone in which it is located, subject to compliance with the following…:*	N/A. Applies to network utilities
	(iv) Radiofrequency Exposure *(1) The maximum exposure levels shall not exceed the levels specified in NZS2772:1999 "Radiofrequency fields - Maximum exposure levels - 3 kHz to 300 GHz";* *(2) Maximum exposure levels shall be 3kHz to 300GHz in areas normally accessible to the public.* As per 21.1.24(ii), this standard applies to the construction of an energy generation facility because it falls directly beneath 21.1.24(a) which applies to "the construction, maintenance and upgrading of network utilities and energy generation facilities".	Applies to the construction, maintenance and upgrading of network utilities and energy generation facilities. Will comply.

	Radio frequency exposure will meet NZS 2772:1999 "Radiofrequency fields - Maximum exposure levels - 3 kHz to 300 GHz".	
	(v) High Voltage Electricity Transmission Lines	N/A
	(1) Lines for conveying electricity shall have a voltage up to and including 110kV;	
	(2) Setback 20 metres from dwellings.	
	(vi) Water Supplies	Not a standard
	(vii) Wastewater and Stormwater	Not a standard
	(1) Underground pumping stations and pipe networks for the conveyance or drainage of water or sewage, and necessary incidental equipment.	
	(viii) Traffic Management	Not a standard
	(1) Traffic management and control structures, street lighting, and street furniture.	
	(ix) Existing Network Utilities	N/A
	(x) Existing Energy Generation Facilities	N/A
	(xi) Undergrounding of Lines and Pipes	N/A
	(1) All new lines, cables and pipes in the Residential, Commercial and Industrial Zones shall be constructed underground.	
	(2) No new poles shall be erected in the Residential, Commercial and Industrial Zones, other than replacing existing poles.	
	(xii) Reinstatement	N/A.
	(1) That continuous vegetative cover shall be established over any natural ground surface disturbed for the construction, upgrade, maintenance or repair of any network utility.	Applies to network utilities
	(xiii) Noise Limits	N/A.
	(1) Sound levels from network utilities within road reserve shall comply with the noise limits for the adjoining zone at any point within 1.5 metres of any façade of a	Applies to network utilities

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	building used for residential purposes. A façade correction of minus 3 dB shall apply in addition to the assessment provisions of NZS 6802:1991 "Assessment of Environmental Sound	
21.1.25	**Roads, Access, Parking & Loading** Access will be from the existing entrance and constructed to District Plan standards	Will comply
21.1.26	**Water Supply, Wastewater and Stormwater**	Will comply
21.1.27	**Financial Contributions**	N/A
21.1.28	**Aerodrome Protection**	N/A
Controlled activities		
21.2.1	**Network Utilities**	N/A Proposal is not for a network utility
21.2.2 Hazardous Facilities, 21.2.3 Wetland Restoration and Enhancement, and 22.2.4 Meteorological Structures (respectively)		N/A
Restricted Discretionary activities		
21.4.1 Work undertaken on a Notable Tree or Street Tree **21.4.2 Indigenous Vegetation** **21.4.3 Structures in the Coastal Environment Management Area** **21.4.4 Earthworks in the Coastal Environment Management Area** **21.4.5 Significant Waterbodies** **21.4.6 Motorised commercial recreation on the surface of freshwater** **21.4.7 Flood Hazard Area and Erosion Hazard Area** **21.4.8 Network Utility Structures within Road Reserve** **21.4.9 Buildings within 20m of a High Voltage Transmission Line** **21.4.10 Activities within Contaminated Land** **21.4.11 Noise Sensitive Activities within Outer Air Noise Boundary** **21.4.12 Goat Farming** **21.4.13 Financial Contributions** **21.4.14 Roads, Access, Parking and Loading Areas** **21.4.15 Meteorological Structures** **21.4.16 Helicopter Landing Areas**		N/A

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21.4.17 Water Supply, Wastewater and Stormwater	
Discretionary Activity	
21.6(a) Any activity that does not comply with the standards for permitted activities or is otherwise not specified as a controlled, or restricted discretionary activity.	N/A Activity is permitted under 21.1.24 as it complies with permitted standards (21.1.24 a) ii) and iv)).
21.6(b) Any earthworks or structures not complying with the permitted activity standards in any outstanding landscape listed in Appendix 1.1 Outstanding Landscapes. **21.6(c) Any modification, alteration, disturbance or destruction of any outstanding natural feature listed in Appendix 1.2 Outstanding Natural Features.** **21.6(d) Modification or damage to, or destruction of, or within, any Significant Natural Areas listed in Appendix 1.3.** **21.6(e) Any modification, alteration, disturbance or destruction of any archaeological site, geological site, waahi tapu, or area of significance to tangata whenua listed in Appendix 1.5 Archaeological and Geological Sites and Appendix 1.6 Sites of Significance to Tangata Whenua.** **21.6(f) Any alteration, addition, relocation, reconstruction, partial demolition or total demolition not complying with the permitted activity standards for any heritage item listed in Appendix 1.7 Heritage Items, except for relocation and demolition of a Category 1 item under Rule 21.7(a).** **21.6(g) The following activities within the Historic Heritage Precincts ...** **21.6(h) Any repairs and maintenance in any Historic Heritage Precinct listed in Appendix 1.8 and located in the Masterton District.** **21.6(i) Boarding kennels and catteries.** **21.6(j) Wind energy facilities.** **21.6(k) Any activity within the Greytown Future Development Area that is not consistent with the Structure Plan for this area.** **21.6(l) Any activity involving the disturbance, removal, damage or destruction ("modification") of a wetland, except for planting restoration and enhancement work provided for in Rules 21.1.7 and 21.2.3.**	N/A

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21.6(m) Development Concept Plan in a Future Development Area. **21.6(n) Any hazardous facility where the total quantity of hazardous substances of any hazard classification on the site is in the range of the quantities for the relevant zone specified as a Discretionary Activity in the Hazardous Facilities Consent Status Table (Appendix 2), and the activity complies with the permitted activity performance standards in Rule 21.1.22 above.** **21.6(o) Any activity within a Future Development Area for which there is no approved Development Concept Plan and which is not otherwise a permitted activity in the Rural Zone.** **21.6(p) Any helicopter landing area that does not comply with the standards for a restricted discretionary activity in Rule 21.5(a)(i).** **21.6(q) Earthworks within the Foreshore Protection Area (except as provided for in Rule 21.1.18(a)(iv)).** **21.6(r) The erection, placement, or conversion of a building for habitable use within the Flood Hazard Area or Erosion Hazard Area.**	
Assessment of District Wide Rules - Rule 21.1.24 states that the construction of an Energy Generation Facility which meets the permitted activity standards in 21.1.24 is a permitted activity. Few of the permitted standards are applicable to energy generation facilities. However, 21.1.24(a)(ii) Antennas, and (iv) Radio frequency Exposure are permitted standards which apply to the construction of a new energy generation facility and must be met to be considered permitted. These standards are met and therefore the proposal is a permitted activity under 21.1.24. - All other applicable District Wide rules/standards are met. - Construction of an energy generation facility (which is not a wind energy facility – see 21.6(j)) is not captured as a controlled, restricted discretionary, discretionary, or non-complying activity. - Assessment then proceeds to the Rural zone provisions.	

Rural Zone Chapter		Compliance
4.5.2 Permitted Activities		
4.5.2(a)	***Maximum building height*** ***(ii) Other buildings: 15 metres*** Solar panels are 2.5m in height Inverter plant is 2.6m high	Complies
4.5.2(b)	***Maximum Height to Boundary*** ***(i) 3 metres height at the boundary with a 45˚ recession plane.***	Complies

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4.5.2(c)	***Minimum Building Setback (excluding dwellings)*** ***(iii) 5 metres from all other boundaries.*** ***(v) 5 metres from any other waterbody.*** Solar panels are at least 5m from the boundary and 5m from the water race	Complies
4.5.2(f)	***Noise Limits***	Will comply
4.5.2(h)	***Signs***	Will comply
4.5.2(i)	***Roads, Access, Parking and Loading Areas*** Access will be from the existing entrance and constructed to District Plan standards	Will comply
4.5.3 Controlled Activities		
None applicable		
4.5.5 Restricted Discretionary Activities		
(a)	***Any bird-scaring device that is not operated in accordance with the standards for permitted activities (4.5.2(f) Exception (i)).*** No bird scaring device proposed.	N/A
(b)	***Any frost protection device that is not operated in accordance with the standards for permitted activities (4.5.2(f) Exception (ii)).*** No frost protection device proposed.	N/A
(c)	***Any activity that is not required for primary production and residential purposes that requires either:*** ***(a) the construction or use of a building over 25m^2 in gross floor area; or*** ***(b) the external storage of goods, products or vehicles (including contractors yards);*** ***and is not otherwise listed as a controlled, restricted discretionary, discretionary or non-complying activity.*** Solar electricity generation is not required for primary production or residential purposes. The solar panels and the inverter station are structures which meet the definition of building. The length of the panel rows will be up to 90m long and the width is 2.4m. The District Plan defines gross floor area as – *the sum of the total area of all the floors of all buildings on an allotment, excluding uncovered stairways, car parks and external balconies, measured in square metres.*	Rule not triggered

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	Therefore, despite the solar panels being defined as buildings and being over 25m^2 they have no floor. The inverter station is containerised within a 20 ft container with internal dimensions (gfa) of 5.9m x 2.35m = 13.865m^2. Therefore, the proposal does not involve a building with a gross floor area over 25m^2 required to trigger Rule 4.5.5(c)(a). With regard to Rule 4.5.5(c)(b), storage is not defined in the District Plan. The Collins English dictionary defines the word storage as; *"If you refer to the storage of something, you mean that it is kept in a special place until it is needed".* The proposal involves the establishment of solar panels, inverter station, underground cabling, and a transformer to connect to the lines in Norfolk Road. These are all used in situ and there is no storage of any good, product, or vehicles. Accordingly, the proposal does not trigger resource consent under 4.5.5(c).	
(d)	**Any motorised outdoor recreation activity**	N/A
(e)	**Any activity that does not meet one or more of the standards for permitted or controlled activities.** The above assessment shows compliance with permitted activities. The proposal is not a controlled activity and therefore the controlled activity standards are not applicable.	N/A
4.5.6 Discretionary Activities		
(a)	**Any activity listed in the Schedule of Primary Industry (Appendix 4).** Neither a solar farm nor energy generation facility is listed in Appendix 4. Solar generation is not an activity which may become noxious or dangerous in relation to adjacent areas.	N/A
(b)	**Any industrial activity.** In the District Plan industry means *premises used for manufacturing, fabricating or processing, substances or material into new products, and includes the servicing and repair of goods, vehicles and machinery whether by machine or hand, and the parking or storage of all materials, products and machinery; with* *• Primary Industry meaning industry listed in Appendix 4 Schedule of Primary Industries (Potentially Offensive, Noxious or Hazardous*	N/A

	Industries); and *• Secondary Industry meaning any other industry.* Solar energy is not a substance or material so converting solar energy to electricity does not meet the District Plan definition of industry. In addition, given that energy generation facilities are specifically identified in the District Plan (ie, energy generation facilities have a permitted activity pathway at Rule 21.1.24 and wind energy facilities are specified as a discretionary activity at Rule 21.6(j)) they are not an industrial activity in the context of the District Plan. Just as converting grass into finished lambs is primary production (defined separately) rather than an industrial activity.	
(c)	**Any retail activity with a gross floor area from 200m2 up to 2,000m^2.**	N/A
4.5.7 Non-Complying Activities		
(a)	**Any new noise sensitive activity located within the Inner Air Noise Boundary (65 dBA) as shown on the Planning Maps for the operation of the helicopter landing activity at 145 Chester Road, Carterton, legally described as Lot 1 DP 88190. (b)**	N/A
(b)	**Any retail activity with a gross floor area, 2,000m2 and over.**)	N/A
Assessment of Rural Zone Rules - The proposal meets all rural zone permitted standards. - Neither the solar panel rows, the inverter station, or the transformer at Norfolk Road are buildings with a gross floor area over 25m^2. - A solar farm is not an industrial activity. - The proposal meets all permitted standards in the rural zone and is not captured as a controlled, restricted discretionary, discretionary, or non-complying activity. The proposal meets all Rural Zone permitted standards and is not captured as a controlled activity, restricted discretionary activity, discretionary activity, or non-complying activity.		

Overall activity status

The proposed solar farm is for the construction of a new energy generation facility, which is a permitted activity under Rule 21.1.24, meets the district wide and rural zone landuse permitted standards and is not captured as a controlled, restricted discretionary, discretionary or non-complying activity.

In my opinion the proposal is a permitted activity and could be issued with a certificate of compliance.

The activity status has been discussed with Council who noted that the advice they had received was that solar farms trigger consent under two rules;

- 21.6 as an activity which does not comply with the standards for permitted activities or is not otherwise specified as a controlled or restricted discretionary activities. It is advised that 21.1.24 relates only to the construction of existing energy generation facilities and none of the standards in 21.1.24 are relevant to new energy generation facilities so are not met. Without

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meeting the standards in 21.1.24 (because they do not comply) it is advised that the proposal is not a permitted activity under 21.1.24.

- 4.5.5(c) as an activity which is not required for primary production or residential purposes which requires the use or construction of a building over 25m^2 in gross floor area. It is advised that while a solar panel technically doesn't have a floor it is a building with a footprint over 25m^2.

Rule 21.6

Permitted activity 21.1.24 does not specify that this rule relates only to construction of existing energy generation facilities.

21.1.24 is headed up "Network Utility and Energy Generation Facilities" with "The construction, maintenance and upgrading of network utilities and energy generation facilities which meets the following standards" being standards 21.1.24 (i) – (xiii). The construction of a new energy generation facility is therefore captured by this rule.

21.1.24 (i), (iii), (v) – (viii) do not relate to new energy generation facilities.

However, there is no reason why 21.1.24 (ii) and (iv) do not apply to the construction of new energy generation facilities. The proposal will meet these standards and therefore the construction of a new energy generation facility is a permitted activity under 21.1.24. This being the case, 21.6 does not apply because the proposal meets the standards for permitted activities and is not captured as a controlled or restricted discretionary activity.

Rule 4.5.5(c)

The trigger is the construction or use of a building over 25m^2 in gross floor area.

This rule specifically refers to "gross floor area" not "foot print". Gross floor area is defined in the District Plan as;

"the sum of the total area of all the floors of the buildings on an allotment, excluding uncovered stairways, car parks and external balconies, measured in square metres".

Despite being a building, a solar panel certainly does not have a floor and therefore cannot be captured by Rule 4.5.5(c).

While I believe the proposal is a permitted activity, resource consent is sought as a discretionary activity to facilitate an outcome for the applicant.

However, the applicant is agreeable to a certificate of compliance being issued under s139 of the RMA if Council agrees that the proposal is a permitted activity.

5.0 Other Resource Consents

No further resource consents are required for this activity.

The National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health has been considered because there will be minor soil disturbance associated with construction of the access.

Historical aerial photography available from www.retrolens.nz shows that this site has always been pasture.

No stockyards or other structures that would indicate a HAIL site are visible in the available

photographs.

The site is not listed on Greater Wellington's Selected Land Use Register (SLUR).

Given that there is no evidence of the site being a HAIL site, the NES-CS is not applicable to this application.

Figure 8 - Retrolens photo from 1963 with approximate location of site

6.0 Analysis of Relevant Policy

Section 104 of the RMA deals with matters relevant when considering resource consent 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 have regard to-*
>
> *(a) any actual and potential effects on the environment of allowing the activity; and*
>
> *(b) 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*
>
> *(c) any relevant provisions of-*
>
> *(i) a national environmental standard:*
>
> *(ii) other regulations:*
>
> *(iii) a national policy statement:*

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(iv) *a New Zealand coastal policy statement:*

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

(vi) *a plan or proposed plan; and*

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

With regard to 104(1)(b) the relevant documents are set out below;

6.1 National Environmental Standards

There are currently nine National Environmental Standards:

- *National Environmental Standards for Plantation Forestry*
- *National Environmental Standards for Air Quality*
- *National Environmental Standard for Sources of Drinking Water*
- *National Environmental Standards for Telecommunications Facilities*
- *National Environmental Standards for Electricity Transmission Activities*
- *National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*
- *National Environmental Standards for Freshwater*
- *National Environmental Standard for Marine Aquaculture*
- *National Environmental Standard for Storing Tyres Outdoors*

None of the NESs are relevant to this proposal and resource consent is not triggered by an NES.

The NES for Electricity Transmission Lines does not relate to energy generation facilities.

6.2 National Policy Statements

There are currently six National Policy Statements;

- *NPS for Freshwater Management – not relevant to this proposal, only water body is section of water race.*
- *NPS on electricity transmission – relates to the National Grid transmission network and is not relevant to this proposal.*
- *NPS for Highly Productive Land – relates to use and development of highly productive land. This site is not classified as highly productive land being LUC class 4 and 6 and this NPS is not relevant to the site.*
- *NPS on Urban Development – not relevant to this proposal.*
- *NPS for Renewable Energy Generation – directly relevant to this proposal and discussed below.*
- *New Zealand Coastal Policy Statement – not relevant to this proposal.*

NPS for Renewable Energy Generation

The National Policy Statement for Renewable Electricity Generation 2011 (NPS-REG) responds to the need to develop, operate, maintain and upgrade renewable electricity generation activities throughout New Zealand and that the benefits of renewable electricity generation being matters of national significance in New Zealand.

The NPS-REG is directly relevant to the assessment of this proposal for a community scale renewable energy generation facility.

The objective of the NPS-REG is:

> *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.*

The NPS-REG sets a national planning direction which seeks to increase the proportion of electricity generated in New Zealand from renewable energy sources such that the New Zealand Government's national target for renewable electricity generation can be met.

The NPS-REG Policies relevant to this proposal are set out below;

> *A. Recognising the benefits of renewable electricity generation activities*
>
> *POLICY A*
>
> *Decision-makers shall recognise and provide for the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity generation activities. These benefits include, but are not limited to:*
>
> *a) maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;*
>
> *b) maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation;*
>
> *c) using renewable natural resources rather than finite resources;*
>
> *d) the reversibility of the adverse effects on the environment of some renewable electricity generation technologies;*
>
> *e) avoiding reliance on imported fuels for the purposes of generating electricity*

This proposal provides all the benefits outlined in Policy A.

> *B. Acknowledging the practical implications of achieving New Zealand's target for electricity generation from renewable resources*
>
> *POLICY B*
>
> *Decision-makers shall have particular regard to the following matters:*
>
> *a) maintenance of the generation output of existing renewable electricity generation activities can require protection of the assets, operational capacity and continued availability of the renewable energy resource; and*
>
> *b) even minor reductions in the generation output of existing renewable electricity generation activities can cumulatively have significant adverse effects on national, regional and local renewable electricity generation output; and*
>
> *c) meeting or exceeding the New Zealand Government's national target for the generation of electricity from renewable resources will require the significant development of renewable electricity generation activities.*

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Approval of this proposal will help achieve Policy B c).

C. Acknowledging the practical constraints associated with the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities

POLICY C1

Decision-makers shall have particular regard to the following matters:

a) the need to locate the renewable electricity generation activity where the renewable energy resource is available;

b) logistical or technical practicalities associated with developing, upgrading, operating or maintaining the renewable electricity generation activity;

c) the location of existing structures and infrastructure including, but not limited to, roads, navigation and telecommunication structures and facilities, the distribution network and the national grid in relation to the renewable electricity generation activity, and the need to connect renewable electricity generation activity to the national grid;

d) designing measures which allow operational requirements to complement and provide for mitigation opportunities; and

e) adaptive management measures.

POLICY C2

When considering any residual environmental effects of renewable electricity generation activities that cannot be avoided, remedied or mitigated, decision-makers shall have regard to offsetting measures or environmental compensation including measures or compensation which benefit the local environment and community affected.

C1 c), the site is close to the Waingawa Industrial Area including the JNL mill and will provide energy at times when most needed by these industrial users.

E. Incorporating provisions for renewable electricity generation activities into regional policy statements and regional and district plans

E1 Solar, biomass, tidal, wave and ocean current resources

E2, E3, and E4 not relevant to solar

POLICY E1

Regional policy statements and regional and district plans shall include objectives, policies and methods (including rules within plans) to provide for the development, operation, maintenance, and upgrading of new and existing renewable electricity generation activities using solar, biomass, tidal, wave and ocean current energy resources to the extent applicable to the region or district.

While Policy E is directed at a policy/plan making level, it is appropriate to raise the point that the national policy direction is to provide for the development of solar energy generation facilities where applicable. Carterton has good solar access and therefore is an appropriate location for solar energy generation.

F. Incorporating provisions for small and community-scale renewable electricity generation activities into regional policy statements and regional and district plans

POLICY F

As part of giving effect to Policies E1 to E4, regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance and upgrading of small and community-scale distributed renewable electricity generation from any renewable energy source to the extent applicable to the region or district.

Again Policy F is relevant at a policy level rather than a consenting level, but it is important to note the message that the development of community-scale energy generation is to be provided for.

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Small and community-scale distributed electricity generation is defined in the NPS-REG as "*renewable electricity generation for the purpose of using electricity on a particular site, or supplying an immediate community, or connecting into the distribution network".*

This is definition aligns well with the proposal in scale and intended purpose to supply the near-by industrial activities.

Overall, the proposal is a renewable energy facility provided for by the NPS-REG.

6.3 Regional Policy Statement 2013

The Regional Policy Statement for the Wellington Region (RPS) identifies regionally significant issues, sets objectives and methods for achieving these objectives. Regional and District Plans must give effect to the RPS.

Energy is one of the themes set out in RPS and the objectives and policies that are considered relevant to the assessment of this proposal are setout below;

Energy

In Chapter 3.3 the following regionally significant issue and the issue of significance to the Wellington region's iwi authorities relates to energy.

The Wellington region is dependent on externally generated electricity and overseas-sourced fossil fuels and is therefore vulnerable to supply disruptions and energy shortages. In addition, demand for energy is increasing. However, significant renewable energy resources exist within the region.

Objective 9 and Policy 39 are relevant to this proposal and are set out below.

Policy 11: seeks to promote energy efficient design and small scale renewable energy generation. The small scale renewable energy generation referred to in this policy is up to 100kW so aimed at a more property scale generation than the proposed 4.5mW facility.

Objective 9

The region's energy needs are met in ways that:

(a) improve energy efficiency and conservation;

(b) diversify the type and scale of renewable energy development;

(c) maximise the use of renewable energy resources;

(d) reduce dependency on fossil fuels; and

(e) reduce greenhouse gas emissions from transportation.

