THE RESOURCE MANAGEMENT ACT 1991

APPLICATION BY ENERGY BAY LTD

87 Upper Sefton Road
Ashley Waimakariri
RESOURCE CONSENT APPLICATION TO THE WAIMAKARIRI DISTRICT COUNCIL

ENERGY BAY LTD (R)

27 May 2024

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Form 9: Application for Resource Consent
Under Section 88 of the Resource Management Act 1991

TO: The Waimakariri District Council

Energy Bay applies for the resource consent described below.

1. **The names and addresses** of the owner and occupier (other than the applicant) of any land to which this application relates are as follows:

   Neil Kerr Ltd

2. **The location** to which this application relates is:

   87 Upper Sefton Road Ashley, Waimakariri District Counci

   The total site area is 80.9371ha (RS2588 and RS2732): CB 386/203
   The property is described more fully in the attached AEE which forms part of the application.

3. **The type of resource consent** being sought is a Land Use Consent.

4. **A description of the activities** to which the application relates is:

   For consent to a discretionary activity to establish and operate a utility scale solar energy farm (a multi-megawatt scale grid connected solar voltaic system) for renewable electricity generation on approximately 80 hectares of land adjacent to the intersection of Upper Sefton Road and Beatties Road, Ashley.

   The proposed development will be in accordance with the plans accompanying this application and which should be read as part of it.

   A more detailed description of the proposed activity is to be found in the Assessment of Effects on the Environment which accompanies the application as Annexures A, B, C, D, E, F and G which should be read as part of the application.

5. **Attached is an assessment of any actual or potential effects** that the activity may have on the environment which includes:

   a) information required by clause 6 of Schedule 4 of the RMA 1991,
   b) addresses matters set out in Clause 7 of the RMA 1991,
   c) includes details as corresponds with the scale and significance of the effects that the activity may have on the environment (Refer AEE), and
   d) An assessment of the activity in respect of Part 2 of the Resource Management Act

6. **Additional resource consents.**

   N/A or applied for

7. **No other information** is required to be supplied by the district or regional plans or regulations.

DATED: February 2023

Address for applicant and all Council Fees
Energy Bay Ltd
C/. Kim McCracken
P O Box 2551
Christchurch 8140

Attention: Kim McCracken
Telephone: 021 363 497
Email: office@rgmc.co.nz

Resource Management Act 1991

Fourth Schedule

Assessment of Effects on the Environment

1. Introduction

Energy Bay Ltd have applied for resource consent from the Waimakariri District Council for the establishment and operation of a solar energy farm on a property at 87 Upper Sefton Road, Ashley. The solar farm will cover approximately 23.3ha within a site of 80ha. Copies of the titles are attached in **Annexure 1**.

2. Background

In 2022 the applicant (Energy Bay Ltd) applied for a Certificate of Compliance (CofC) for largely the same solar farm development at 87 Upper Sefton Road (Refer **Annexure G**).

As a consequence of that application the Council responded raising matters of Compliance around a number of rules which had the effect of ruling out a CofC. In summary these rules are set out below and are addressed where appropriate within the application. The matters were:

Rule 23.1.1.8	Earthworks not to involve disturbance of more than 1000m^2/ha
Rule 23.1.1.7	Water Supply: Confirmation of connection to Ashley Water Supply
Rule 27.1.1.2	Any structure to be setback 10m from the edge of a wetland. The Council provided a plan of the ephemeral streams
Rule 30.1.1.1	Utility Buildings not to exceed 35m^2 in area
Rule 30.1.1.6	Any transformer, line or wire shall not exceed a voltage of 100K or exceed a capacity of 100MVA.
Rule 30.6..1.13	Any access way, except to a state highway where the speed limit is 70 K/hr or greater shall comply with minimum standard in Table 30.3
Rule 30.6.1.15	All access ways within… the Rural Zone shall be formed to an all-weather standard
Rule 30.6.1.24	Vehicle crossings on an arterial, strategic and collector roads shall have minimum unobstructed sight distances (Table 30.54)
Rule 30.1.1.10	The structure coverage of the area of any site shall not exceed 20% in a Rural Zone
Rule 30.1.1.13	Calculation of Structure Coverage
Rule 30.12.1.2	Activities in any zone shall meet the following noise limits within measurement time intervals within time-frames stated within the notional boundary of any dwelling house in a Rural Zone a) Daytime: 7am to 7pm Monday to Saturday, and 9am to

	7pm Sundays and Public Holidays: 50dBA L10 b) Other times: 40dBA L10 c) Daily 10pm-7am the following day: 70dBA Lmax
Rule 30.12.1.13	Construction Noise – in any zone shall not exceed the recommended limits specified in, and shall be measured and assessed in accordance with, the provisions of NZS:6803:P1984 "Measurement and Assessment of Noise from Construction, Maintenance, and Demolition Work". Adjustments and exemptions provided in clause 6 of NZS:6803:P1984shall apply.

In addition to the above the applicant has assessed the proposal in terms of rules 23.1.1.3 and 23.1.1.5.

Rule 23.1.1.3	There shall be no earthworks (a) within 20m of any lake or river or (b) within 50m of any Wetland
Rule 23.1.1.5	For the purpose of the above river means: (a) any continually flowing body of fresh water that has a defined bed: (b) any intermittently flowing body of fresh water with a bed width of more than 4m; (c) any intermittently flowing body of fresh water with a bed width of less than 4m averaged over the reach of the river between a point 40m upstream and a point 40m downstream adjacent to where the vegetation clearance or earthworks is located provided that the measured reach usually has stable pools or flowing water in February that show evidence of fish, crayfish, mayflies