Policy 39: Recognising the benefits from renewable energy and regionally significant infrastructure

When considering an application for a resource consent, notice of requirement or a change, variation or review of a district or regional plan, particular regard shall be given to:

(a) the social, economic, cultural and environmental benefits of energy generated from renewable energy resources and/or regionally significant infrastructure; and

(b) protecting regionally significant infrastructure from incompatible subdivision, use and development occurring under, over, or adjacent to the infrastructure; and

(c) the need for renewable electricity generation facilities to locate where the renewable energy resources exist; and

(d) significant wind and marine renewable energy resources within the region.

The explanation of Policy 39 notes;

> *The benefits of energy generated from renewable energy resources include:*
>
> *• Security of and the diversification of our energy sources*
>
> *• Reducing our dependency on imported energy resources – such as oil, natural gas and coal*
>
> *• Reducing greenhouse gas emissions*
>
> *• Contribution to the national renewable energy target*
>
> *The benefits are not only generated by large scale renewable energy projects but also smaller scale, distributed generation projects.*

Plan Change 1 to the RPS was notified in August 2022.

In relation to this proposal, key components of this Plan change are;

- Inclusion of chapter "3.1A Climate Change" which seeks to reduce greenhouse gas emissions, increase greenhouse gas sinks, and increase resilience to climate change.
- Inclusion of solar in Policy 39(d) alongside wind and marine renewable energy resources within the region
- Replacing the Policy 39 explanation with;

> *Notwithstanding that renewable energy generation and regionally significant infrastructure can have adverse effects on the surrounding environment and community, Policy 39 recognises that these activities can provide benefits both within and outside the region, particularly to contribute to reducing greenhouse gas emissions.*

The RPS identifies renewable energy as beneficial to the Region for a variety of reasons. It also highlights that these benefits are not restricted to large scale projects but smaller scale projects.

The proposal will provide a community scale source of renewable energy which will contribute to the Region's energy needs.

As a renewable energy generation facility the proposal aligns well with Objective 9 and Policy 39 because it will contribute to reducing the greenhouse gas emissions of energy generation and provide resilience to the effects of climate change through diversifying the type and location of generation facilities.

The importance of climate change and the link between renewable energy generation and climate change is strengthened in Plan Change 1.

The proposal is consistent with the relevant objectives and policies of the RPS and Proposed Plan Change 1 to the RPS.

6.4 Wairarapa Combined District Plan

The District Plan Objectives, Policies and Anticipated Outcomes that are considered to be relevantare set out below.

Chapter 4 – Rural Zone

4.3.1 Objective Rur1 – Protection of Rural Character & Amenity

To maintain and enhance the amenity values of the Rural Zone, including natural character, as appropriate to the predominant land use and consequential environmental quality of different ruralcharacter areas within the Wairarapa.

Rur1 – Policy 4.3.2(d)

Maintain and enhance the amenity values, including natural character, of the differing Rural character areas through appropriate controls over subdivision and the bulk, location and nature of activities and buildings, to ensure activities and buildings are consistent with the rural character, including an appropriate scale, density and level of environmental effects.

Rur1 – Policy 4.3.2(e)

Manage subdivision, use and development in a manner which recognises the attributes that contribute to rural character, including:

(i) Openness and predominance of vegetation

(ii) Productive working landscape

(iii) Varying forms, scale and separation of structures associated with primary production activities

(iv) Ancillary living environment, with an overall low population density

(v) Self-serviced allotments.

Objective Rur2 – Provision for Primary Production and Other Activities

To enable primary production and other land uses to function efficiently and effectively in the Rural Zone, while the adverse effects are avoided, remedied, or mitigated to the extent reasonably practicable.

Rur2 Policies

(a) Provide for primary production activities as permitted activities in the Rural (Primary Production) Zone and Rural (Special) Zone, subject to such environmental standards as necessary to avoid, remedy or mitigate any adverse effects of primary production activities without unreasonablyaffecting landowners' ability to use their land productively.

(b) Provide for other land uses as permitted activities in the Rural (Primary Production) Zone and Rural (Special) Zone, subject to such environmental standards as necessary to avoid, remedy or mitigate any adverse effects.

(c) Manage the establishment and operation of a range of other activities in the Rural Zone, such that their adverse effects on the environment are appropriately avoided, remedied or mitigated.

(d) Ensure activities that are potentially sensitive to the adverse external effects of primary production and any other lawfully established activities, particularly those activities with significant external effects, are either appropriately sited, managed or restricted to avoid or mitigate these effects.

(e) Ensure that new primary production and other activities that may have significant external adverse effects are appropriately sited from sensitive land uses or are otherwise controlled to avoid or mitigate such effects.

(f) Provide interface controls on primary production and other activities that may have adverse effects on adjoining activities.

Anticipated Environmental Outcomes (4.4)

(a) Protection of primary production as a principal land use and economic driver in the Wairarapa.

(b) The efficient use of Rural Zone resources through a diversity of land use and economic activities.

(c) Diverse activities in the Rural Zone that are compatible with the rural environment in scale, amenity and character.

(d) Protection of the amenity in adjoining zones from the potential adverse effects of activities within the Rural Zone.

(e) Increased level of self-sustainability and a reduced level of degradation on the naturalenvironment and processes.

(f) Protection from environmental pollutants such as excessive dust and noise.

(g) The protection of lawfully established activities from reverse sensitivity effects.

Chapter 16 Network Utilities and Energy

16.3.4 Objective NUE2 – Energy Generation and Efficiency

To move the Wairarapa towards a sustainable energy future by encouraging energy efficiency and the generation of energy from renewable sources.

NUE2 Policies

(b) Recognise the local, regional and national benefits to be derived from renewable energy generation.

(c) Recognise and manage appropriate development of the Wairarapa's significant potential renewable energy resource.

(d) Provide for renewable energy generation while, as far as practicable, avoiding, remedying or mitigating the adverse effects, particularly of large scale and/or prominent facilities.

(e) Recognise and promote the use of environmental management codes of practice and best practice methods in energy generation, distribution and use.

(f) Recognise the technical and operational requirements of energy generation and distribution and its benefits to the wellbeing of the Wairarapa when setting and implementing appropriate environmental standards to avoid, remedy or mitigate the adverse effects on the environment and when assessing applications for resource consent.

(g) Manage subdivision and land use activities to avoid adverse effects on the efficient operation of established energy generation facilities.

16.4 Anticipated Environmental Outcomes

(e) Efficient use and development of Wairarapa's renewable energy resources, contributing towards an increased proportion of New Zealand's energy consumption being derived from renewable sources.

(g) Renewable energy generation facilities may have established in appropriate locations and their on-going efficient operation in a manner that appropriately remedies or mitigates adverse effects.

Objective GAV1 – General Amenity Values

To maintain and enhance those general amenity values which make the Wairarapa a pleasant placein which to live and work, or visit.

GAV1 Policies

(b) Control the levels of noise, based on existing ambient noise and accepted standards for noisegeneration and receipt.

(d) Ensure vibrations occurring through the use of equipment or machinery does not cause adverse effects on

the comfort of occupants of adjacent properties.

(f) Manage activities with unacceptable visual effects on amenity values, in accordance with the qualities of each environmental zone. As a guide to determining if an activity has unacceptable visual effects, consideration will be given to other policies relevant to a particular activity or environmental zone.

(g) Manage the levels of odour and dust by avoiding inappropriate odours and dust from adversely affecting sensitive activities on adjoining properties.

19.4 Anticipated Environmental Outcomes

(a) The maintenance of amenity values appropriate to the surrounding environment.

The District Plan sets out the rural zone's primary purpose as the place for primary production to occur (4.1 – Introduction (para 3));

The character of the rural environment is shaped by the different forms of primary production that occur there but also by the range of other activities that rely on a location in the rural area and which contribute to the economic and social fabric of the Districts.

It also recognises that there are other activities that can only occur in the rural zone and that these need to be provided for subject to dealing with adverse effects appropriately.

To enable primary production and other land uses to function efficiently and effectively in the RuralZone, while the adverse effects are avoided, remedied, or mitigated to the extent reasonably practicable (Objective Rur2 – Provision for Primary Production and Other Activities).

Policies 4.3.5(d) and (e) respectively each require the appropriate siting or control of sensitive activities and of activities which may have significant adverse effects.

Policy 435(f) follows this by seeking controls at the interface between activities and adjoining activities.

(f) Provide interface controls on primary production and other activities that may have adverseeffects on adjoining activities.

"Other activities" are also addressed at "4.3.6 Explanation";

Diversification of land use is important to the sustainable future of Wairarapa's rural environment. Many activities are appropriate in a rural setting and can establish and function without compromising the core primary production activities in the rural area. It is important that the Plan provides for those other activities that are able to establish and operate in a manner that appropriately avoids, remedies or mitigates potential adverse effects on the environment. It is alsoimportant that, once lawfully established, these other types of rural activities are not adversely affected by the subsequent establishment nearby of sensitive activities that may seek to constrain their lawful operation.

Therefore, the key policy direction of the District Plan is that the rural zone is principally for primary production with an acknowledgement that there are activities other than primary production that need to be located in the rural zone because they cannot occur in other zones. These activities are appropriate provided that they do not compromise primary production and any adverse effects.

It is not practical, cost effective, or an efficient use of serviced land to locate a solar farm in an

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urban zone and it is necessary to locate the activity in the rural zone.

As demonstrated in the assessment of environmental effects in the following section, the proposal can be carried out in such a way that contains adverse effects within the site.

With this being the case, the proposed solar farm within this site is in line with the policy direction of the District Plan.

6.5 Other matters

The Climate Response (Zero Carbon) Amendment Act 2019 is a framework for climate change policy in New Zealand to meet obligations under the Paris Agreement (limiting the global average temperature increase to 1.5 degrees Celsius above pre-industrial levels) and allow New Zealand to prepare for and adapt to the effects of climate change.

This Act sets a target of zero new emissions of all greenhouse gases (except biogenic methane) by 2050.

The proposed solar farm will play a part in achieving these climate change goals.

6.6 Part 2 of the RMA

With regard to an assessment of the proposal against Part 2 of the RMA, the Court of Appeal decision on R.J. Davidson Family Trust v Marlborough District Council CA97/2017 (2018) NZCA 316 determined that:

"It is noted that a plan that has been competently prepared under the Act it may be that in many cases the consent authority will feel assured in taking the view that there is no need to refer to Pt 2 because doing so would not add anything to the evaluative exercise. Absent such assurance, or if in doubt, it will be appropriate and necessary to do so. That is the implication of the words 'subject to Pt 2' in ss 104(1), the statement of the Act's purpose in s 5, and the mandatory, albeit general, language of ss 6, 7 and 8."

This decision confirms that it can be appropriate to consider Part 2 when assessing a resource consent in some circumstances. However, in many cases an assessment against Part 2 will not add value to the consenting process. In this case, the application requires resource consent under the Wairarapa Combined District Plan. A comprehensive assessment has been provided against the relevant objectives and policies of all relevant policy documents. These documents have been prepared by having regard to Part 2.

However, the proposal for a landscaped solar farm to provide renewable energy (with grazing occurring underneath) is sustainable development promoted by s5 the RMA.

The matters of national importance set out in s6 are not relevant to this site.

S7(i) being *the effects of climate change* and s7(j) being *the benefits to be derived from the use and development of renewable energy* are directly relevant to this proposal for a renewable energy source which will help replace non-renewable energy generation.

The proposal is consistent with Part 2 of the RMA.

7.0 Assessment of Environmental Effects

Following on from the above policy direction, in assessing the effects of the proposal it is important to do so in the context of the rural zone being a working environment.

There is no assessment criteria relevant to the construction of an energy generation facility.

The relevant matters of discretion set out in rule 4.5.5(c) provide a useful guide for assessing the effects of non-primary production activities in the rural zone.

(a) Siting of any building;

As noted, the proposed solar panels are captured within the District Plan's definition of building. The proposed inverter station is also a building.

All buildings will meet the rural setback standards in terms of adjoining boundaries and the section of water race. An assessment of the visual effects of the proposal is set out below.

(ii) Design and location of the access;

The existing entrance will be used and an all weather access track established for construction and maintenance of the solar farm. This access will be formed to District Plan requirements.

(iii) Location, size and effects of any signage;

No advertising signs are proposed. There may be signs at the site entrance advising of workplace safety requirements. These will meet the rural zone sign permitted standards.

(iv) Amenity and visual effects;

(v) Landscaping and screening;

The proposal includes a landscape plan which will soften the solar farm within the landscape. Rural amenity is discussed below.

(iii) Noise generated by the activity;

Beyond the construction phase there is very little noise generated from the proposal. The inverter station will make a humming noise (similar to a transformer). The inverter station will be located within the centre of the site and the rural zone noise limits are easily achieved.

(iv) Changes in the type and amount of traffic;

Establishing the solar farm will generate additional traffic to the site as most construction does. The day to day operation will generate very little traffic. Traffic effects are addressed below.

(v) Effects of retail activities in the Rural Zone on the viability and vitality of the existing town centres of Masterton, Carterton Greytown, Martinborough and Featherston;

There are no anticipated effects on retail activities in the town centres.

(vi) Servicing and infrastructure requirements.

The activity will not generate any servicing and infrastructure requirements. In fact, the proposal will assist infrastructure by providing a renewable energy source for energy needs in the area.

Guided by the above, the following potential effects from the proposal are considered to relate to effects on rural amenity - specifically, visual effects and noise during construction.

7.1 Effects on Rural Amenity (including visual, glare, and noise effects)

7.1.1 Visual Effects

A visual impact assessment is attached at Appendix C. Landscape Architect Rachel Callaghan has had input into the proposal and her landscape plan is attached at Appendix D.

The conclusion of the visual impact assessment and landscape work is that the proposed solar farm will change the immediate landscape - as a variety of other landuses could. However, the solar farm is easily screened by planting and visual impacts are less than minor.

7.1.2 Effects from Glare

Solar panels have been designed to absorb sunlight and reduce glare effects. In addition, the panels follow the sun so that any glare produced would be directed back at the sun.

Reflectivity is measured as “albedo,” defined as the reflecting power of a surface. The angle that the panels are on also influences the reflectance of the panel.

Albedo is measured from 0 to 1, 0 representing no light reflected, and 1 representing 100% of incident sunlight reflected.

The manufacturer of the solar panels has provided a graph showing how the angle of incidence influences reflectance. Angles between 0 and 60 degrees have a reflectance value of under 5%. 70 degrees increases to approximately 10% and from there reflectance increases sharply. The proposed panels will have a maximum tilt of 60 degrees.

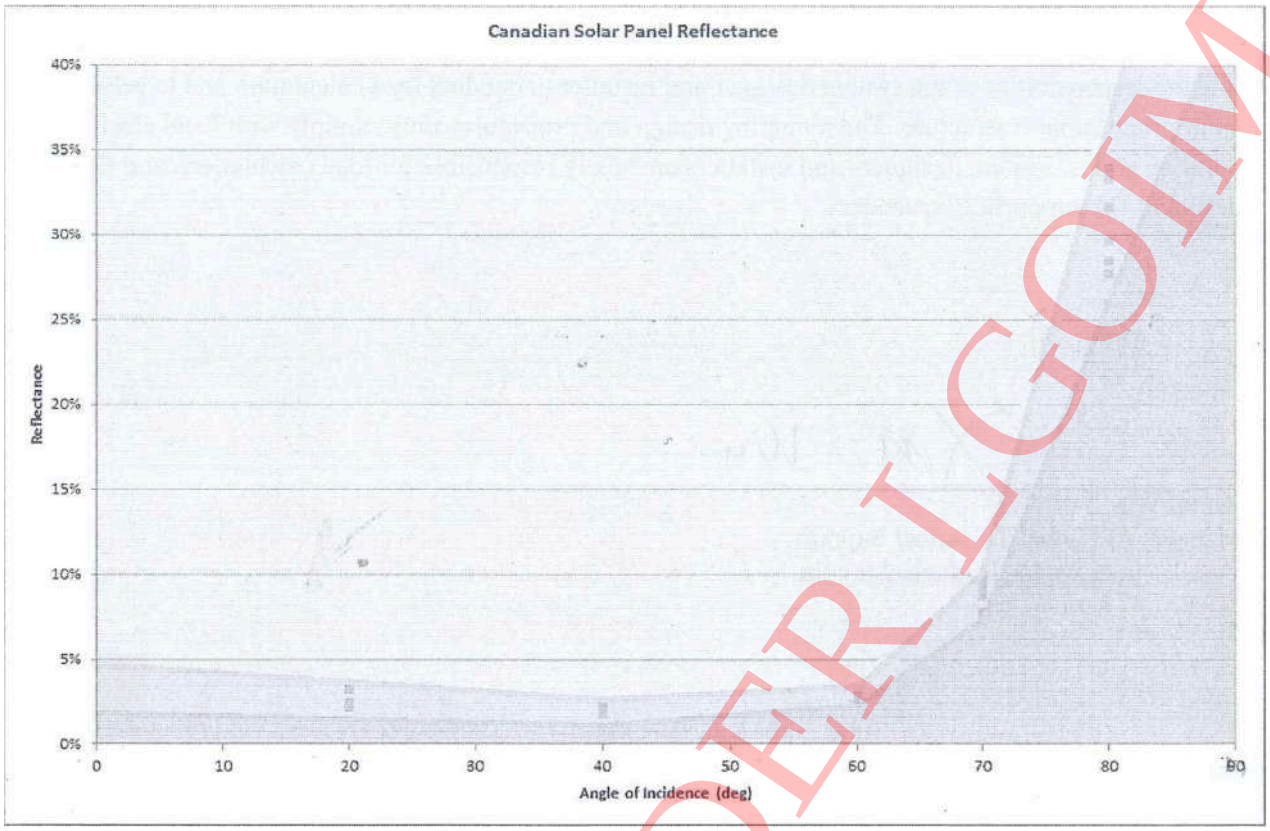


Figure 9 - Tilting angle vs glare

Typical solar panels with an anti-reflective coating have an albedo around 0.10 (approximately 10 percent of light reflected). A condition of consent is offered to ensure the albedo value of the panels is below 10%.

Accordingly, the effects of glare will be less than minor.

7.1.3 Effects from Noise

Noise from the site will be split into construction noise and operational noise.

Construction noise will consist of delivering the solar farm components to the site and establishing them. The main construction noise will be ramming of the support posts and fencing.

This will occur during normal working hours and will comply with construction noise standard (NZS 6803:1999). It will be a similar process to establishing a vineyard on the site and not beyond what could be expected in a working rural environment.

Once constructed, the day to day operation noise will meet District Plan permitted standards in the rural zone.

The transformer in the Norfolk Road road reserve will emit no more noise than the numerous other transformers in the rural and urban areas.

The inverter station consists of new technology designed to minimise noise but does emit a hum. The inverter specifications (see Appendix E) note that the noise it emits is 65dB. This would be during the sunniest part of the day. The inverter will be silent at night.

To put 65dB into perspective an online Yale University decibel chart lists normal conversation as being between 60 and 70dB (https://ehs.yale.edu/sites/default/files/files/decibel-level-chart.pdf).

This noise level combined with the proposed central location, 75m from the nearest boundary, will ensure that the inverter station will be well within the District Plan rural noise limits and that the applicant meets their duty to avoid unreasonable noise under s16 of the RMA.

Overall, any adverse effects of noise will be less than minor.

7.2 Cultural Effects

The site does not contain any natural water ways and is not identified as culturally significant in the District Plan. There are no identified archaeological features recorded on the New Zealand Archaeological Association's ArchSite in proximity to this area.

Should any archaeological features be identified during establishment of the project, appropriate discovery protocol will be followed involving Heritage New Zealand and Ngati Kahungunu ki Wairarapa and Rangitaane o Wairarapa representatives.

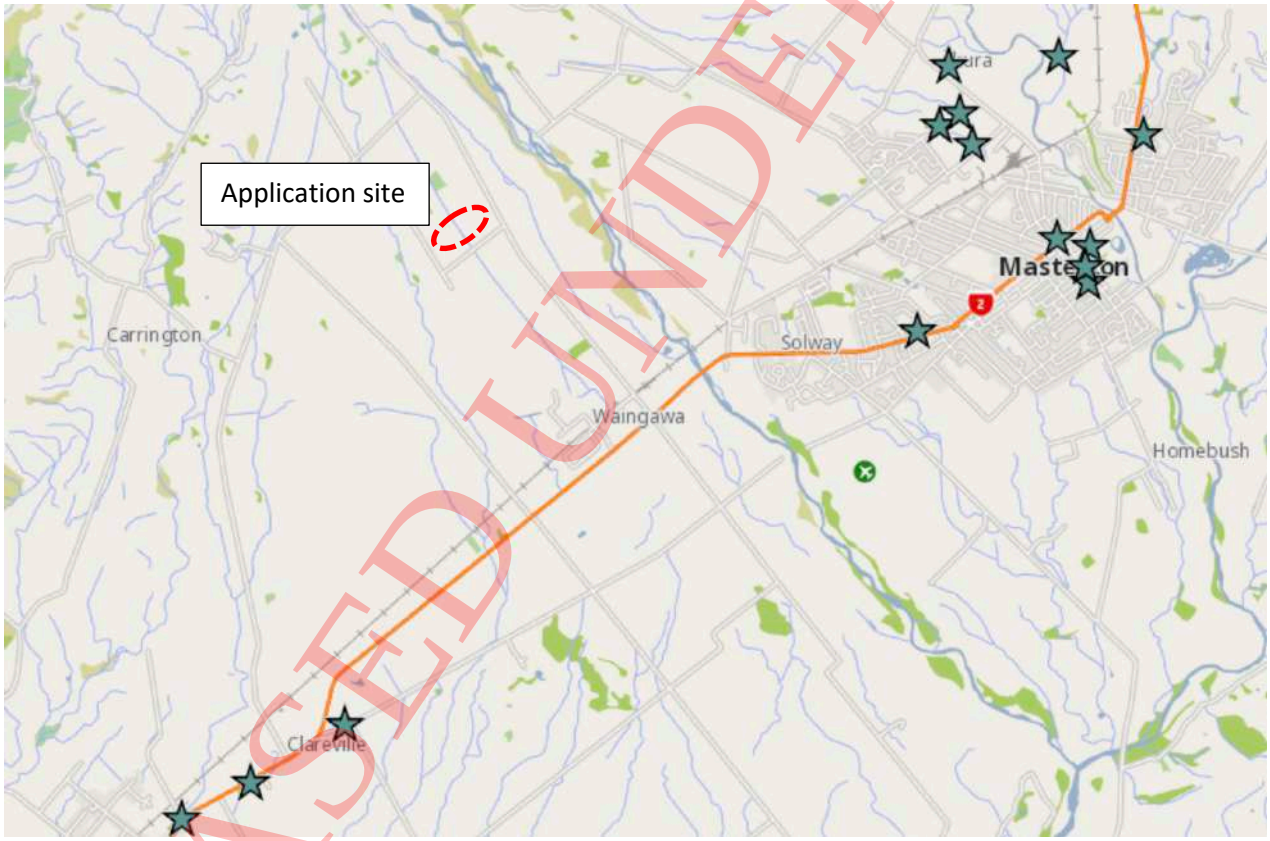


Figure 10 – Screenshot of Archsite, identified sites shown with a star

Comment from Rangataane o Wairarapa and Ngati Kahungunu ki Wairarapa is being sought and will be provided to Council once received.

Providing that there are no archaeological features within the site and appropriate discovery protocols are followed if any are discovered, adverse effects on cultural effects will be less than minor.

7.3 Effects on Traffic and the Local Roading Network

The proposal will generate most traffic during the construction phase where components will be delivered to the site and contractors will come and go as the solar farm is built.

The solar farm consists of a tracking system where the panels follow the sun automatically. Day to day visits to the site will be for routine checks and maintenance and repair reasons. Maintenance includes cleaning the panels every quarter.

The applicant anticipates that maintenance of the solar farm will be limited to a routine visit every three months.

Norfolk Road is an Arterial Road at this location and easily able to accommodate the low vehicle movements generated by the solar farm.

On this basis, the effects of the proposal on the traffic and the local roading network are less than minor.

7.4 Effects from Electromagnetic Fields (EMF)

The proposed solar farm will be constructed in full compliance with New Zealand guidelines for non-ionising radiation.

The National Policy Statement and National Environmental Standard on Electricity Transmission are instruments under the Resource Management Act to manage the environmental effects associated with electricity transmission. These apply the 1998 EMF health protection guidelines of the International Commission on Non-Ionizing Radiation Protection (ICNIRP) to manage EMF. The ICNIRP re-issued their guidelines in 2010, revising the public exposure limit for magnetic field from 100 to 200 μT (micro tesla) and NZ Ministry of Health recommend the revised limit.

Additionally, equipment with potential to generate EMF's (the inverter) will be positioned away from the property boundaries.

Based on the applicants experience from similar installations the solar farm equipment will be significantly below New Zealand industry standards.

On this basis, any effects from electromagnetic fields are less than minor.

7.5 Fire Risk

As there are no combustible materials on site the risk of fire is minimal. The equipment will be installed by a qualified solar installer in accordance with applicable AS/NZS standards for safe electrical installations and solar installations:

- AS/NZS 5033:2021 Installation and safety requirements for photovoltaic (PV) arrays
- AS/NZS 3000:2018 Electrical installations - Known as the Australian/New Zealand Wiring Rules

A potential issue with a solar farm could be long dry grass beneath the solar panels becoming a fire risk.

However, in this case the proposal is to graze the land beneath the solar panels with sheep. This will keep the grass under control and avoid the need for any mowing. Grazing will be managed according to conditions and will need more stock pressure during periods of high spring growth and could include the use of intensive grazing with temporary electric fencing.

With the land grazed with sheep, adverse effects from fire risk are less than minor.

7.6 Effects from Stormwater

The inverter station will have a stormwater disposal system in accordance with the Building Act.

The panels themselves will discharge directly to the ground. The site contains free draining soils and there is not anticipated to be any change in stormwater patterns within the site after the panels are installed.

Overall effects from stormwater are less than minor.

7.5 Conclusion on Environmental Effects Assessment

Overall adverse effects from the proposal are considered to be less than minor.

7.6 Positive Effects

The proposed solar farm will play a part in introducing a new and reliable source of renewable electricity to the local electricity sector.

It will contribute towards the Government's strategic national goal of achieving 100% electricity generation from renewable energy sources by 2030.

Additionally, the establishment of a solar farming facility near Waingawa will meet the need of local industry when energy demand is high and also enhance its resilience to evolving climatic conditions and the shift towards cleaner energy alternatives instead of relying on fossil fuels.

8.0 Consideration of Alternatives

The site is considered to be suitable for solar electricity generation as it receives high solar energy, is not on highly productive land, and is close to an industrial hub including a substantial timber mill.

A variety of solar options were considered during the planning phase of the project. The applicants settled on a low profile solar panel construction, establishment on parts of the site which helped separate housing from the solar farm, and screening of the solar farm from adjoining houses.

9.0 Conclusion

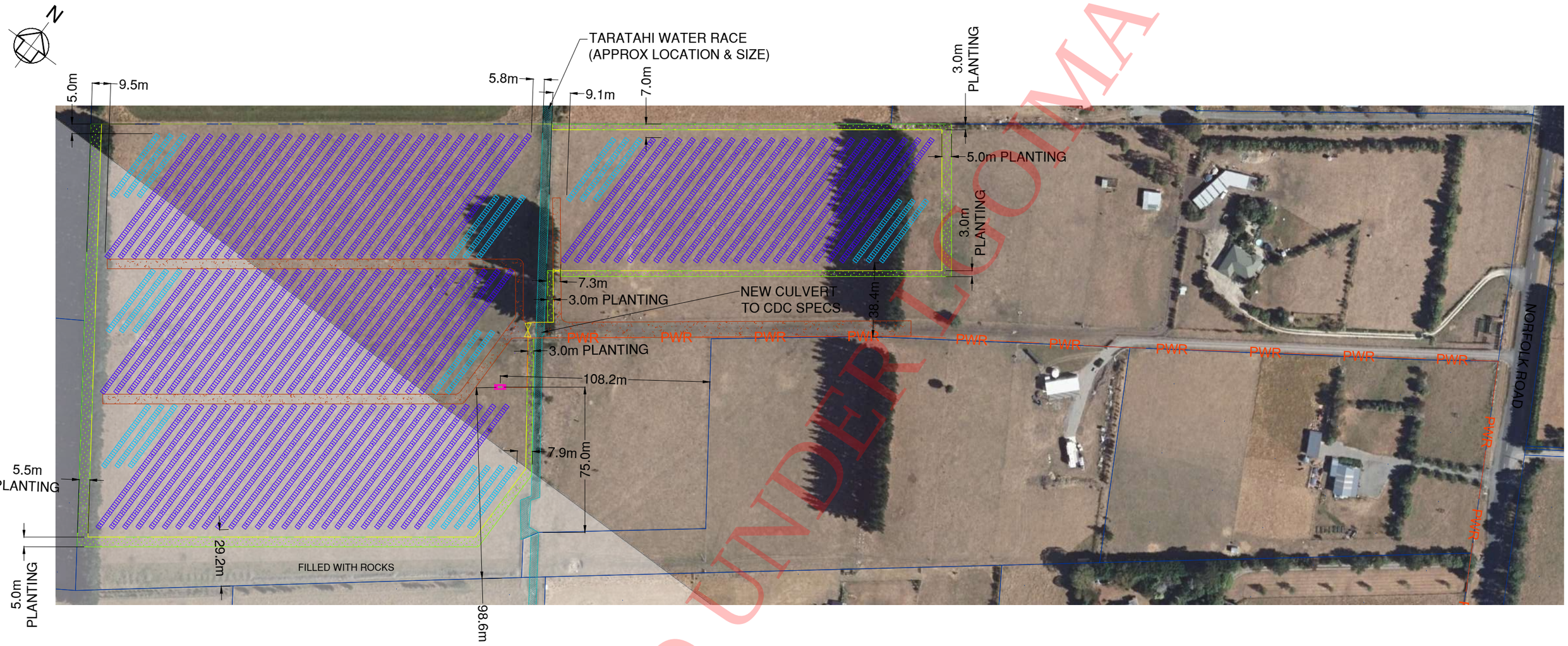
This application is for a proposal which will provide the area with a much needed renewable energy supply.

The adverse effects of the proposal have been outlined above and the effects of the have been

assessed as less than minor. The proposal has been assessed as an activity/outcome in line with the vision of relevant policy.

Accordingly, the proposal can be considered sustainable development and resource consent can be approved by Council.

Appendix A



SYSTEM CONFIGURATION	
SOLAR MODULE DETAILS	CANADIAN SOLAR 685W BIFACIAL
STRING CONFIGURATION	30 MODULES PER STRING
TRACKER CONFIGURATION	1inP
TRACKER SYSTEM MAKE/MODULE	TBC
AZIMUTH ANGLE	0° (TRUE NORTH)
ROW SPACING (CENTRE TO CENTRE)	5.5m
GCR - GROUND COVERAGE RATIO	0.43
DC SYSTEM VOLTAGE	1500V
POWER CONVERSION UNIT (PCU)	SMA 4200-S2
PCU AC NAMEPLATE CAPACITY	4.30MW

SYSTEM PARAMETERS	
ITEM	**QUANTITIY**
TOTAL NAME PLATE CAPACITY (MWp)	4.52
DC/AC RATIO	1.05
TOTAL NUMBER OF TRACKER TABLES	121
TOTAL STRINGS	219
TOTAL MODULES	6570

QUANTITIES		
ITEM		**No.**
TRACKER 1 x 60		98
TRACKER 1 x 30		24

LEGEND	
PROPERTY BOUNDARY	
SECURITY FENCE 2.2m HIGH 1297m LENGTH	
PLANTING	
INTERNAL ACCESS WAY	
GATE	
20ft CONTAINER INVERTER STATION 5890 x 2350	
UG CABLE	PWR

NOTES:
1. PROPOSED ACCESS ROADS, FENCE, PCU FOOTPRINT AND SITE ACCESS ARE INDICATIVE ONLY.
2. INTERNAL ACCESS ROADS ARE MINIMUM 4m WIDE.
3. SYSTEM PARAMETERS ARE CONCEPTUAL AND PRELIMINARY IN NATURE; THE PRESENTED QUANTITIES INCLUDE SEVERAL ASSUMPTIONS THAT MAY NOT REFLECT THE ACTUAL CONDITIONS OF THE SITE AND THE OPTIMAL CONFIGURATION OF THE SYSTEM.
4. PCU CONFIGURATION TBC.
5. PROPERTY BOUNDARY & IMAGES SOURCED FROM THE LINZ DATA SERVICE AND LICENSED FOR REUSE UNDER THE CC BY 4.0 LICENCE.
6. SITE BOUNDARIES TBC BY SURVEYOR. TOTAL FENCED AREA 6.31 HECTARES

CONCEPT DESIGN

REV.	DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE
A	SF BOUNDARY CHANGED. SPACING REDUCED FROM 6m TO 5.5m.	S. SINGH	-	-	21/09/2022
B	TF'S , SWITCHROOM AND PLANTING WITH 7m OFFSET ADDED	DJ U			11/04/2023
C	DRAWING TIDY UP	S. SINGH	-	-	18/04/2023

CLIENT:

ADDITIONAL INFORMATION:

UNITS: mm | SHEET SIZE: A3 | SCALE: NTS (U.N.O.) | PROJECTION:

LIGHTYEARS SOLAR
AUCKLAND, NEW ZEALAND
www.lightyearssolar.co.nz

DESIGNED:	M. SHANKS, S. SINGH
DRAWN:	S. SINGH
DATE:	29/08/2022
CHECKED:	-
APPROVED:	-

TITLE: NORFOLK RD SOLAR FARM
WAINGAWA
SITE LAYOUT

DRG. NO.: NRSF-010

REVISION: C

PLOTTED: 19/06/2023 3:42:50 PM

NRSF-010

Appendix B

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General of Land

Identifier	**876916**
Land Registration District	**Wellington**
Date Issued	07 June 2019

Prior References
524810

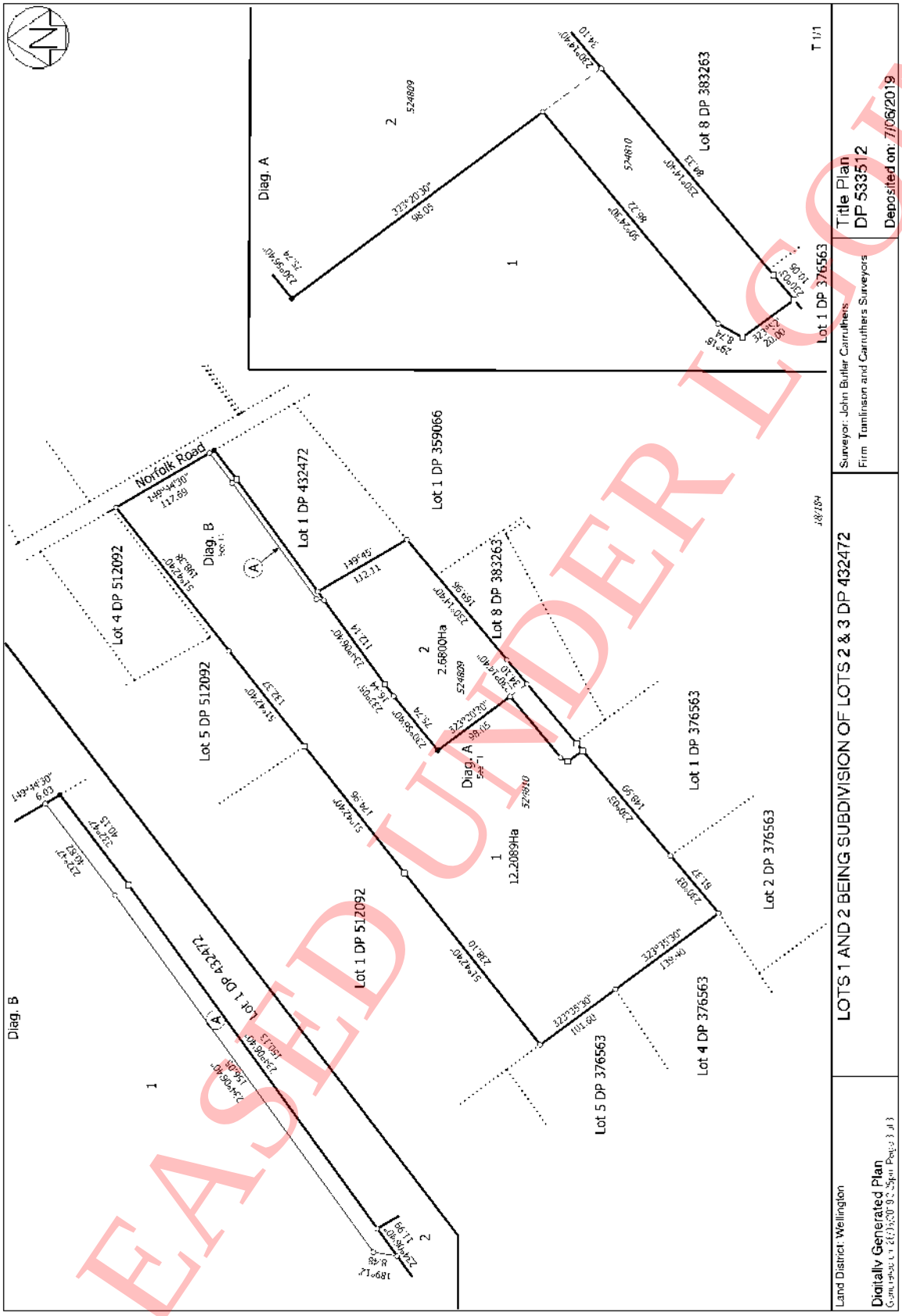
Estate	Fee Simple
Area	12.2089 hectares more or less
Legal Description	Lot 1 Deposited Plan 533512
Registered Owners	

[redacted] s 7(2)(a)

Interests

The easements created by Easement Instrument 8579028.3 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right of way, right to convey electricity, telecommunications and computer media over part marked A on DP 533512 created by Easement Instrument 8579028.3 - 2.9.2010 at 9:10 am



View Instrument Details

Instrument No	8579028.3
Status	Registered
Date & Time Lodged	02 September 2010 09:10
Lodged By	Totman, Peter Frank Ralph
Instrument Type	Easement Instrument

Affected Computer Registers	Land District
524809	Wellington
524810	Wellington

Annexure Schedule: Contains 2 Pages.

Grantor Certifications

I certify that I have the authority to act for the Grantor and that the party has the legal capacity to authorise me to lodge this instrument ☑

I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument ☑

I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply ☑

I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the prescribed period ☑

I certify that the Mortgagee under Mortgage 6233405.3 has consented to this transaction and I hold that consent ☑

Signature

Signed by Peter Frank Ralph Totman as Grantor Representative on 02/09/2010 09:09 AM

Grantee Certifications

I certify that I have the authority to act for the Grantee and that the party has the legal capacity to authorise me to lodge this instrument ☑

I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument ☑

I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply ☑

I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the prescribed period ☑

Signature

Signed by Peter Frank Ralph Totman as Grantee Representative on 02/09/2010 09:09 AM

***** End of Report *****

Easement instrument to grant easement or *profit a prendre*, or create land covenant

Grantor [redacted] and

Grantee [redacted]

Grant of easement or *profit a prendre* or creation or covenant

The Grantor, being the registered proprietor of the servient tenement(s) set out in Schedule A, **grants to the Grantee** (and, if so stated, in gross) the easement(s) or *profit a prendre* set out in Schedule A, **or creates** the covenant(s) **set out** in Schedule A, with the rights and powers or provisions set out in the Annexure Schedule.

Schedule A

Purpose (nature and extent) of easement, *profit*, or covenant	Shown (plan reference)	Servient tenement Computer register	Dominant tenement Computer register
Telecommunications and computer media)	A	Lot 3 DP 432472 CT524810	Lot 2 DP432472 CT524809
Right of Way)			
Electricity)			

Easements or *profits a prendre* rights and powers (including terms, covenants, and conditions)

Unless otherwise provided below, the rights and powers implied in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or Schedule Five of the Property Law Act 2007.

The implied rights and powers are (varied) by the provisions set out in the Annexure Schedule

ANNEXURE SCHEDULE

The implied rights and powers are varied and added as follows:

1. Where there is a conflict between the provisions of the Fourth Schedule to the Land Transfer Regulations 2002 and the Fifth Schedule to the Property Law Act 2007, the provisions of the Fourth Schedule must prevail.

2. Where there is a conflict between the provisions of the Fourth Schedule and/or the Fifth Schedule and the modifications in this Easement Instrument, the modifications must prevail.

3. Any maintenance repair or replacement on an "easement facility" (as defined in the Fourth Schedule to the Land Transfer Regulations 2002) on the servient or dominant tenements that is necessary because of any act or omission by the Grantor or Grantee (which includes agents, employees, contractors, subcontractors and invitees of that Grantor or Grantee) must be carried out promptly by that Grantor or Grantee and at his or her sole cost. Where the act or omission is the partial cause of the maintenance, repair or replacement, the costs payable by the Grantor or Grantee responsible must be in proportion to the amount attributable to that act or omission (with the balance payable in accordance with Clause 11 of the Fourth Schedule).

Appendix C

Assessment of Visual Effects

This assessment outlines the existing landscape/amenity, the policy context in relation to rural amenity, and the impact of the proposal on rural amenity.

Existing landscape

The Norfolk Road area in general has been very popular for rural residential development. Subdivision provisions in the Carterton District Plan allowed the creation of 3ha lots and there are a large number of this sized lot in the area, including a number around the site. These small holdings all generally consist of a house, associated garages and/or utility sheds, and shelter planting along boundaries and around dwellings.

This gives the area a built up rural character where residential housing and other buildings on lifestyle lots are the dominant feature rather than an open rural landscape found in other less developed rural locations.

The site and surrounding area are both flat and no properties overlook others.

Figure 1 - Google Earth perspective view of the site

Figure 2 - Nearby properties, site shown white, solar farm shown red, recent buildings shown yellow, existing screening planting shown green

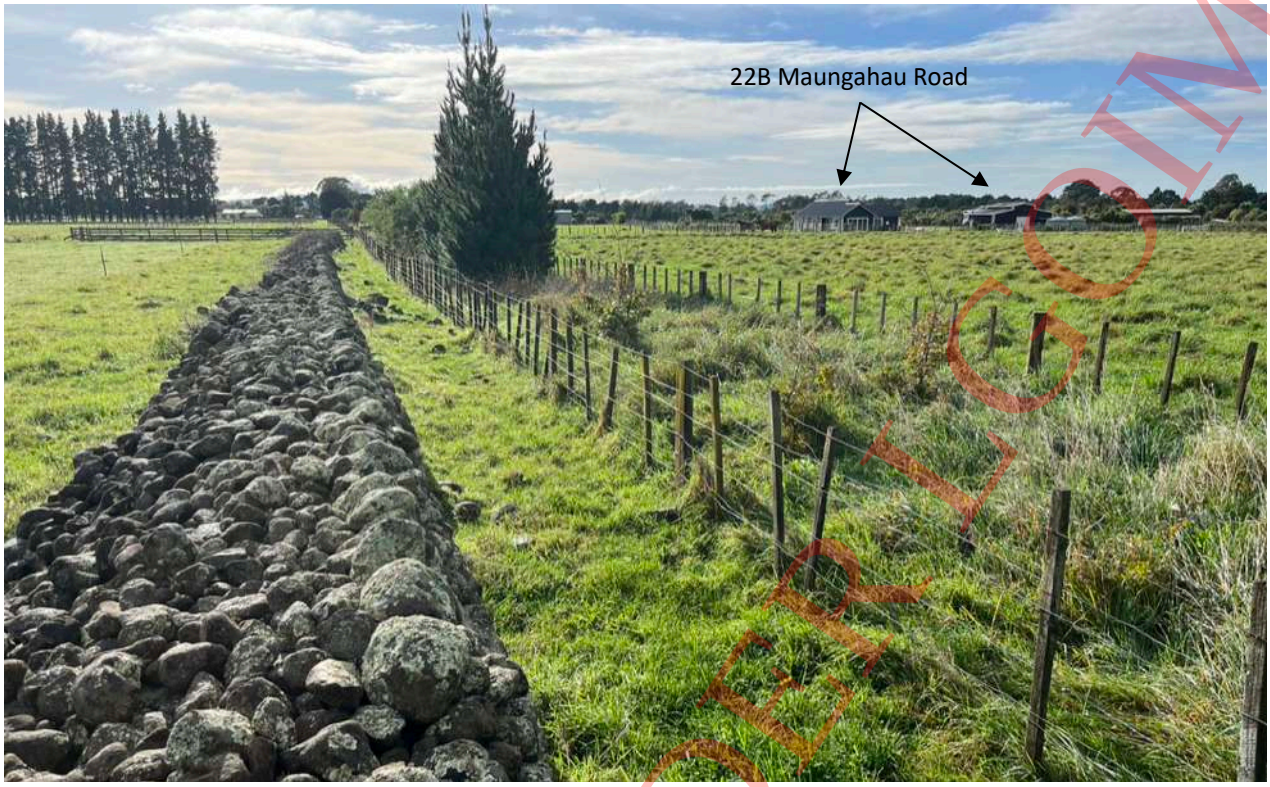
Figures 1 and 2 show the development of the surrounding area and existing screening.

The dwellings closest to the area where the solar panels will be located are the properties fronting Jordan Road and Maungahau Road and 343 Norfolk Road. These dwellings are generally between 100 and 150m from the panel locations. 327 Norfolk Road does not yet contain a dwelling.

Photographs of the perimeter of the site are set out below.

Photograph 1 – Pine trees (to be removed) at rear of site, 47 and 74 Jordan Road behind trees (facing south-east)

Photograph 2 – Southern corner of site (facing south) native shelterbelt on other side of boundary fence in 62 Maungahau Road



Photograph 3 - View along south eastern boundary, showing partial screening within 60 Maungahau Road, 22B Mauangahau Road in distance, stone wall within application site

Photograph 4 – Facing 60 Maungahau Road

Photograph 5 – Facing 22B Maungahau Road from closest panel location

Photograph 6 – Facing shed in 327 Norfolk Road from Western end of panel location

Photograph 7 – Facing dwelling within site from western end of panel location

Photograph 8 – Facing 343 Norfolk Road from western end of panel location

Photograph 9 – Facing North overlooking the site towards the house in 371 Norfolk Road

Policy context

The District Plan addresses rural amenity through policies and objectives in the Rural Chapter (4), Landscape Chapter (9), and General Amenity Values Chapter (19).

Chapter 4 – Rural Zone

4.3.1 Objective Rur1 – Protection of Rural Character & Amenity

To maintain and enhance the amenity values of the Rural Zone, including natural character, as appropriate to the predominant land use and consequential environmental quality of different rural character areas within the Wairarapa.

4.3.2 Rur1 Policies

(d) Maintain and enhance the amenity values, including natural character, of the differing Rural character areas through appropriate controls over subdivision and the bulk, location and nature of activities and buildings, to ensure activities and buildings are consistent with the rural character, including an appropriate scale, density and level of environmental effects.

(e) Manage subdivision, use and development in a manner which recognises the attributes that contribute to rural character, including:

(i) Openness and predominance of vegetation

(ii) Productive working landscape

(iii) Varying forms, scale and separation of structures associated with primary production activities

(iv) Ancillary living environment, with an overall low population density

(v) Self-serviced allotments

4.3.4 Objective Rur2 – Provision for Primary Production and Other Activities

To enable primary production and other land uses to function efficiently and effectively in the Rural Zone, while the adverse effects are avoided, remedied, or mitigated to the extent reasonably practicable.

4.3.5 Rur2 Policies

(b) Provide for other land uses as permitted activities in the Rural (Primary Production) Zone and Rural (Special) Zone, subject to such environmental standards as necessary to avoid, remedy or mitigate any adverse effects.

(c) Manage the establishment and operation of a range of other activities in the Rural Zone, such that their adverse effects on the environment are appropriately avoided, remedied or mitigated.

(e) Ensure that new primary production and other activities that may have significant external adverse effects are appropriately sited from sensitive land uses or are otherwise controlled to avoid or mitigate such effects.

(f) Provide interface controls on primary production and other activities that may have adverse effects on adjoining activities.

4.4 Anticipated Environmental Outcomes

(b) The efficient use of Rural Zone resources through a diversity of land use and economic activities.

(c) Diverse activities in the Rural Zone that are compatible with the rural environment in scale, amenity and character.

(f) Protection from environmental pollutants such as excessive dust and noise.

Chapter 9 – Landscape

The Landscape chapter sets out the need to identify landscapes and natural features that are considered to be outstanding within a national and regional context.

This site is not within an identified outstanding landscape or significant natural area.

The Landscape Chapter sets out policies and objectives which flow on to rules within the District-Wide Rules Chapter. These rules relate to activities within the outstanding landscapes and significant natural areas.

Chapter 19 – General Amenity Values Chapter

Objective GAV1 – General Amenity Values

To maintain and enhance those general amenity values which make the Wairarapa a pleasant place in which to live

and work, or visit.

(b) Control the levels of noise, based on existing ambient noise and accepted standards for noise generation and receipt.

(d) Ensure vibrations occurring through the use of equipment or machinery does not cause adverse effects on the comfort of occupants of adjacent properties.

(f) Manage activities with unacceptable visual effects on amenity values, in accordance with the qualities of each environmental zone. As a guide to determining if an activity has unacceptable visual effects, consideration will be given to other policies relevant to a particular activity or environmental zone.

(g) Manage the levels of odour and dust by avoiding inappropriate odours and dust from adversely affecting sensitive activities on adjoining properties.

19.4 Anticipated Environmental Outcome

The maintenance of amenity values appropriate to the surrounding environment.

This policy framework identifies that rural areas have different values and that there are some landscapes that require specific control of land use. These areas are captured on overlays such as outstanding landscapes.

Other areas of the rural zone are to facilitate a productive working landscape. The driver for this zone is to allow primary production and other activities to function effectively provided that adverse effects are appropriately avoided remedied or mitigated.

The proposal is an "other activity" which cannot be located in any other zone than the rural zone. From the context of rural amenity, the District Plan envisages a working landscape and would not preclude solar panels within a site - provided that there were measures in place to limit impact on neighbouring property owners.

Through these measures the proposal could be appropriate with in the rural zone and consistent with the relevant policies and objectives.

Permitted Baseline

At section 104(2) the RMA states;

When forming an opinion for the purposes of subsection (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect.

In terms of visual impact there are rural primary production activities which would have a similar impact on the environment as the proposed solar farm.

Examples of these activities are as follows;

- Netting over an orchard, eg; the 60ha bird protection cover over the apple trees at JR Orchards in Papawai, Greytown
- Large rural sheds, there is no maximum floor area or number of rural sheds which could be constructed within a rural site. The maximum height for a building is 15m and sheds can be constructed 5m from a rural side or rear boundary.

In addition to permitted activities, through a controlled activity resource consent (which must be granted by Council) this site could be subdivided into three lots. Two vacant lots could be created at the rear of the site and each of these lots (being over 4ha) could contain two dwellings and a minor dwelling as a permitted activity. Six additional houses and associated ancillary buildings could be the result of this development.

While this is not strictly a permitted baseline (because resource consent is required), it is a scenario which could occur as of right, and therefore appropriate to be considered as an outcome anticipated/provided by the District Plan.

Assessment of Visual Effects

The policy context paints the rural area as a working productive environment where primary production and other activities are anticipated provided adverse effects are avoided, remedied, or mitigated.

There are many permitted activities which could occur within the site which change the immediate landscape.

The area surrounding the site is developed and these surrounding properties creates an environment which is dominated by built development rather than an open rural landscape.

The solar farm will lead to a change to the visual character of the site and this will be visible from surrounding sites.

The applicant is proposing a number of measures to mitigate the visual impact of the solar farm;

- Scale of the solar farm
- Height of solar panels
- Landscape planting will be established to soften and screen the solar panels from neighbouring properties

The proposed inverter station is a relatively small structure and is not deemed to have any adverse impact on the landscape. The proposed deer fence is a common sight in the rural environment. Both are considered part of the solar farm as a whole.

Scale of the Solar Farm

The size of the solar farm is an important influence on the visual impact of the proposal. The larger the solar farm the more dominant it is in the landscape.

Solar farms are being approved throughout the country as investment is made into renewable energy sources to reduce greenhouse gas emissions and curb climate change.

The size of these solar farms is comparatively large. For example, a 400MW solar farm on over 1,000ha was recently approved at Rangitaiki south east of Taupo. More locally, an application has been made for a 175MW solar farm on 235ha near Greytown.

At 6.5ha the solar farm is comparatively small scale. While it will be a feature of the local

landscape it is not large enough to dominate it.

Height of Solar Panels

The proposed solar panels will be 2.5m when they are titled to their maximum height. When not tilted and lying horizontal the panels are 1.5m tall.

This sized panel is relatively low profile. For example, the solar panels proposed in the Greytown application are 4.5m high. These low profile panels have been selected to reduce the visual impact of the solar farm when viewed from neighbouring properties and so that they are easily screened by hedges of low growing native species.

Landscaping of Solar Farm

Planting of most of the perimeter of the solar farm is proposed so that the solar farm is screened from all surrounding houses. While there is some existing shelter/screening vegetation between surrounding houses and the site, these are generally not within the site and cannot be retained by the applicants.

The rows of pine trees within the site will be removed as part of the proposal. These have no specific landscape value.

Landscape Architect Rachel Callaghan has been commissioned to provide landscaping input into the proposal and notes that the solar farm is easily screened. A landscaping plan is attached at Appendix D.

The species selected provide quick growth and are hardy enough to survive the summer dry conditions in this location without irrigation. The species to be used will grow tall enough to screen the 2.5m panels but not tall enough to disrupt neighbour's view of the Tararua Ranges (particularly from the Maungahau Road properties).

Conclusion

The area does not have any specific landscape value and has been highly modified by pastural farming and subsequent development of rural residential lots.

The proposed solar farm represents an evolution in land use and will be a visual feature of the immediate area - just as other new land uses such as viticulture have changed the landscape in parts of the District.

The scale of the proposal and height of the solar panels are reduced and reflect the projects desire for a community scale solar farm which is part of the landscape without dominating it.

As Landscape Plan has been developed to completely screen the solar farm from surrounding houses by species which will still provide views over the site to the Tararua Ranges.

Overall, the proposal will change the landscape but when considering the context of the physical and policy environment this change will be less than minor with regard to s95A and B.

Appendix D

Rachel Callaghan Landscape Architect

a 292 Mangarei Rd, RD11 Masterton 5871 m 0273 784 155 e rachel.george@xtra.co.nz

PROPOSED SOLAR FARM – 331 NORFOLK ROAD, CARTERTON

VISUAL MITIGATION PLANTING PROPOSALS June 2023

These planting proposals are designed to unobtrusively screen the solar panels from adjacent properties, whilst maintaining their open primary views towards the mountains to the north (Maungahau Road properties) in particular. Therefore, limiting the height of the planting is important, so as not to obscure views. This is to the advantage of both the adjacent properties, and the solar farm. Therefore optimum height of plants is within 2.5m to 4m tall. Anything higher than 6m would start interfering with views, and the sunshine hours on the panels.

VISUAL ADVANTAGES OF SITE: distance from adjacent dwellings bounding the site averages 135m. Height of proposed panels will not exceed 2.5m, therefore from that distance the panels are relatively unobtrusive and easy to screen.

DISADVANTAGE: site is due north of dwellings along Maunaghau Rd, so directly in line with their primary views to mountains. Simple to mitigate this with planting to a maximum height so it blocks the view of 2.5m high panels, but not so high to block views over the top to mountains beyond. Hence my proposed species are less than 4m tall maximum height.

PROPOSED PLANT LAYOUT ALONG BOUNDARIES

For the closest dwellings, on Maunaghau Road, and one on Norfolk Road, I propose a double row of planting, at 3m centres, planted in two rows, zig-zag pattern, so effectively one plant every 1.5m. This allows the plants space to splay naturally, and stay dense from the base. Gives a dense low barrier.

For all other dwellings the view into the site is either not within their primary view of mountains, or they are a greater distance away. So a single row of plants is proposed, planted 1.8m apart, again to give them space to splay naturally and stay dense at the base. Over time they will eventually join up to make a continuous screen.

FIGURE 1: Plan view showing proposed site boundary planting areas A-F referred to in Table A.
Note that the most recent dwellings are not visible in this photo.

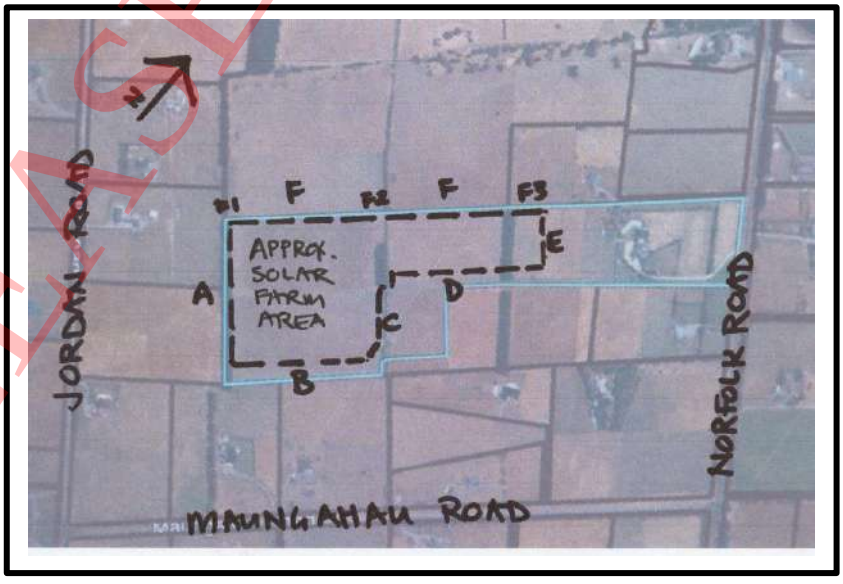


TABLE A: SITE BOUNDARIES RELATING TO EXISTING ADJACENT DWELLINGS AND PROPOSED MITIGATION PLANTING

PLAN AREA	DESCRIPTION	PROPOSED PLANTING ROWS
A	Western external property boundary. Currently tall conifers running north-south, to be removed. Nearest dwelling (Jordan Road) 145m from solar site. Planting will need to be minimum 1.5m from pine tree trunks to avoid roots. *Approximate planting length: 240m*	Single row within 5.5m double fenced area along boundary. (In all cases the Internal Security fence may form one of the fences)
B	Southern external property boundary. Stone wall full length, approximately 1-3m from boundary. Adjacent properties in Maungahau Road have existing dense native planting for half of length, then young Pine and Oak trees to water race. Nearest dwelling 90m. Site is within their primary north mountain view, although currently semi-screened with their own boundary plants. *Approximate planting length: 220m*	Double row, zig zag planted, inside 5m double fenced area approx. 18m from boundary.
C	Internal eastern site boundary, alongside water race. Nearest dwelling with open views in, off Maungahau Road, 175m from solar site. *Approximate planting length: 146m*	Single row within 3m fenced area.
D	South internal site boundary. 150m from south boundary, and 178m from nearest dwelling, off Maungahau Road. *Approximate planting length: 210m*	Single row within 3m fenced area.
E	Eastern internal site boundary. Currently tall conifers running north-south, that will be removed. 60m from nearest dwelling (Norfolk Road) *Note: dwelling not visible on Fig. 1 Area Plan.* Area E is clearly visible within their western sight line. *Approximate planting length: 83m*	Double row, zig zag planted, inside 5m wide fenced area.
F	External northern property boundary. Bounds open farmland, with only a distant (286m) dwelling visible (Norfolk Road). View in from oblique angle, so planting can be further apart, and not required at all from F1 to F2, as dense water race planting (neighbouring property) obscures solar site from that dwelling. *Approximate planting length: 200m (total length approx. 430m)*	Single row, but spaced further apart (2.5m). Inside 3m double fenced area along boundary. From F2 to F3 only.

TABLE B: PLANT SPECIES DESCRIPTION

Overall – tough, fast-growing plants between 2.5 and 4m tall. Mixed species and plant forms for visual interest. Tolerant of wind, drought and frost. The following species are interchangeable depending on availability.

BOTANICAL NAME	COMMON NAME	PLANT FORM	HEIGHT AT MATURITY
Austroderia fulvida	Toe Toe	Strappy leaf	2.5m
Coprosma virescens or C. rhaminoides	Mingimingi	Bushy, divaricating	3m
Myrsine australis	Matipo	Bushy, dense	3m
Olearia lineata 'Dartonii'	Twiggy Tree Daisy	Bushy, dense	3m
Olearia paniculata	Akiraho	Bushy, dense, upright	4m
Phormium tenax	Swamp Flax Harakeke	Upright strappy leaf	3.5m
Pseudopanex lessonii	Houpara	Dense, large leaf	2.5m

Olearia paniculata

Coprosma virescens

Myrsine australis

Austroderia fulvida

Phormium tenax

Olearia lineata

Pseudopanex lessonii

TABLE C: PROPOSED PLANT LIST AND QUANTITIES

	AREA A	AREA B	AREA C	AREA D	AREA E	AREA F	
ROW	Single	Double	Single	Single	Double	Single	
APPROX. LENGTH	240m	220m	146m	210m	83m	200m	**TOTAL**
SPACING	@1.8m	@1.5m	@1.8m	@1.8m	@1.5m	@2.5m	**QUANTITY**
Austroderia fulvida	28	28	12	12	12	24	**116**
Coprosma virescens		14		10	4		**28**
Myrsine australis		16	6	16	3		**41**
Olearia lineata Dartonii	21	20	7	18	7		**73**
Olearia paniculata		20	10	20	7		**57**
Phormium tenax	84	40	46	40	18	56	**284**
Pseudopanex lessonii		8			4		**12**
TOTAL	**133**	**146**	**81**	**116**	**55**	**80**	**611**

FIGURE 2: EXAMPLE OF DOUBLE ROW LAYOUT (AREAS B & E)

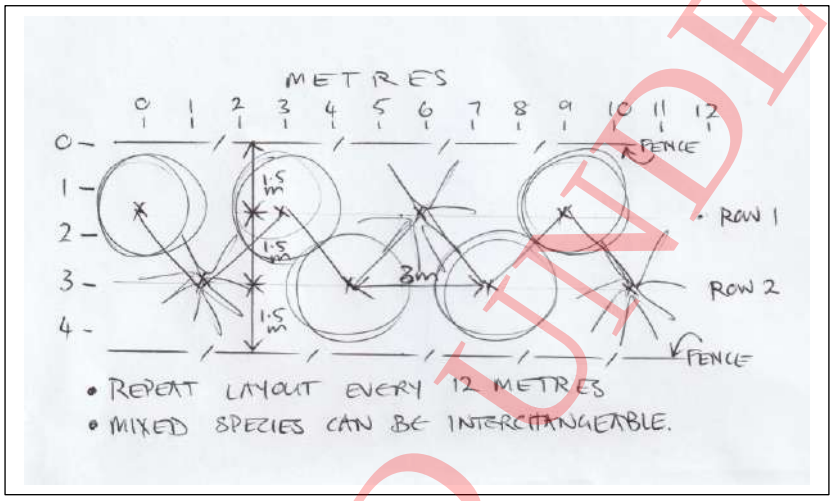
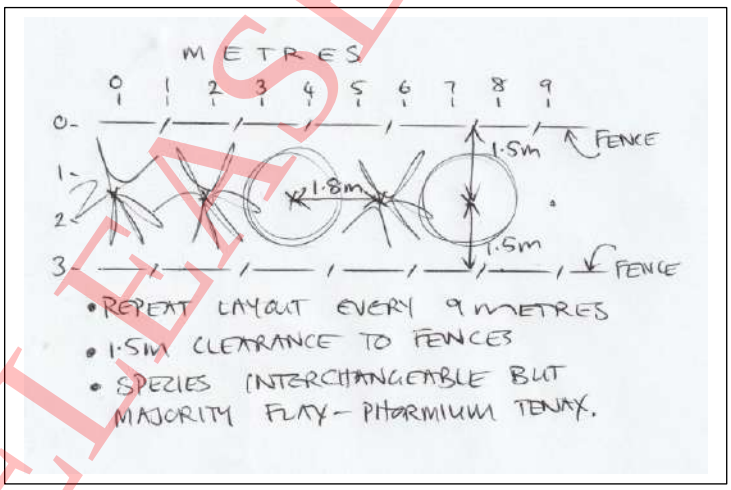


FIGURE 3: EXAMPLE OF SINGLE ROW LAYOUT (AREAS A,C,D)



RECOMMENDED METHOD:

1. Spot spray pre-planting.
2. All plants EXCEPT Phormium (flax) may require a plastic combo guard or similar to protect them from hares and rabbits. Depends on size at planting.
3. Any plants over 600mm at planting time will require a treated, pointed wooden stake 750mm x 200mm x200mm. Place to the NW side of the plant. Soft flexible plant ties.
4. All plants require a slow-release fertiliser tablet (eg Agrisorb) at planting, plus half a cup of expanded water gel crystals in the base of the hole.
5. Mulch every plant with bark mulch (25mm grade or Arborist grade) in a circle at least 600mm diameter.
6. All plants will require release spraying and checking of ties at least every 3 months for the first year, thereafter 6 monthly until 2 years old, at least.
7. Plant within the months April to September, and no watering system should be required.
8. Replacement of dead or diseased plants within the next planting season.

Appendix E

SC 4000 UP / SC 4200 UP / SC 4400 UP / SC 4600 UP

Efficient

- Up to 4 inverters can be transported in one standard shipping container
- Overdimensioning up to 150% is possible
- Full power at ambient temperatures of up to 35°C

Robust

- Intelligent air cooling system OptiCool for efficient cooling
- Suitable for outdoor use in all climatic ambient conditions worldwide

Flexible

- One device for all applications
- DC-coupled battery-storage system, optionally including charging from the utility grid

Easy to Use

- Improved DC connection area
- Connection area for customer equipment
- Integrated voltage support for internal and external loads

SUNNY CENTRAL UP

The new Sunny Central: more power per cubic meter

With an output of up to 4600 kVA and system voltages of 1500 V DC, the SMA central inverter allows for more efficient system design and a reduction in specific costs for PV and battery power plants. A separate voltage supply and additional space are available for the installation of customer equipment. True 1500 V technology and the intelligent cooling system OptiCool ensure smooth operation even in extreme ambient temperature as well as a long service life of 25 years.

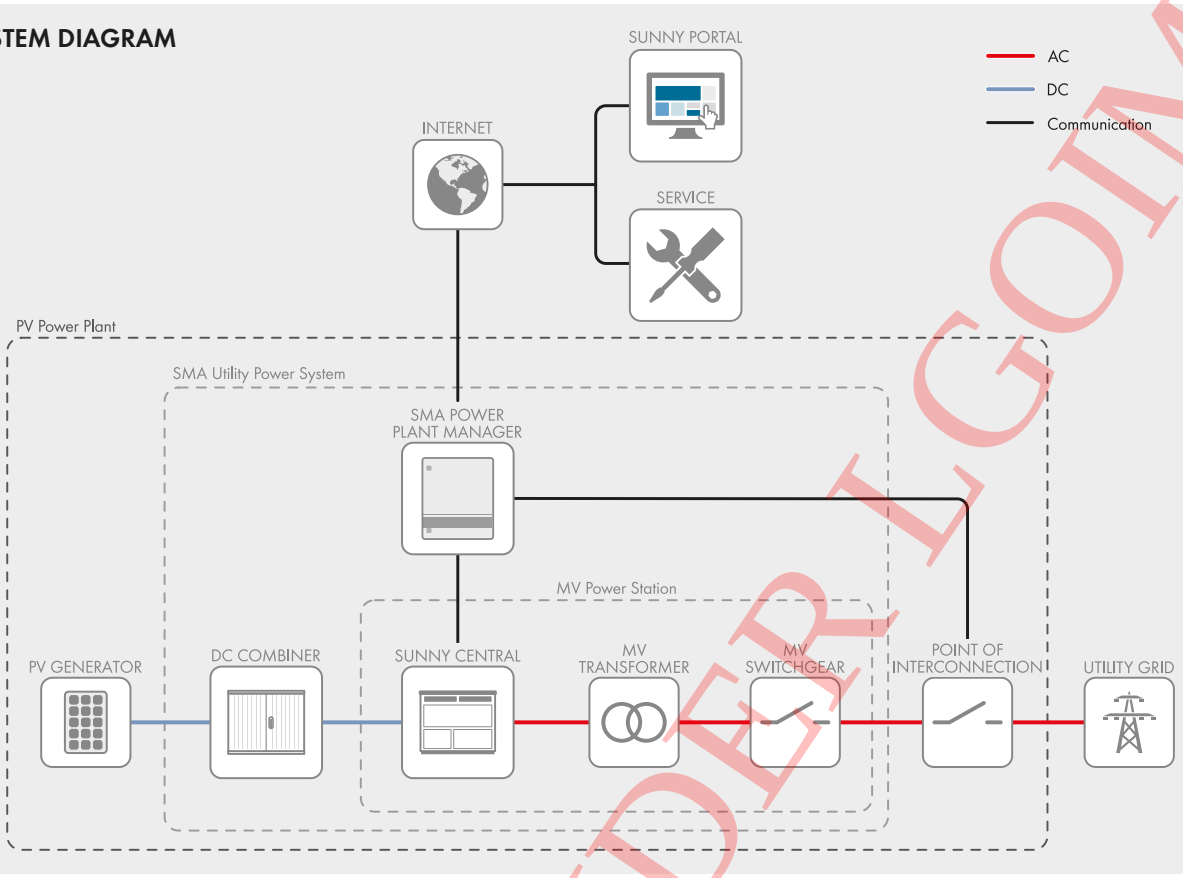
SUNNY CENTRAL UP

Technical Data	SC 4000 UP	SC 4200 UP
DC side		
MPP voltage range V_{DC} (at 25 °C / at 50 °C)	880 to 1325 V / 1050 V	921 to 1325 V / 1050 V
Min. DC voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	849 V / 1030 V	891 V / 1071 V
Max. DC voltage $V_{DC, max}$	1500 V	1500 V
Max. DC current $I_{DC, max}$	4750 A	4750 A
Max. short-circuit current $I_{DC, SC}$	8400 A	8400 A
Number of DC inputs	Busbar with 26 connections per terminal, 24 double pole fused (32 single pole fused)	
Number of DC inputs with optional DC coupled storage	18 double pole fused (36 single pole fused) for PV and 6 double pole fused for batteries	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available PV fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Available battery fuse size (per input)	750 A	
AC side		
Nominal AC power at cos φ =1 (at 35°C / at 50°C)	4000 kVA[12] / 3600 kVA	4200 kVA[12] / 3780 kVA
Nominal AC active power at cos φ =0.8 (at 35°C / at 50°C)	3200 kW[12] / 2880 kW	3360 kW[12] / 3024 kW
Nominal AC current $I_{AC, nom}$ (at 35°C / at 50°C)	3850 A / 3465 A	3850 A / 3465 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range[1] [8]	600 V / 480 V to 720 V	630 V / 504 V to 756 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Min. short-circuit ratio at the AC terminals[9]	> 2	
Power factor at rated power / displacement power factor adjustable[8] [10]	1 / 0.8 overexcited to 0.8 underexcited	
Efficiency		
Max. efficiency[2] / European efficiency[2] / CEC efficiency[3]	98.8% / 98.6% / 98.5%	98.8% / 98.7% / 98.5%
Protective Devices		
Input-side disconnection point	DC load break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I & II	
AC overvoltage protection (optional)	Surge arrester, class I & II	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	○	
Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP54 / IP34 / IP34	
General Data		
Dimensions (W / H / D)	2815 / 2318 / 1588 mm (110.8 / 91.3 / 62.5 inch)	
Weight	< 3700 kg / < 8158 lb	
Self-consumption (max.[4] / partial load[5] / average[6])	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 370 W	
Internal auxiliary power supply	○ Integrated 8.4 kVA transformer	
Operating temperature range (optional)[8]	(−40 °C) −25°C to 60°C / (−40 °F) −13°F to 140°F	
Noise emission[7]	65.0 dB(A)	
Temperature range (standby)	−40°C to 60°C / −40°F to 140°F	
Temperature range (storage)	−40°C to 70°C / −40°F to 158°F	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL[8] 1000 m / 2000 m[11] / 3000 m[11]	● / ○ / ○	● / ○ / –
Fresh air consumption	6500 m³/h	
Features		
DC connection	Terminal lug on each input (without fuse)	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Master, Modbus Slave	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply for external loads	○ (2.5 kVA)	
Standards and directives complied with	AR-N 4110, AR-N 4120[13], Arrêté du 23/04/08, CE, IEC / EN 62109-1, IEC / EN 62109-2, IEEE1547, UL 840 Cat. IV	
EMC standards	IEC 55011, IEC 61000-6-2, FCC Part 15 Class A	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	
● Standard features ○ Optional – not available		
Type designation	SC 4000 UP	SC 4200 UP

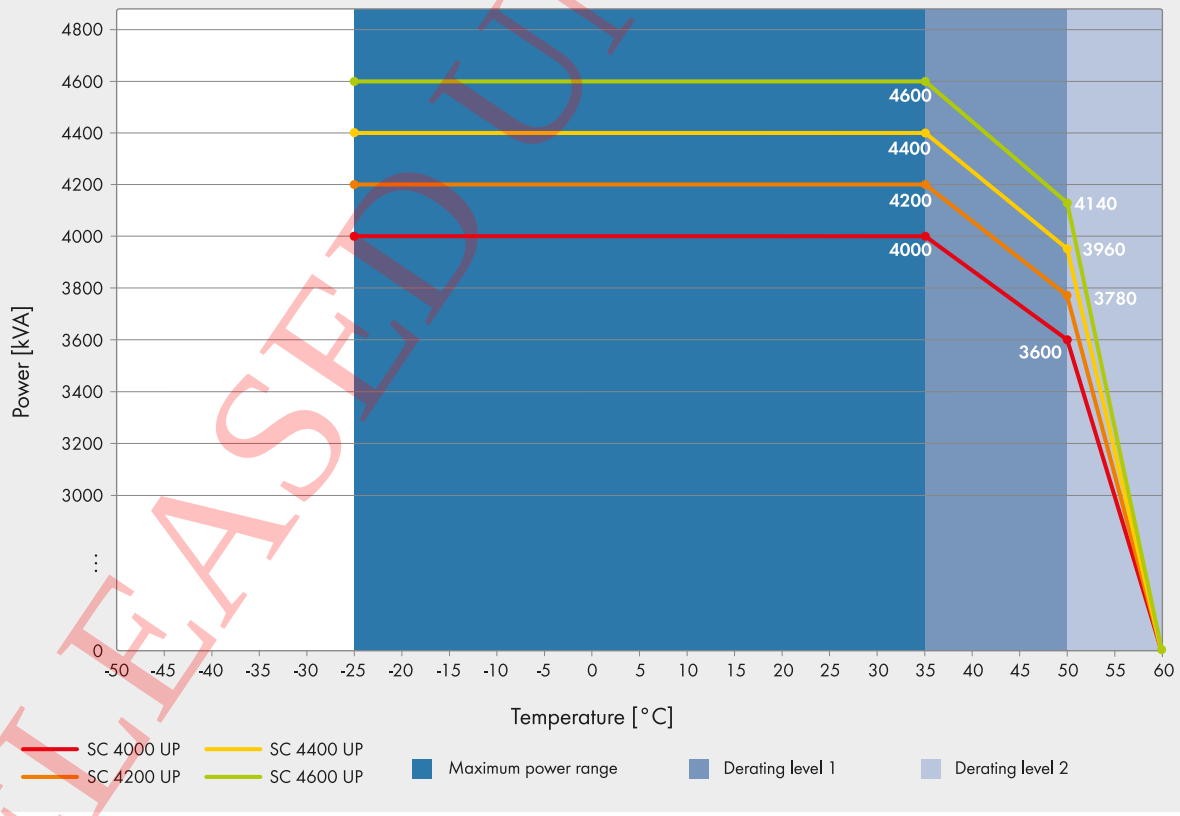
1) At nominal AC voltage, nominal AC power decreases in the same proportion
2) Efficiency measured without internal power supply
3) Efficiency measured with internal power supply
4) Self-consumption at rated operation
5) Self-consumption at < 75% Pn at 25°C
6) Self-consumption averaged out from 5% to 100% Pn at 25°C
7) Sound pressure level at a distance of 10 m
8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.
9) A short-circuit ratio of < 2 requires a special approval from SMA
10) Depending on the DC voltage
11) Earlier temperature-dependent de-rating and reduction of DC open-circuit voltage
12) Nominal AC power at 35°C achievable up to a maximum of 1050 V_{DC}
13) except SC 4600 UP

Technical Data	SC 4400 UP	SC 4600 UP
DC side		
MPP voltage range V_{DC} (at 25 °C / at 50 °C)	962 to 1325 V / 1050 V	1003 to 1325 V / 1050 V
Min. DC voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	934 V / 1112 V	976 V / 1153 V
Max. DC voltage $V_{DC, max}$	1500 V	1500 V
Max. DC current $I_{DC, max}$	4750 A	4750 A
Max. short-circuit current $I_{DC, SC}$	8400 A	8400 A
Number of DC inputs	Busbar with 26 connections per terminal, 24 double pole fused (32 single pole fused)	
Number of DC inputs with optional DC coupled storage	18 double pole fused (36 single pole fused) for PV and 6 double pole fused for batteries	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available PV fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Available battery fuse size (per input)	750 A	
AC side		
Nominal AC power at cos φ =1 (at 35°C / at 50°C)	4400 kVA[12] / 3960 kVA	4600 kVA[12] / 4140 kVA
Nominal AC active power at cos φ =0.8 (at 35°C / at 50°C)	3520 kW[12] / 3168 kW	3680 kW[12] / 3312 kW
Nominal AC current $I_{AC, nom}$ (at 35°C / at 50°C)	3850 A / 3465 A	3850 A / 3465 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range[1) 8)]	660 V / 528 V to 759 V	690 V / 552 V to 759 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Min. short-circuit ratio at the AC terminals[9)]	> 2	
Power factor at rated power / displacement power factor adjustable[8) 10)]	● 1 / 0.8 overexcited to 0.8 underexcited	
Efficiency		
Max. efficiency[2)] / European efficiency[2)] / CEC efficiency[3)]	98.8% / 98.7% / 98.5%	98.9% / 98.7% / 98.5%
Protective Devices		
Input-side disconnection point	DC load break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I & II	
AC overvoltage protection (optional)	Surge arrester, class I & II	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	○	
Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP54 / IP34 / IP34	
General Data		
Dimensions (W / H / D)	2815 / 2318 / 1588 mm (110.8 / 91.3 / 62.5 inch)	
Weight	< 3700 kg / < 8158 lb	
Self-consumption (max.[4)] / partial load[5)] / average[6)])	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 370 W	
Internal auxiliary power supply	○ Integrated 8.4 kVA transformer	
Operating temperature range (optional)[8)]	(−40 °C) −25°C to 60°C / (−40 °F) −13°F to 140°F	
Noise emission[7)]	65.0 dB(A)	
Temperature range (standby)	−40°C to 60°C / −40°F to 140°F	
Temperature range (storage)	−40°C to 70°C / −40°F to 158°F	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL[8)] 1000 m / 2000 m[11)] / 3000 m[11)]	● / ○ / –	
Fresh air consumption	6500 m³/h	
Features		
DC connection	Terminal lug on each input (without fuse)	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Master, Modbus Slave	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply for external loads	○ (2.5 kVA)	
Standards and directives complied with	AR-N 4110, AR-N 4120[13)], Arrêté du 23/04/08, CE, IEC / EN 62109-1, IEC / EN 62109-2, IEEE1547, UL 840 Cat. IV	
EMC standards	IEC 55011, IEC 61000-6-2, FCC Part 15 Class A	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	
● Standard features ○ Optional – not available		
Type designation	SC 4400 UP	SC 4600 UP

SYSTEM DIAGRAM

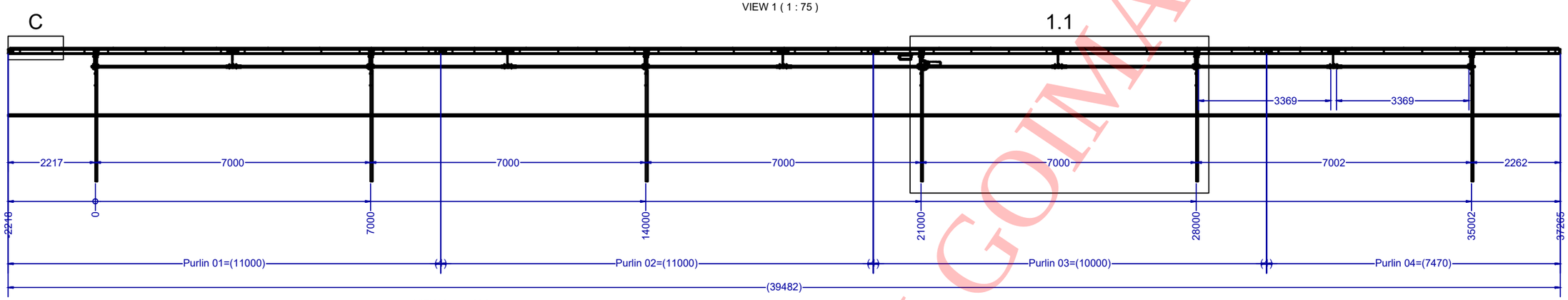


TEMPERATURE BEHAVIOR (at 1000 m)



Document 2

VIEW 1 (1 : 75)



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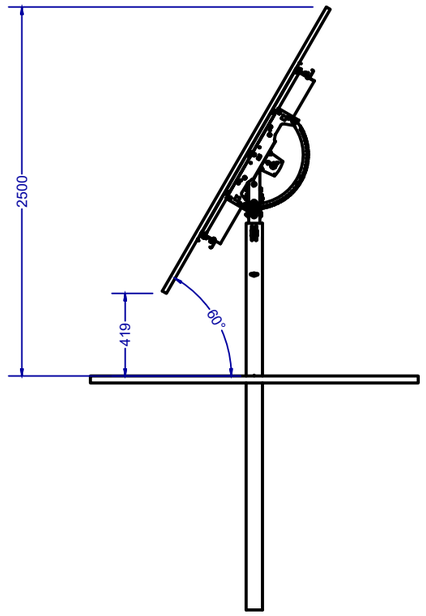
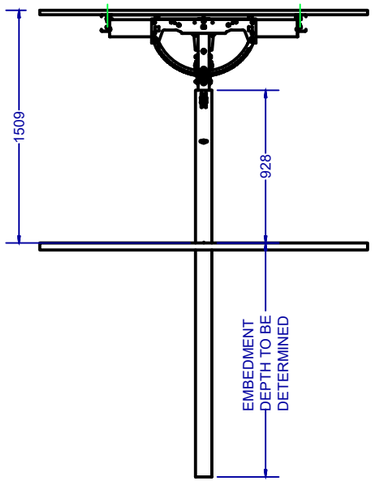
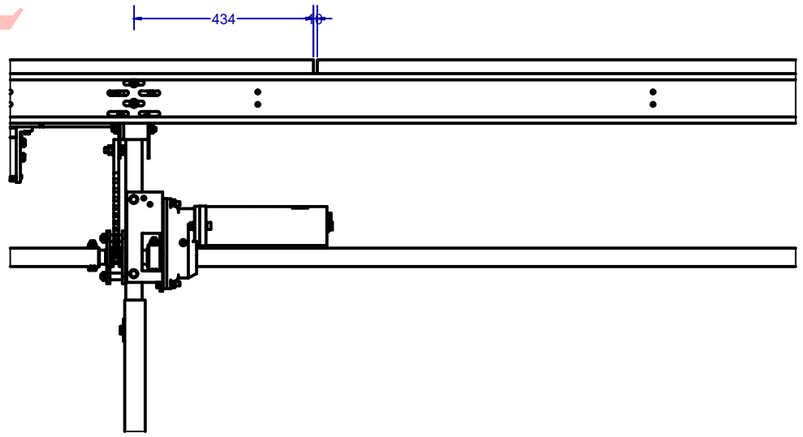


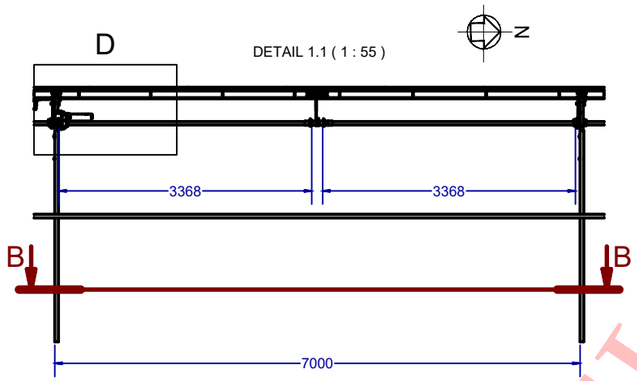
VIEW 2 (1 : 30)



DETAIL D (1 : 10)

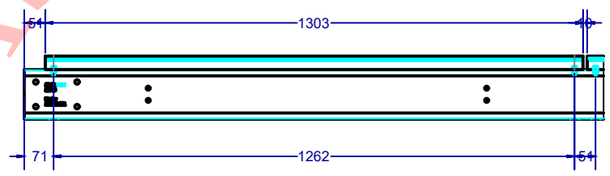


DETAIL 1.1 (1 : 55)



CUTAWAY VIEW B-B (1 : 55)

DETAIL C (1 : 10)



MODULE
2384x1303x33
PILE-DRIVEN FUNDATION
T1V Post C120-25
RAFTER
-
MOTOR
TGB

PRELIMINARY DESIGN

REV.	DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE

CLIENT:

ADDITIONAL INFORMATION:

UNITS:mm | SHEET SIZE: A3 | SCALE: NTS (U.N.O.) | PROJECTION:

LIGHTYEARS SOLAR
AUCKLAND, NEW ZEALAND
www.lightyearssolar.co.nz

DESIGNED:	SCHLETTER
DRAWN:	SCHLETTER
DATE:	18/07/2023
CHECKED:	-
APPROVED:	-

TITLE: NORFOLK ROAD SOLAR FARM
TRACKER - 30 MODULES
DETAILS

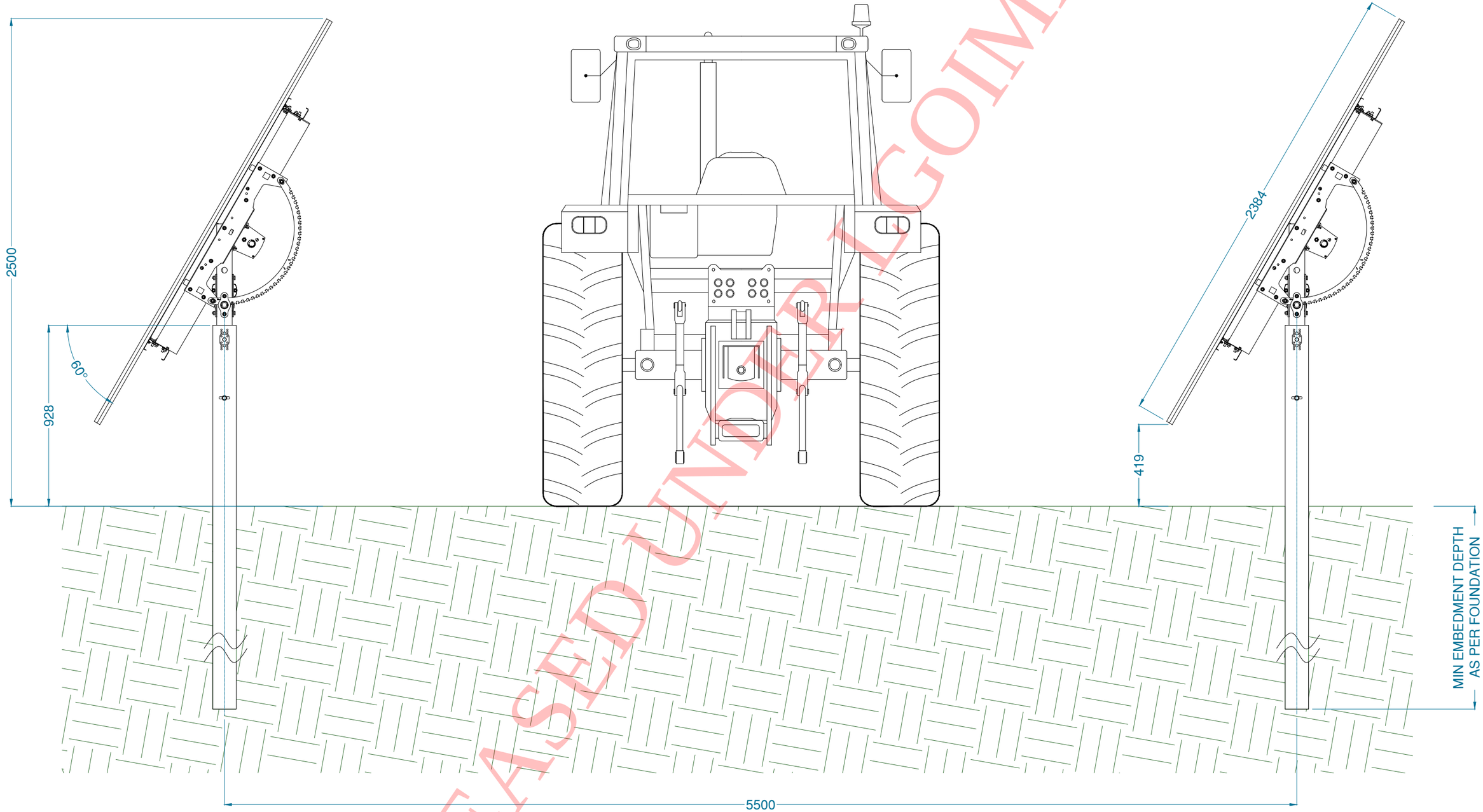
DRG. NO.: NRSF-302

REVISION: 0

PLOTTED:

NRSF-302

Document 3



PRELIMINARY DESIGN

REV.	DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE

CLIENT:

ADDITIONAL INFORMATION:

UNITS:mm | SHEET SIZE: A3 | SCALE: 1:20 (U.N.O.) | PROJECTION:

LIGHTYEARS SOLAR
AUCKLAND, NEW ZEALAND
www.lightyearssolar.co.nz

DESIGNED:	SCHLETTER
DRAWN:	S. SINGH
DATE:	09/05/2023
CHECKED:	-
APPROVED:	-

TITLE: NORFOLK ROAD SOLAR FARM
TYPICAL CROSS SECTION
MAXIMUM TILT

DRG. NO.: NRSF-012

REVISION: 0

NRSF-012

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Te Kaunihera-ā-Rohe o Taratahi
CARTERTON DISTRICT COUNCIL

CARTERTON DISTRICT COUNCIL

APPLICATION FOR RESOURCE CONSENT UNDER SECTION 88 OF RESOURCE MANAGEMENT ACT 1991

Application No: 230034

Consent Type: Landuse

Applicant: Light Years Solar

Proposal: Construct and operate a 4.5MW community scale solar farm.

Location: 331 Norfolk Road

Legal Description: Lot 1 Deposited Plan 533512

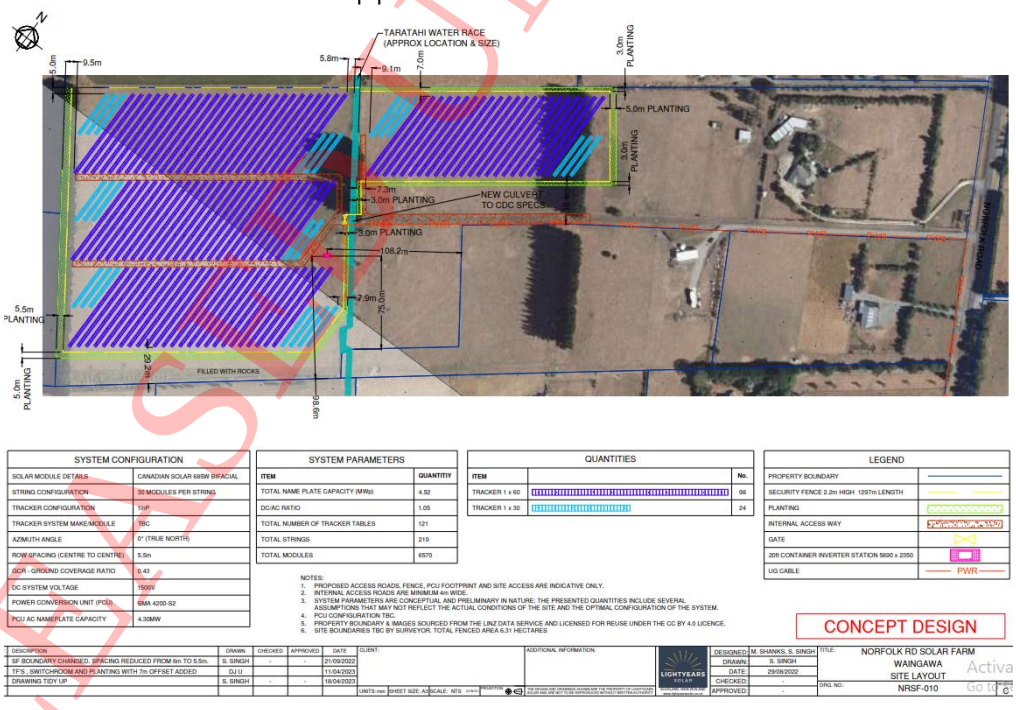
Zone: Rural (Primary Production) - Wairarapa Combined District Plan 2011

Management Area: None

Activity Status: Wairarapa Combined District Plan

Discretionary Activity

Approved Scheme Plan:



DECISION

That the Carterton District Council hereby grants consent, to application no. 230034 pursuant to Section 104A of the Resource Management Act 1991, subject to the following conditions:

CONDITIONS

That;

1. That the activity be undertaken in general accordance with the application and associated documentation including:
    - Assessment of Environmental Effects, Russell Hooper Consulting, 21 June 2023
    - Site Layout, Drawing number NRSF-010 Rev C, dated 29/08/2022
    - Cross Section, Drawing number NRSF-012 Rev O, dated 09/05/23
    - Details, Drawing number NRSF-312 Rev O, dated 18/07/23
    - Visual Mitigation Planting Proposal, Rachel Callaghan Landscape Architect, June 2023.

2. That costs, pursuant to Section 36 of the Resource Management Act 1991, be paid by the applicant.

3. The landscaping as detailed on the landscape plan prepared (Visual Mitigation Planting Proposal, Rachel Callaghan Landscape Architect, June 2023) must be implemented and established prior to the commencement of the activity.

4. Prior to any work commencing on the site the landscape plan is to be amended to provide planting as per (Visual Mitigation Planting Proposal, Rachel Callaghan Landscape Architect, June 2023) around the entire perimeter of the site.

5. The landscaping must be maintained thereafter in accordance with the planting proposal for the lifetime of the solar farm with any plant losses within this time being replaced and maintained for the duration of the consented activity to the satisfaction of Council.

6. The sound level from the activity shall not exceed 55 dba when assessed at any point within the notional boundary of any dwelling on any site within the Rural Zone.

7. Hours of operation for construction are limited from 7.30am to 6pm Monday to Saturday. No work may be undertaken on a Sunday or a Public Holiday.

Infrastructure

8. All infrastructure works shall be designed, constructed, installed, and commissioned in accordance with the following:
    - Carterton District Council's Land Development and Subdivision Infrastructure Guide. A copy of the latest revision can be found on the Council's website.
    - Wairarapa Combined District Plan 2019
    - New Zealand Standard NZS4404:2010 Land Development and Subdivision Infrastructure.

9. The consent holder shall submit an application to Carterton District Council for planting any trees and shrubs within 10m of a water race. Permission to plant trees and shrubs shall only apply to the species outlined in the application. The application form can be obtained from Carterton District Council upon request. A non-refundable administration fee will be calculated and payable at the time of such an application.

10. Plant species such as pinus radiata, poplar and willow will not be permitted within 10m of the water race. A list of acceptable trees and shrubs that can be planted within 10m of a water race is outlined in the document titled *Guidelines for Water Race Property Owners* and is available on the Council's website.

11. The internal access road shall not obstruct the water race channel. Unless a specific design is approved by Carterton District Council, culvert pipes and end treatments shall be sized appropriately for the catchment intercepted and shall be the greater of

    - the diameter of any existing culvert pipes, or
    - an internal diameter or width that is at least as wide as the channel at the point at which the culvert is installed.

12. Specific designs for the proposed culvert shall be based on Section 4.3.9 from NZS4404:2010 unless an alternative is approved by Carterton District Council. The culvert shall be of suitable capacity and shall integrate the control of stormwater peak flows as set out in Section 4 of NZS4404:2010. Additionally, the maximum consented flush flow through the Taratahi Water Race is 800L/s.

13. The determination of operating condition for the proposed culvert shall be governed by the most restrictive of the two flow types, inlet control or outlet control. The headwater level shall not cause surcharge at the inlet unless the fill is part of a detention device or has been designed to act in surcharge.

14. Fish passage through culvert shall always be maintained. The culvert outlet shall ensure non-scouring velocities at the point of discharge and shall not exceed 2m/s without specific provision for energy dissipation and velocity reduction.

15. The consent holder shall provide Council relevant design and construction documentation including drawings, specifications, and calculations in accordance with Section 1.8 NZS4404:2010 prior to construction of the culvert pipeline.

    Any design documentation submitted to Carterton District Council shall include a design certificate in the form of the certificate in Schedule 1A of NZS4404:2010.

Easements and Covenants

16. That any and all easements and other covenants be carried through to the subsequent Certificates of Title.

Advice Notes

1. If any archaeological site deposits are identified during any development of the land, the owner/contractor should act in good faith and avoid effect to the deposits and contact the Historic Places Trust, Rangitaane o Wairarapa, and Ngati Kahungunu Ki Wairarapa Taiwhenua immediately. Under Section 87 of Heritage New Zealand Pouhere Taonga Act 2014, it is an offence to destroy, damage or modify an archaeological site (recorded or unrecorded) without an authority from the Trust, and a fine of up to $300,000 may be imposed on an offender.

2. Work within road reserve, underground or overhead, must have approval in writing from the administering authority, in this instance Council. *Note: The road reserve is that section of land sandwiched between legally defined private property boundaries and it includes the grassed berms, footpaths and the carriageway*

The Council grants the Consent for the following reasons:

i) The effects of the proposal, with the conditions imposed, are considered to be less than minor.

ii) The proposal is in accordance with the objectives and policies of the Wairarapa Combined District Plan, and with the purpose of the Act.

iii) No parties are considered to be adversely affected by the proposal.

SECTION 42A REPORT

1.0 APPLICATION

Site

This site is located at 331 Norfolk Road, Waingawa, just over 3km from the Norfolk Road / State Highway Two intersection.

The legal description of the property is Lot 1 Deposited Plan 533512 on record of title 876916 with an area of is 12.2ha. There is an easement providing right of way and services in favour of 327 Norfolk Road – Area A on DP 533512.

The site is an "L" shaped lifestyle block on the southwestern side of Norfolk Road. There is an established house and associated sheds approximately 130m back from Norfolk Road and a second house under construction in between this house and the road. With the buildings on the front half of the site, the back of the site is used for grazing cattle. The site is flat with gardens established around the dwelling. There are three established pine shelterbelts running in a northwest-southeast direction. One along the rear boundary and two within the site. A section of the Taratahi water race runs through the mid part of the site in a northwest to southeast direction.

Surrounding sites are lifestyle blocks with a larger farm property adjoining to the north (371 Norfolk Road). The sites adjoining to the east and south are accessed from Jordan Road and Maungahau Road and all contain residential dwellings.

The site is zoned Rural (Primary Production) and there are no hazards identified within, or in close proximity to the site.

Proposal

This proposal is for a 6.5ha community scale solar farm generating 4.5MW to be established at the rear of the site.

The objective of the project is to develop a safe, reliable, compliant, and efficient ground mount renewable solar generation plant within proximity to Powerco's Norfolk Zone substation which feeds the Waingawa Industrial Area.

The solar farm will produce clean electrical energy and offset electricity produced elsewhere in New Zealand using fossil fuels, producing enough energy to power approximately 1,000 homes per year. The solar farm sends the energy it creates directly into the power grid.

The project will have a net carbon benefit of 25,000t CO2 (offsetting this amount of carbon producing power generation in the NZ grid). This project directly aligns with New Zealand's emissions reduction strategy by providing investment in renewable electricity generation to assist New Zealand transition to a low emissions future and meet its climate change targets.

This project is being designed to meet the definition of an "agrivoltaic" project or "dual-use" solar farm, a facility that is designed to continue the agricultural use of

the property at the same time as harvesting power via the solar panels. In this case, sheep will be grazed amongst the solar panels.

The solar farm will consist of solar panels, an inverter station, and underground cabling connecting the panels to the inverter station and out to a transformer in Norfolk Road before connection to the 11kV lines fronting the site. There will also be associated fencing, landscaping, and access.

The solar panels convert incoming sunlight into electrical power using the photo-voltaic (PV) principle. The power is collected with wires between each panel and sent to a power conversion unit (inverter station). The power is then converted to the voltage of the local Powerco network through a transformer. Solar power is quiet and has few moving parts. The solar farm sends the energy it creates directly into the power grid. The project will provide a net carbon benefit (offsetting carbon producing power generation in the NZ grid).

Each solar panel is 2.4m long and 1.3m in width. Approximately 10,380 solar panels will be installed on steel piles with steel and aluminium framing in rows up to 90m in length. The rows have a 5.5m spacing between the support posts. The proposed panels are bi-facial type which means they generate electricity from both sides of the panel – from direct sunlight on the front and reflected sunlight off the ground onto the rear of the panel. Each row of panels is attached to a solar tracking system and will tilt throughout the day to capture the maximum amount of sunshine. The panels will have a maximum height of 2.5m above ground when fully tilted (morning and evening).

Each panel is connected via underground cabling to a single inverter station. This inverter station converts the direct current (DC) electricity generated by the panels to alternating current (AC) electricity so it can be used in homes and businesses. The inverter station also contains the site transformer and electrical switchgear to protect the equipment in case of any fault or disconnect the system from the grid during maintenance activities. The inverter station is located centrally within the site.

The area containing the solar panels will be fenced from the rest of the site with deer netting (2.2m high) as a security measure. Outside of the fencing, planting will be established to soften the site. The species selected are a mix of the following species; (Austroderia fulvida (toe toe), Coprosma virescens C. rhaminoides, Olearia lineata Dartonii, Olearia paniculate, Phormium tenax (swamp flax)). The existing pine trees will be removed.

Access to the site will be via the existing entrance and metaled driveway to the rear. Internal metaled access tracks will be established as shown on the site plan. A new culvert will be established across the section of water race.

The construction phase of the solar farm is expected to take less than six months. This will include establishing the landscaping, fencing, access, panels, inverter station, and cabling out to the new transformer in Norfolk Road.

The day-to-day operation is minimal. The inverter station monitors the site for faults and remotely alerts the operators. A routine visit of the site would occur at a minimum of three-monthly intervals. The panels require cleaning every 3 months.

The land beneath the panels will be grazed with sheep by the landowner and no mowing is required.

The panels and equipment are manufactured to have a working lifespan of 30 years. At the end of this lifespan the panels will either be replaced, or the entire solar farm removed and the land returned to its current use.

Activity Status

In the context of assessment under the District Plan this proposal is for a (solar) "energy generation facility". Therefore, an energy generation facility is the activity and equipment required to create the energy to be distributed by a network utility.

Network Utility and Energy Generation Facilities
Rule 21.1.24 (a) The construction, maintenance and upgrading of network utilities and energy generation facilities which meets the following standards.
It is noted that none of the standards are relevant in this section. The most relevant is for an existing energy generation facility.

As such the proposal is considered a Discretionary Activities under Rule 21.6 (a) as the activity does not comply with the standards for permitted activities or is otherwise not specified as a controlled, or restricted discretionary activity.

Rural Zone
Rule 4.5.5(c) The proposal is a Restricted Discretionary Activity for the construction or use of a building over 25m^2 in gross floor area. The solar panels are defined as a building.

Overall, the proposal is a **Discretionary Activity.**

2.0 S95A – 95F NOTIFICATION ANALYSIS AND DETERMINATION

2.1 Public Notification

1: Mandatory Public Notification (s95A Step 1)
Public Notification is required when the application meets any of the following criteria;

- The applicant has requested public notification,
- Public notification is required under s95C of the Act (relating to a requests for further information),
- The application been made jointly with an application to exchange recreation reserve land under section 15AA of the Reserves Act.

The above provisions do not apply to this proposal.

2: Public notification precluded in certain circumstances (s95A Step 2)
If not required by Step 1 above, Public Notification is precluded in certain circumstances when the application meets either of the following criteria;

- *All activities in the application are subject to one or more rules or national environmental standards that preclude public notification.*
- *The application is for one or more of the following, but no other, types of activities:*
  - *a controlled activity,*

- *a restricted discretionary, discretionary activity or non-complying activity that is a boundary activity,*

The application is for none of the above and as such is not precluded under step 2.

3: Public notification required in certain circumstances (s95A Step 3)
If not precluded in Step 2 above, Public Notification is required in certain circumstances when the application meets either of the following criteria;

- *Any activity in the application is subject to a rule or national environmental standard that requires public notification,*
- *The activity has, or is likely to have, adverse effects on the environment that are more than minor in accordance with s95D of the Act.*

The application is for a discretionary activity. The application has demonstrated that it is not anticipated that the proposed Solar Farm will have any adverse effects on the environment which are more than minor. As such public notification is also precluded under step 3.

4: Public notification in special circumstances (s95A Step 4)
If special circumstances exist in relation to the application that warrant public notification then the application must be publicly notified.

No special circumstances have been identified that would warrant public notification of the application.

2.2 Limited Notification

If public notification is not required, the Council must then determine whether there are any affected persons that would warrant limited notification under Section 95B(1).

1: Certain affected groups and affected persons must be notified (s95B Step 1)
An application shall be notified to each affected person/group if it meets any of the following criteria;

- *There are affected protected customary rights groups,*
- *There are affected customary marine title groups (in the case of an application for a resource consent for an accommodated activity),*
- *The proposed activity is on or adjacent to, or may affect, land that is the subject of a statutory acknowledgement made in accordance with an Act specified in Schedule 11 of the Act; and the person to whom the statutory acknowledgement is made is affected under s95E of the Act.*

The above provisions do not apply to this proposal.

2: Limited notification precluded in certain circumstances (s95B Step 2)
If not required by Step 1 above, Limited Notification is precluded in certain circumstances when the application meets either of the following criteria;

- *All activities in the application are subject to one or more rules or national environmental standards that preclude limited notification.*
- *The application is for either or both of the following, but no other activities:*
  - *a controlled activity, that requires consent under a district plan (other than a subdivision)*
  - *an activity prescribed by regulations made under section 360H(1)(a)(ii) of the Act (if any) precluding limited notification*

The above provisions do not apply to this proposal, therefore Step 3 below must be considered.

3. Certain other affected persons must be notified (s95B Step 3)
If not precluded by Step 2 above, the following affected persons must be notified;

- *In the case of a boundary activity, an owner of an allotment with an infringed boundary*
- *A person prescribed in regulations made under s360H(1)(b) of the Act (if any) in respect of the proposed activity*
- *For other activities, "affected persons" under s95E of the Act.*

Under Section 95(E) of the Act, Council must consider a person to be affected if the activity's adverse effects on that person are minor or more than minor unless an activity with that effect is permitted by a Rule or NES, the effect is not within the matters of control or discretion or that person has given written approval to the proposed activity. No written approval have been received.

The applicant has provided an Assessment of Environmental Effects, a Visual Assessment, and a Visual Mitigation Planting Assessment assessing the proposed Solar Farm. Any adverse effect on the open rural character and amenity of the surrounding area are considered to be less than minor.

In terms of a permitted baseline, it is considered there are other rural primary production activities which could have a similar visual impact on the environment as the proposed solar farm. This could include such activities as the netting over an orchard or large rural sheds.

It is acknowledged that the solar farm will lead to a change to the visual character of the site, and this will be visible from surrounding sites. The applicant is proposing a number of measures to mitigate the visual impact of the solar farm;
• Scale of the solar farm (contained within a singular farm).
• Height of solar panels (no higher than 2.5m).
• Landscape planting will be established to soften and screen the solar panels from neighbouring properties.

Further the proposed inverter station is a relatively small structure located centrally within the solar farm and the proposed deer fence is considered a common sight in the rural environment.

Construction, noise, traffic and associated effects will all to be rural standards. Given the above the adjacent property owners and occupiers are considered to be at a sufficient distance whereby effects are less than minor.

The application is for a discretionary activity the application has demonstrated that any adverse effects on the surrounding environment are less than minor. Under Section 95(e), no parties are considered to be adversely affected by the proposal.

4: Limited notification in special circumstances (s95B Step 4)
If special circumstances exist in relation to the application that warrant notification to any persons not already determined to be eligible for limited

notification (excluding persons considered not affected under s95E) then the application must be notified to these persons.

It is considered that no special circumstances exist.

Notification conclusion

The application is for a discretionary activity the application has demonstrated that any adverse effects on the surrounding environment are less than minor. Under Section 95(e), no parties are considered to be adversely affected by the proposal.

The application does not trigger any of the steps requiring either public or limited notification and as such this application can be processed on a non-notified basis pursuant to section 95A-95B of the Resource Management Amendment Act 2009.

3.0 S104 ASSESSMENT

The relevant statutory provisions that were considered are the Resource Management Act 1991, the National Environment Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (NES), the Regional Policy Statement and the Wairarapa Combined District Plan.

3.1 National Environment Standards for Assessing and Managing Contaminants in Soil to Protect Human Health

The National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health has been considered because there will be minor soil disturbance associated with construction of the project.

Historical aerial photography from www.retrolens.nz shows that this site has always been pasture. There are no stockyards or other structures that would indicate a HAIL site are visible in the available photographs.

The site is not listed on Greater Wellington's Selected Land Use Register (SLUR). Given that there is no evidence of the site being a HAIL site, the NES-CS is not applicable to this application.

3.2 National Policy Statement for Renewable Electricity Generation 2011

The National Policy Statement for Renewable Electricity Generation 2011 (NPS-REG) responds to the need to develop, operate, maintain and upgrade renewable electricity generation activities throughout New Zealand and that the benefits of renewable electricity generation being matters of national significance in New Zealand.

The NPS-REG is directly relevant to the assessment of this proposal for a community scale renewable energy generation facility.

3.3 Wellington Regional Policy Statement (RPS)

The Wellington Regional Policy Statement (RPS) became operative on the 24th of April 2013. The RPS is designed to achieve the purpose of the RMA by providing

an overview of the resource management issues for the region, and stating the policies and methods required to achieve the integrated management of the region's natural and physical resources.

Energy is one of the themes set out in RPS and the objectives and policies are considered relevant to the assessment of this proposal.

3.4 Wairarapa Combined District Plan

The Wairarapa Combined District Plan became operative on 25 May 2011.

4.3.1 Objective Rur1 – Protection of Rural Character & Amenity
To maintain and enhance the amenity values of the Rural Zone, including natural character, as appropriate to the predominant land use and consequential environmental quality of different rural character areas within the Wairarapa.

4.3.2 Rur1 Policies
(a) Identify areas within the Rural Zone where the predominant land use is primary production, which needs to operate and develop effectively – Rural (Primary Production) Zone.
(b) Identify areas within the Rural Zone in which there are particular land use issues that require specific management approaches, including urban growth, flood hazards, and the operational requirements of key infrastructural facilities and intensive primary production activities – Rural (Special) Zone.
(c) Maintain and enhance the amenity values, including natural character, of the differing Rural character areas through appropriate controls over subdivision and the bulk, location and nature of activities and buildings, to ensure activities and buildings are consistent with the rural character, including an appropriate scale, density and level of environmental effects.

4.3.4 Objective Rur2 – Provision for Primary Production and Other Activities
To enable primary production and other land uses to function efficiently and effectively in the Rural Zone, while the adverse effects are avoided, remedied, or mitigated.

4.3.5 Policies Rur2
(b) Provide for other land uses as permitted activities in the Rural (Primary Production) Zone and Rural (Special) Zone, subject to such environmental standards as necessary to avoid, remedy or mitigate any adverse effects.
(c) Ensure activities that are potentially sensitive to the adverse external effects of primary production and other activities, particularly those activities with significant external effects, are either appropriately sited, managed or restricted to avoid or mitigate these effects.

4.3.7 Objective Rur3 – Interzone Management
To ensure the amenity values of adjoining zones are reasonably protected from the adverse effects of activities within the Rural Zone.

4.3.8 Rur3 Policy
(a) Manage the effects of Rural Zone activities to ensure that the environmental qualities and characteristics in the adjoining zones are not unreasonably degraded, bearing in mind their location adjacent to a functioning primary production environment.

16.3.4 Objective NUE2 – Energy Generation and Efficiency
To move the Wairarapa towards a sustainable energy future by encouraging energy efficiency and the generation of energy from renewable sources.

NUE2 Policies
(b) Recognise the local, regional and national benefits to be derived from renewable energy generation.
(c) Recognise and manage appropriate development of the Wairarapa's significant potential renewable energy resource.
(d) Provide for renewable energy generation while, as far as practicable, avoiding, remedying or mitigating the adverse effects, particularly of large scale and/or prominent facilities.
(e) Recognise and promote the use of environmental management codes of practice and best practice methods in energy generation, distribution and use.
(f) Recognise the technical and operational requirements of energy generation and distribution and its benefits to the wellbeing of the Wairarapa when setting and implementing appropriate environmental standards to avoid, remedy or mitigate the adverse effects on the environment and when assessing applications for resource consent.
(g) Manage subdivision and land use activities to avoid adverse effects on the efficient operation of established energy generation facilities.

19.3.1 Objective GAV1 – General Amenity Values
To maintain and enhance those general amenity values which make the Wairarapa a pleasant place in which to live and work, or visit.

19.3.2 GAV1 Policies
(a) Recognise that temporary activities generally have a minor effect on amenity due to their short duration, provided that some limitations are imposed as necessary to avoid significant, albeit short-term, effects.
(b) Control the levels of noise, based on existing ambient noise and accepted standards for noise generation and receipt.
(d) Ensure vibrations occurring through the use of equipment or machinery does not cause adverse effects on the comfort of occupants of adjacent properties.
(f) Manage activities with unacceptable visual effects on amenity values, in accordance with the qualities of each environmental zone. As a guide to determining if an activity has unacceptable visual effects, consideration will be given to other policies relevant to a particular activity or environmental zone.
(g) Manage the levels of odour and dust by avoiding inappropriate odours and dust from adversely affecting sensitive activities on adjoining properties.

It is considered that the application is not contrary to the above objectives and policies. A full District Plan assessment is provided below. The activity itself is a Discretionary Activity. The applicant has provided significant documentation describing mitigating aspects of the operation.

3.4 District Plan Analysis

This proposal is for a 6.5ha community scale solar farm generating 4.5MW to be established at the rear of the site at 331 Norfolk Road.

The solar farm will consist of solar panels, an inverter station, and underground cabling connecting the panels to the inverter station and out to a transformer in Norfolk Road before connection to the 11kV lines fronting the site. There will also be associated fencing and landscaping.

Each solar panel is 2.4m long and 1.3m in width. Approximately 10,380 solar panels will be installed on steel piles with steel and aluminium framing in rows up to 90m in length. The rows have a 5.5m spacing between the support posts. The panels will have a maximum height of 2.5m above ground when fully tilted (morning and evening).

The applicant has provided an Assessment of Environmental Effects, a Visual Assessment, and a Visual Mitigation Planting Assessment.

In terms of a permitted baseline, it is considered there are other rural primary production activities which could have a similar visual impact on the environment as the proposed solar farm. Examples of these activities are as follows;
- Netting over an orchard,
- Large rural sheds

The area surrounding the site to some extent is developed and these surrounding properties creates an environment which has built development. The solar farm will lead to a change to the visual character of the site and this will be visible from surrounding sites. The applicant is proposing a number of measures to mitigate the visual impact of the solar farm;
- Scale of the solar farm (contained within a singular farm).
- Height of solar panels (no higher than 2.5m).
- Landscape planting will be established to soften and screen the solar panels from neighbouring properties.

The proposed inverter station is a relatively small structure located centrally within the solar farm and the proposed deer fence is considered a common sight in the rural environment.

Planting of most of the perimeter of the solar farm is proposed so that the solar farm is screened from all surrounding houses. Landscape Architect Rachel Callaghan provided a landscaping plan and input into the proposal and notes the distance from adjacent dwellings bounding the site averages 135m. The height of proposed panels will not exceed 2.5m, therefore from that distance the panels are relatively unobtrusive and easy to screen with planting.

The species selected as part of the landscape plan provide quick growth and are hardy enough to survive the summer dry conditions in this location without irrigation. The species to be used will grow tall enough to screen the 2.5m panels but not tall enough to disrupt neighbour's view of the Tararua Ranges (particularly from the Maungahau Road properties).

Overall, the proposal will change the visual landscape of the property with the proposed solar panels, however when considering the permitted baseline and mitigation measures as outlined above it is considered the visual effects will be less than minor and overall acceptable.

The proposed solar panels have been designed to absorb sunlight and reduce glare effects; the panels follow the sun so that any glare produced would be directed back at the sun. As such any glare effects will be less than minor and therefore acceptable.

Noise from the site will be split into construction noise and operational noise. Construction noise will consist of delivering the solar farm components to the site and establishing them. The main construction noise will be ramming of the support posts and fencing. This will occur during normal working hours and will comply with construction noise standard (NZS 6803:1999). It will be a similar process to establishing a vineyard on the site and not beyond what could be expected in a working rural environment. Once constructed, the day to day operation noise will meet District Plan permitted standards in the rural zone. As such any noise effects will be less than minor and therefore acceptable.

The proposal will generate most traffic during the construction phase where components will be delivered to the site and contractors will come and go as the solar farm is built. The solar farm consists of a tracking system where the panels follow the sun automatically. Day to day visits to the site will be for routine checks and maintenance and repair reasons. Maintenance includes cleaning the panels every quarter. The applicant anticipates that maintenance of the solar farm will be limited to a routine visit every three months. Norfolk Road is an Arterial Road at this location and easily able to accommodate the low vehicle movements generated by the solar farm. As such any traffic effects will be less than minor and therefore acceptable.

There are no combustible materials on site so the risk of fire is minimal. The equipment will be installed by a qualified solar installer in accordance with applicable AS/NZS standards for safe electrical installations and solar installations. Long dry grass beneath the solar panels could potentially becoming a fire risk. However, the proposal is to graze the land beneath the solar panels with sheep. This will keep the grass under control and avoid the need for any mowing. A such adverse effects from fire risk are considered less than minor and therefore acceptable.

The inverter station will have a stormwater disposal system in accordance with the Building Act. The panels themselves will discharge directly to the ground. The site contains draining soils and there is not anticipated to be any change in stormwater patterns within the site after the panels are installed. As such any stormwater effects will be less than minor and therefore acceptable.

There are no identified archaeological features recorded on the New Zealand Archaeological Association's ArchSite in proximity to this area. The applicant states that should any archaeological features be identified during establishment of the project, appropriate discovery protocol will be followed involving Heritage New Zealand, Ngati Kahungunu ki Wairarapa and Rangitaane o Wairarapa representatives. Given that there are no archaeological features within the site and appropriate discovery protocols are to be followed, any adverse cultural effects are considered less than minor and therefore acceptable.

Overall adverse effects from the proposal are considered to be less than minor and therefore acceptable.

4.0 CONCLUSION

4.1 S104 Consideration/recommendation:

Having considered the application against the provisions set out under the above section, and specifically (i)-(iv) it is my assessment that there are no provisions within any national policy statement, national environment standard, or other regulation that are relevant to this application pursuant to Section 104A of the RMA and after having considered the application pursuant to section 104, including any actual and potential effects on the environment of allowing the activity, and the relevant provisions of the Regional Policy Statement and District Plan, the proposed activity can be granted resource consent.

4.2. S106 Consideration and recommendation

Consideration has been given to the matters set out under this section of the Act and nothing has been identified which would result in Council refusing this application or granting it subject to conditions in accordance with this section of the Act; therefore, this consent can be granted.

Reported and recommended by:

s 7(2)(a)

.....

Nick Eagle
Planning Consultant

Delegated Officer authorised for final approval by:

S Robertson.

.....

Solitaire Robertson
Manager, Planning and Regulatory

DATED at Carterton this 26th day of July 2023

For and on behalf of the
CARTERTON DISTRICT COUNCIL

Document 5

From: Russell Hooper
Sent: Monday, 5 June 2023 9:50 pm
To: Solitaire Robertson
Subject: Small Solar Farm Norfolk Road
Attachments: Solar Farm Permitted Activity_compressed.pdf
220103-Application-final-10012023.pdf
220103-s95-Decision-FINAL.pdf

Hi Solitaire,

As discussed last week, I have assessed this proposal against the rules and standards of the District Plan and have come to the conclusion that it is a permitted activity.

The proposal is listed as a permitted activity "construction of an energy generation facility" (21.1.24) in the District Wide Chapter and meets all applicable District Wide standards.

The proposal meets all Rural Zone permitted standards and is not captured as a restricted discretionary activity, discretionary activity, or non-complying activity in the Rural Zone chapter.

The proposal is set out briefly and assessed against the District Plan in the attached document.

Could you please have an initial look at this to see if you agree with where I have landed in terms of permitted activity status. If you do we will apply for a certificate of compliance rather than a resource consent.

In summary;

6.5ha solar farm proposed, made up of solar panels, an inverter station, and transformer at the Norfolk Road transmission lines.

Under District Wide Rule 21.1.24 the construction, maintenance and upgrading of network utilities and energy generation facilities are permitted where they meet the permitted standards in the rule. The bulk of the permitted standards relate to network utilities and existing energy generation facilities. However, Rules 21.1.24(a)(ii) Antennas and 21.1.24(a)(iv) Radiofrequency Exposure could relate to the construction of an energy generation facility and therefore the proposal is permitted under 21.1.24 if these standards are met.

Rural Zone Rule 4.5.5(c)(a) relates to building gross floor area. Solar panels are defined as buildings but do not have a gross floor area. Therefore solar panels over 25m^2 in panel area are

not captured by 4.5.5(c)(a). The inverter station is containerised and within a 20 foot container with a gross floor area of just under 14m^2.

Looking at the Greytown application;

The applicants assessed the activity status as a restricted discretionary activity (see application attached);

- Buildings (solar panels) not required for primary production or residential use over 25m^2 and triggering resource consent under Rule 4.5.5(c).
- Buildings (solar panels) within rural setbacks.

Robert Scofield in the s95 decision assessed the activity as a discretionary activity overall (see decision attached);

- An activity which does not comply with the standards for permitted activities or is otherwise not specified as a controlled, or restricted discretionary activity under Rule 21.6(a). Rule 21.1.24 relates to the construction, maintenance and upgrading of network utilities and energy generation facilities, where these activities are permitted where they meet the stated permitted standards. In Robert's opinion there are no permitted standards applicable to the construction of an energy generation facility and for that reason the construction of an energy generation facility is not a permitted activity.
- A building (staff office and data room) not required for primary production or residential use over 25m^2 and triggering resource consent under Rule 4.5.5(c) - RDA.

Points on the Greytown assessment;

- There are permitted standards in 21.1.24 which are relevant to the construction of energy generation facility.
- If the intention was that the construction of an energy generation facility was not permitted by 21.1.24 the word construction would not be in the rule title. It is too convoluted a pathway for an activity to be stated as being permitted subject to meeting the following standards which do not exist.
- Robert has not identified the actual solar panels triggering consent under 4.5.5(c) just the 30m^2 staff and data building.

Look forward to hearing from you. Please let me know if you have any questions or need any additional info.

Regards,

Russell Hooper
Environmental Planner
0275 650 667
[redacted]
[redacted]
Russell Hooper
Consulting

Proposed Community-Scale Solar Farm – 331 Norfolk Road, Carterton

Site –

- 331 Norfolk Road, Carterton
- 12ha property with residential use at the front and paddocks at the rear.
- Water Race runs through the centre of the site.
- Mix of LUC class 4 and 6 (summer dry) so NPS-HPL not relevant.

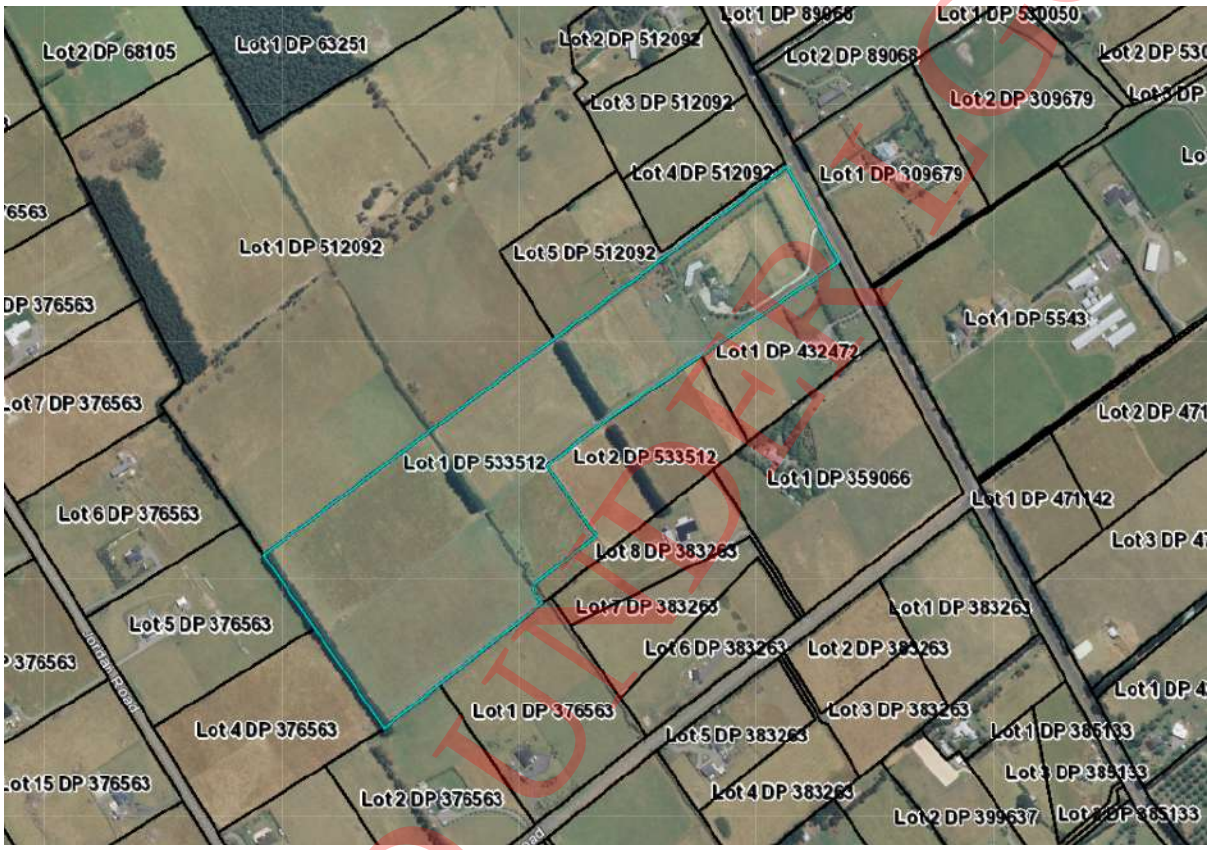


Figure 1 - Site and surrounding sites

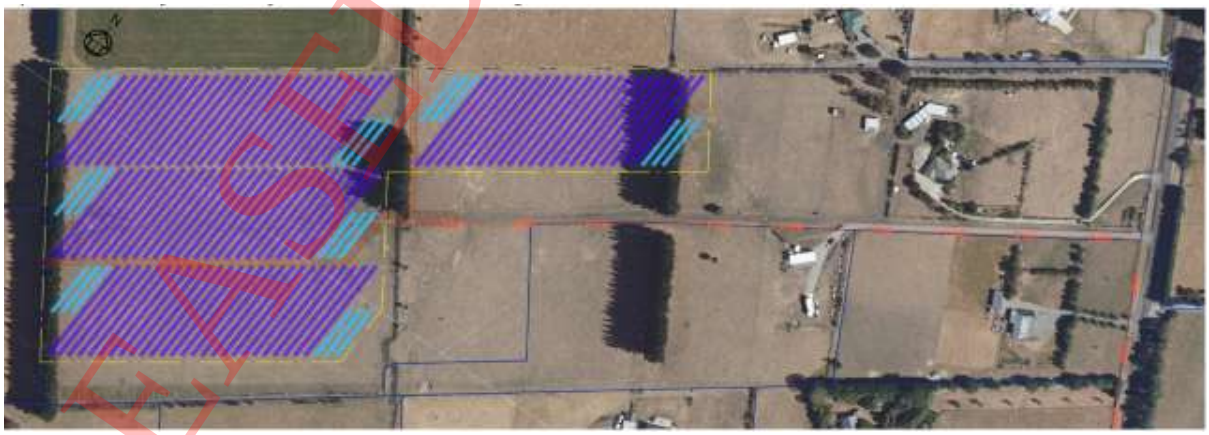


Figure 2 - Extent of solar panels within site

Proposal –

- Carterton has very high levels of solar potential
- Powerco approval has been obtained, so the proposal can proceed
- The site is located where energy generated will supply the JNL and other users in the Waingawa Industrial area
- 6.5ha of the site to be used for solar panels (approx 10,300 panel modules)
- Central inverter and transformer station to convert direct current electricity generated by the panels to alternating current which is the form used in homes and businesses
- Transformer at Norfolk Road electricity lines
- Panels tilt to follow the sun
- Each panel is approximately 2.4m in length and 1.3m in width
- Each panel will be approx 2.5m above ground when fully tilted
- Panels will be high enough off the ground to allow sheep to graze underneath
- Screening vegetation will be planted where required, landscaping details to be confirmed

Figure 3 - Solar panels being constructed

District Plan analysis

Energy generation facilities are referred to in District Wide Rule 21.1.24. Neither the District Plan nor the Resource Management Act defines an energy generation facility. In the context of the District Plan this proposal is for a (solar) energy generation facility.

"Network Utility" is defined in the District Plan, as *"any utility which is part a network and includes electrical lines, water, sewage and stormwater reticulation, streetlighting, telecommunication facilities, radiocommunications facilities, gas, roads, railway lines, airports,*

lighthouses, navigation aids and beacons, meteorological services and associated support structures".

Based on this definition an energy generation facility could fit in to the definition of "network utility" as it is not clear at what point a network begins. However, 21.1.24(a), the District Plan refers to "*construction, maintenance and upgrading of network utilities* ***and*** *energy generation facilities*" (emphasis added). This separates network utilities from energy generation facilities and helps to define the two. If energy generation facilities were captured in the definition of network utilities, 21.1.24(a) would not have referred to them separately.

Therefore, an energy generation facility is the activity and equipment required to create the energy to be distributed by the network utility. The point at which the energy generation facility stops and the network utility starts is the point where the electricity enters the network utility. In this context this is the connection to the electricity lines in Norfolk Road.

Accordingly, for the purpose of assessing the District Plan rules and standards, this proposal is for the construction of an "energy generation facility" and not a "network utility".

District Wide Chapter		Compliance
Permitted Activities		
21.1.1	***Notable Trees and Street Trees*** No notable trees or street trees on site	N/A
21.1.2	***Sites of Historic Heritage Value*** No heritage items on site	N/A
21.1.3	***Historic Heritage Precincts*** Site is not within a heritage precinct	N/A
21.1.4	***Outstanding Landscapes*** Sis not within an outstanding landscape	N/A
21.1.5	***Significant Natural Areas*** No significant natural areas on site	N/A
21.1.6	***Indigenous Vegetation and Habitats*** No indigenous vegetation and habitats	N/A
21.1.7	***Wetland Restoration and Enhancement*** No wetlands on site	N/A
21.1.8	***Reserves*** No reserves on site	N/A
21.1.9	***Significant Waterbodies*** No significant waterbodies on or adjacent to site	N/A

21.1.10	***Activities on the Surface of Freshwater*** No activities on the surface of freshwater proposed	N/A
21.1.11	***Outdoor Artificial Light*** *(a) The emission of outdoor artificial light (including glare) meets the following standard:* *(i) A maximum artificial light level of 8 lux (lumens per square metre) measured at 1.5m above ground level at the site boundary.* *(ii) Within the Dark Sky Management Area identified within Appendix 16, all outdoor lighting shall have a colour temperature of light emitted of 3000K Kelvin or lower.* *(iii) Within the Dark Sky Management Area identified within Appendix 16, all outdoor lighting with a light output of 500 lamp lumens or greater shall be shielded or tilted so as to not emit any light at or above a horizontal plane measured at the light source.* The Carterton District is within the Dark Sky Management Area. All lighting at the site will comply with the above permitted standards.	Will comply
21.1.12	***Dust and Odour*** Dust from establishment of the solar farm will be controlled and there will be no odour	Will comply
21.1.13	***Noise*** The inverter station will make a slight hum, similar to an electricity transformer. The inverter station will be located within the centre of the site and any noise from the inverter station will be well within the rural noise limits. The transformer at Norfolk Road will also meet the rural noise standards.	Will comply
21.1.14	**Derelict Vehicles**	N/A
21.1.15	**Access to Premises**	N/A
21.1.16	**Temporary Activities** *(a) Activities ancillary to or incidental to building and construction shall be:* *(i) Limited either to the duration of the project or for a period not exceeding 12 months, whichever is the lesser;* *(ii) Within construction noise limits set out in 21.1.13* The solar farm will be constructed within 12 months and comply with the construction noise limits in 21.1.13. Construction noise would be similar to establishing a vineyard.	Will comply
21.1.17	**Coastal Environment Management Area**	N/A
21.1.18	**Foreshore Protection Area**	N/A
21.1.19	**Faultline Hazard Area**	N/A
21.1.20	**Flood Hazard and Erosion Area**	N/A

21.1.21	**Soil Conservation and River Control Works**	N/A
21.1.22	**Hazardous Substances and Facilities** There are no HSNO materials involved in the solar farm.	N/A
21.1.23	**Activities within Contaminated Land**	N/A
21.1.24	**Network Utilities and Energy Generation Facilities** (a) *The construction, maintenance and upgrading of network utilities and energy generation facilities which meets the following standards:* *(i) Maximum Height and Setbacks* *All above ground network utility and meteorological structures, except lines, poles, towers, masts, aerials, antennas and their brackets or attachments, must comply with the maximum height standards, maximum height to boundary, and minimum building setback, for the Environmental Zone in which they are located, except…* *(ii) Antennas* *Rural, Commercial and Industrial Zones:* *(3) No dish antenna shall exceed 5m in diameter;* *(4) No panel antenna shall exceed 2.5m in any dimension.* No antennas in excess of the above proposed. *(iii) Building* *(1) No building located above ground for network utility purposes shall exceed 10m2 in gross floor area.* *(2) Buildings used for network utilities purposes may encroach the minimum building setbacks in the respective Environmental Zone in which it is located, subject to compliance with the following…:* *(iv) Radiofrequency Exposure* *(1) The maximum exposure levels shall not exceed the levels specified in NZS 2772:1999 "Radiofrequency fields - Maximum exposure levels - 3 kHz to 300 GHz";* *(2) Maximum exposure levels shall be 3kHz to 300GHz in areas normally accessible to the public.* *(v) High Voltage Electricity Transmission Lines* *(1) Lines for conveying electricity shall have a voltage up to and including 110kV;* *(2) Setback 20 metres from dwellings.*	N/A Applies to network utilities Complies N/A. Applies to network utilities Will comply N/A

	(vi) Water Supplies	Not a standard
	(vii) Wastewater and Stormwater	Not a standard
	(1) Underground pumping stations and pipe networks for the conveyance or drainage of water or sewage, and necessary incidental equipment.	
	(viii) Traffic Management	
	(1) Traffic management and control structures, street lighting, and street furniture.	Not a standard
	(ix) Existing Network Utilities	N/A
	(x) Existing Energy Generation Facilities	N/A
	(xi) Undergrounding of Lines and Pipes	N/A
	(1) All new lines, cables and pipes in the Residential, Commercial and Industrial Zones shall be constructed underground.	
	(2) No new poles shall be erected in the Residential, Commercial and Industrial Zones, other than replacing existing poles.	
	(xii) Reinstatement	N/A.
	(1) That continuous vegetative cover shall be established over any natural ground surface disturbed for the construction, upgrade, maintenance or repair of any network utility.	Applies to network utilities
	(xiii) Noise Limits	
	(1) Sound levels from network utilities within road reserve shall comply with the noise limits for the adjoining zone at any point within 1.5 metres of any façade of a building used for residential purposes. A façade correction of minus 3 dB shall apply in addition to the assessment provisions of NZS 6802:1991 "Assessment of Environmental Sound	N/A. Applies to network utilities
21.1.25	**Roads, Access, Parking & Loading** Access will be from the existing entrance and constructed to District Plan standards	Will comply
21.1.26	**Water Supply, Wastewater and Stormwater**	Will comply
21.1.27	**Financial Contributions**	N/A
21.1.28	**Aerodrome Protection**	N/A

Controlled activities		
21.2.1	**Network Utilities**	N/A Proposal is not for a network utility
21.2.2 Hazardous Facilities, 21.2.3 Wetland Restoration and Enhancement, and 22.2.4 Meteorological Structures (respectively)		N/A
Restricted Discretionary activities		
21.4.1 Work undertaken on a Notable Tree or Street Tree **21.4.2 Indigenous Vegetation** **21.4.3 Structures in the Coastal Environment Management Area** **21.4.4 Earthworks in the Coastal Environment Management Area** **21.4.5 Significant Waterbodies** **21.4.6 Motorised commercial recreation on the surface of freshwater** **21.4.7 Flood Hazard Area and Erosion Hazard Area** **21.4.8 Network Utility Structures within Road Reserve** **21.4.9 Buildings within 20m of a High Voltage Transmission Line** **21.4.10 Activities within Contaminated Land** **21.4.11 Noise Sensitive Activities within Outer Air Noise Boundary** **21.4.12 Goat Farming** **21.4.13 Financial Contributions** **21.4.14 Roads, Access, Parking and Loading Areas** **21.4.15 Meteorological Structures** **21.4.16 Helicopter Landing Areas** **21.4.17 Water Supply, Wastewater and Stormwater**		N/A
Discretionary Activity		
21.6(a) Any activity that does not comply with the standards for permitted activities or is otherwise not specified as a controlled, or restricted discretionary activity.		N/A Complies with all permitted standards
21.6(b) Any earthworks or structures not complying with the permitted activity standards in any outstanding landscape listed in Appendix 1.1 Outstanding Landscapes. **21.6(c) Any modification, alteration, disturbance or destruction of any outstanding natural feature listed in Appendix 1.2 Outstanding Natural Features.** **21.6(d) Modification or damage to, or destruction of, or within, any Significant Natural Areas listed in Appendix 1.3.** **21.6(e) Any modification, alteration, disturbance or destruction of any archaeological site, geological site, waahi tapu, or area of significance**		N/A

	to tangata whenua listed in Appendix 1.5 Archaeological and Geological Sites and Appendix 1.6 Sites of Significance to Tangata Whenua.	
21.6(f)	**Any alteration, addition, relocation, reconstruction, partial demolition or total demolition not complying with the permitted activity standards for any heritage item listed in Appendix 1.7 Heritage Items, except for relocation and demolition of a Category 1 item under Rule 21.7(a).**	
21.6(g)	**The following activities within the Historic Heritage Precincts …**	
21.6(h)	**Any repairs and maintenance in any Historic Heritage Precinct listed in Appendix 1.8 and located in the Masterton District.**	
21.6(i)	**Boarding kennels and catteries.**	
21.6(j)	**Wind energy facilities.**	
21.6(k)	**Any activity within the Greytown Future Development Area that is not consistent with the Structure Plan for this area.**	
21.6(l)	**Any activity involving the disturbance, removal, damage or destruction ("modification") of a wetland, except for planting restoration and enhancement work provided for in Rules 21.1.7 and 21.2.3.**	
21.6(m)	**Development Concept Plan in a Future Development Area.**	
21.6(n)	**Any hazardous facility where the total quantity of hazardous substances of any hazard classification on the site is in the range of the quantities for the relevant zone specified as a Discretionary Activity in the Hazardous Facilities Consent Status Table (Appendix 2), and the activity complies with the permitted activity performance standards in Rule 21.1.22 above.**	
21.6(o)	**Any activity within a Future Development Area for which there is no approved Development Concept Plan and which is not otherwise a permitted activity in the Rural Zone.**	
21.6(p)	**Any helicopter landing area that does not comply with the standards for a restricted discretionary activity in Rule 21.5(a)(i).**	
21.6(q)	**Earthworks within the Foreshore Protection Area (except as provided for in Rule 21.1.18(a)(iv)).**	
21.6(r)	**The erection, placement, or conversion of a building for habitable use within the Flood Hazard Area or Erosion Hazard Area.**	

Assessment of District Wide Rules

- Rule 21.1.24 states that the construction of an Energy Generation Facility which meets the permitted activity standards in 21.1.24 is a permitted activity. Few of the permitted standards are applicable to energy generation facilities. However, 21.1.24(a)(ii) Antennas, and (iv) Radio frequency Exposure can be applied to the activity. These standards are met and therefore the proposal is a permitted activity under 21.1.24.
- All other applicable District Wide rules/standards are met.
- Construction of an energy generation facility is not captured as a controlled, restricted discretionary, discretionary, or non-complying activity.
- Assessment then proceeds to the Rural zone provisions.

Rural Zone Chapter		Compliance
4.5.2 Permitted Activities		
4.5.2(a)	***Maximum building height*** ***(ii) Other buildings: 15 metres*** Solar panels are 2.5m in height Inverter plant is 2.6m high	Complies
4.5.2(b)	***Maximum Height to Boundary*** ***(i) 3 metres height at the boundary with a 45˚ recession plane.***	Complies
4.5.2(c)	***Minimum Building Setback (excluding dwellings)*** ***(iii) 5 metres from all other boundaries.*** ***(v) 5 metres from any other waterbody.*** Solar panels are 7m from the boundary and 7m from the water race	Complies
4.5.2(f)	***Noise Limits***	Will comply
4.5.2(h)	***Signs***	Will comply
4.5.2(i)	***Roads, Access, Parking and Loading Areas*** Access will be from the existing entrance and constructed to District Plan standards	Will comply
4.5.3 Controlled Activities		
None applicable		
4.5.5 Restricted Discretionary Activities		
(a)	***Any bird-scaring device that is not operated in accordance with the standards for permitted activities (4.5.2(f) Exception (i)).*** No bird scaring device proposed.	N/A
(b)	***Any frost protection device that is not operated in accordance with the standards for permitted activities (4.5.2(f) Exception (ii)).*** No frost protection device proposed.	N/A
(c)	***Any activity that is not required for primary production and residential purposes that requires either:*** ***(a) the construction or use of a building over 25m² in gross floor area; or*** ***(b) the external storage of goods, products or vehicles (including contractors yards);*** ***and is not otherwise listed as a controlled, restricted discretionary, discretionary or non-complying activity.*** Solar electricity generation is not required for primary production or residential purposes. The solar panels and the inverter station are structures which meet the definition of building.	Will comply

	The length of the panel rows will be up to 90m long and the width is 2.4m. The District Plan defines gross floor area as – *the sum of the total area of all the floors of all buildings on an allotment, excluding uncovered stairways, car parks and external balconies, measured in square metres.* Therefore, despite the solar panels being defined as buildings and being over 25m^2 they have no floor. The inverter station is containerised within a 20 ft container with internal dimensions of 5.9m x 2.35m = 13.865m^2. Following this, the proposal does not create the gross floor area over 25m^2 required to trigger Rule 4.5.5(c)(a). With regard to Rule 4.5.5(c)(b), storage is not defined in the District Plan. The Collins English dictionary defines the word storage as; *"If you refer to the storage of something, you mean that it is kept in a special place until it is needed".* The proposal involves the establishment of solar panels , inverter station, underground cabling, and a transformer to connect to the lines in Norfolk Road. These are all used in situ and there is no storage of any good, product, or vehicles. Accordingly, the proposal does not trigger resource consent under 4.5.5(c).	
(d)	**Any motorised outdoor recreation activity**	N/A
(e)	**Any activity that does not meet one or more of the standards for permitted or controlled activities.** The above assessment shows compliance with permitted activities. The proposal is not a controlled activity and therefore the controlled activity standards are not applicable.	N/A
4.5.6 Discretionary Activities		
(a)	**Any activity listed in the Schedule of Primary Industry (Appendix 4).** Neither a solar farm nor energy generation facility is listed in Appendix 4. Solar generation is not an activity which may become noxious or dangerous in relation to adjacent areas.	N/A
(b)	**Any industrial activity.** In the District Plan industry means *premises used for manufacturing, fabricating or processing, substances or material into new products, and includes the servicing and repair of goods, vehicles and machinery whether by machine or hand, and the parking or storage of all materials, products and machinery; with* *• Primary Industry meaning industry listed in Appendix 4 Schedule of Primary Industries (Potentially Offensive, Noxious or Hazardous Industries); and* *• Secondary Industry meaning any other industry.* Solar energy is not a substance or material so converting solar energy to	N/A

	electricity does not meet the District Plan definition of industry. In addition, given that energy generation facilities are specifically identified in the District Plan (ie, energy generation facilities have a permitted activity pathway at Rule 21.1.24 and wind energy facilities are specified as a discretionary activity at Rule 21.6(j)) they are not an industrial activity in the context of the District Plan. Just as converting grass into finished lambs is primary production (defined separately) rather than an industrial activity.	
(c)	**Any retail activity with a gross floor area from 200m2 up to 2,000m^2.**	N/A
4.5.7 Non-Complying Activities		
(a)	**Any new noise sensitive activity located within the Inner Air Noise Boundary (65 dBA) as shown on the Planning Maps for the operation of the helicopter landing activity at 145 Chester Road, Carterton, legally described as Lot 1 DP 88190. (b)**	N/A
(b)	**Any retail activity with a gross floor area, 2,000m2 and over.)**	N/A
Assessment of Rural Zone Rules - The proposal meets all rural zone permitted standards. - Neither the solar panel rows, the inverter station, or the transformer at Norfolk Road are buildings with a gross floor area over 25m^2. - A solar farm is not an industrial activity. - The proposal meets all permitted standards in the rural zone and is not captured as a controlled, restricted discretionary, discretionary, or non-complying activity. The proposal meets all Rural Zone permitted standards and is not captured as a controlled activity, restricted discretionary activity, discretionary activity, or non-complying activity.		

Overall activity status

The proposed solar farm is for the construction of an energy generation facility, which is a permitted activity under Rule 4.5.1(a) as an activity listed as a District Wide Permitted Activity in Section 21.1 and which complies with the relevant standards in those rules (21.1.24) and Section 4.5.2 and which is not otherwise specified as a controlled, restricted discretionary, discretionary, or non-complying activity under Sections 4.5 or 21.

Therefore, the proposal is a permitted activity and a certificate of compliance can issue.

Document 6

From: Solitaire Robertson
Sent: Wednesday, 7 June 2023 2:12 pm
To: Russell Hooper
Subject: FW: Small Solar Farm Norfolk Road

Hey Russell, see some comments below in relation to your documentation. Suggest the safest approach will definitely be the consenting process.

Cheers

Solitaire

Hi all

There was back-and-forth with the applicant for the Greytown solar farm prior to the application being submitted, including initially a contention by the applicant that the solar farm was a permitted activity for similar reasons that Russell is putting forward. My understanding is that the applicant for the Greytown solar farm has now accepted the discretionary activity status as concluded in the s95 (notification) report.

As Russell notes in his email and attached document, most of the standards in Rule 21.1.24 relate to network networks. The only standard in Rule 21.1.24 relating to energy generation activities relates to 'existing' energy generation activities. In short, Rule 21.1.24 permits construction works associated with existing energy generation activities. Construction of a new solar farm energy generation activity is a discretionary activity under Rule 21.6(a) as it is not specifically provided for in another rule in Section 21.

Also, a solar farm is not required for primary production or residential use, and the solar panels exceed 25m2. While solar panels may not technically have a 'floor', they are within the definition of a 'building' and have a footprint which exceeds 25m2. Therefore, it is a restricted discretionary activity under Rule 4.5.5(c).

I have also responded to Russell's points on the Greytown assessment below (see blue text).

Note, prior to the Greytown solar farm application being lodged, we looked into the progression of the energy facilities provisions through the plan-making process. This progression highlighted the intent was to permit existing generation activities and require resource consent for new generation activities.

From: Russell Hooper <russellhooperconsulting@gmail.com>
Sent: Monday, 5 June 2023 9:50 pm
To: Solitaire Robertson <solitaire@cdc.govt.nz>
Subject: Small Solar Farm Norfolk Road

Hi Solitaire,

As discussed last week, I have assessed this proposal against the rules and standards of the District Plan and have come to the conclusion that it is a permitted activity.

The proposal is listed as a permitted activity "construction of an energy generation facility" (21.1.24) in the District Wide Chapter and meets all applicable District Wide standards.

The proposal meets all Rural Zone permitted standards and is not captured as a restricted discretionary activity, discretionary activity, or non-complying activity in the Rural Zone chapter.

The proposal is set out briefly and assessed against the District Plan in the attached document.

Could you please have an initial look at this to see if you agree with where I have landed in terms of permitted activity status. If you do we will apply for a certificate of compliance rather than a resource consent.

In summary;

6.5ha solar farm proposed, made up of solar panels, an inverter station, and transformer at the Norfolk Road transmission lines.

Under District Wide Rule 21.1.24 the construction, maintenance and upgrading of network utilities and energy generation facilities are permitted where they meet the permitted standards in the rule. The bulk of the permitted standards relate to network utilities and existing energy generation facilities. However, Rules 21.1.24(a)(ii) Antennas and 21.1.24(a)(iv) Radiofrequency Exposure could relate to the construction of an energy generation facility and therefore the proposal is permitted under 21.1.24 if these standards are met.

Rural Zone Rule 4.5.5(c)(a) relates to building gross floor area. Solar panels are defined as buildings but do not have a gross floor area. Therefore solar panels over 25m^2 in panel area are not captured by 4.5.5(c)(a). The inverter station is containerised and within a 20 foot container with a gross floor area of just under 14m^2.

Looking at the Greytown application;

The applicants assessed the activity status as a restricted discretionary activity (see application attached);

- Buildings (solar panels) not required for primary production or residential use over 25m^2 and triggering resource consent under Rule 4.5.5(c).
- Buildings (solar panels) within rural setbacks.

Robert Scofield in the s95 decision assessed the activity as a discretionary activity overall (see decision attached);

- An activity which does not comply with the standards for permitted activities or is otherwise not specified as a controlled, or restricted discretionary activity under Rule 21.6(a). Rule 21.1.24 relates to the construction, maintenance and upgrading of network utilities and energy generation facilities, where these activities are permitted where they meet the stated permitted standards. In Robert's opinion there are no permitted standards applicable to the construction of an energy generation facility and for that reason the construction of an energy generation facility is not a permitted activity.
- A building (staff office and data room) not required for primary production or residential use over 25m^2 and triggering resource consent under Rule 4.5.5(c) - RDA.

Points on the Greytown assessment;

- There are permitted standards in 21.1.24 which are relevant to the construction of energy generation facility. For energy generation facilities, these standards only relate to 'existing' energy generation facilities. All other standards in this rule relate to network utilities.
- If the intention was that the construction of an energy generation facility was not permitted by 21.1.24 the word construction would not be in the rule title. It is too convoluted a pathway for an activity to be stated as being permitted subject to meeting the following standards which do not exist. This word 'construction' relates to construction activities associated with existing energy generation facilities.
- Robert has not identified the actual solar panels triggering consent under 4.5.5(c) just the 30m^2 staff and data building. The solar farm is not required for primary production or residential use. Also, the solar panels exceed 25m2.

Look forward to hearing from you. Please let me know if you have any questions or need any additional info.

Regards,

Russell Hooper
Environmental Planner
027[illegible]
[illegible]
Russell Hooper Consulting

Document 7

From: s 7(2)(a)
Sent: Thursday, 22 June 2023 11:33 am
To: s 7(2)(a) Solitaire Robertson
Subject: RE: Proposed community scale solar farm at 331 Norfolk Road, Carterton

---

Had a word with Nick Eagle – he is happy to process this one.
s 7(2)(a) you could please forward all relevant info to him, please and thankies!

And yes, lodged as Discretionary

Ngā mihi,

s 7(2)(a)

Te Kaunihera-ā-Rohe o Taratahi
CARTERTON DISTRICT COUNCIL

s 7(2)(a) | Planner | **CARTERTON DISTRICT COUNCIL**
Phone: 06 379 4040 | Email: becca@cdc.govt.nz
PO Box 9, Carterton 5743 | 50 Holloway Street, Carterton 5713 | Website: www.cdc.govt.nz

From: s 7(2)(a) @cdc.govt.nz>
Sent: Thursday, June 22, 2023 8:34 AM
To: s 7(2)(a) @cdc.govt.nz>; Solitaire Robertson <solitaire@cdc.govt.nz>
Subject: FW: Proposed community scale solar farm at 331 Norfolk Road, Carterton

Hi Sol/s 7(2)(a)

Please confirm if I am lodging this as discretionary?

Ngā mihi,
s 7(2)(a)

Te Kaunihera-ā-Rohe o Taratahi
CARTERTON DISTRICT COUNCIL

Regulatory Services Admin | **CARTERTON DISTRICT COUNCIL**
28 Holloway Street | PO Box 9 | Carterton 840 | www.cdc.govt.nz
Ph 06 379 4040

From: Russell Hooper <russellhooperconsulting@gmail.com>
Sent: Wednesday, 21 June 2023 3:54 pm
To: s 7(2)(a) @cdc.govt.nz>
Cc: Matt Shanks <matt.shanks@lightyearssolar.co.nz>
Subject: Proposed community scale solar farm at 331 Norfolk Road, Carterton

> **Caution:** This email originated from outside the council. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon s 7(2)(a)

Please find attached an application for a community scale solar farm at 331 Norfolk Road, Carterton.

I have spoken to Solitaire and s 7(2)(a) a couple of times about this one. I've noted in the application that I think it is a permitted activity (and therefore doesn't need resource consent), however following discussion with Solitaire have then gone on to apply for resource consent as a discretionary activity. However, more than happy to receive a COC if Council agrees with my assessment that it is permitted.

Please let me know if you require any further information or have any questions.

I have cc'd Matt Shanks from Light Years Solar into this email so that you can forward the processing invoice direct to him.

Regards,

Russell Hooper
Environmental Planner
027E 660 667
russellhooperconsulting@gmail.com
www.linkedin.com/in/russell-hooper-consulting
Russell Hooper Consulting

Document 8

From: Solitaire Robertson
Sent: Wednesday, 19 July 2023 6:24 am
To: Creditors
Subject: Fwd: 331 Norfolk Road, Solar Farm
Attachments: NRSF-302.pdf
Panel cross section.pdf
Planning Report (Final 18.7.23).docx

SOLITAIRE ROBERTSON | Planning & Regulatory Services Manager | **CARTERTON DISTRICT COUNCIL**
Phone: 06 379 4030 | DDI: 06 379 40 48|Email: solitaire@cdc.govt.nz
PO Box 9, Carterton 5743 |28 Holloway Street, Carterton 5713 | Website: www.cdc.govt.nz

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From: nick@eagledevelopments.co.nz <nick@eagledevelopments.co.nz>
Sent: Tuesday, July 18, 2023 4:34:52 PM
To: Solitaire Robertson <solitaire@cdc.govt.nz>
Subject: 331 Norfolk Road, Solar Farm

Hi Solitaire,

Please find attached my report for the proposed solar farm at 331 Norfolk Park.

I have also attached the two additional plans from Russell Hooper.

Should you have any questions please get in contact :)

Thanks,

Nick

Nick Eagle

Director, Eagle Developments Ltd

M: 021-990-874
E: nick@eagledevelopments.co.nz
W: EagleDevelopments.co.nz
A: 6B, 97 Taranaki Street, Wellington

-------- Original Message --------
Subject: Norfolk Road, solar panel proposal
Date: 2023-07-18 15:30
From: Russell Hooper <russellhooperconsulting@gmail.com>
To: "nick@eagledevelopments.co.nz" <nick@eagledevelopments.co.nz>

Good afternoon Nick,

The Light Years Team have sent these details through. Do they show what you are looking for?

Have you had a chance to consider the activity status?

Regards,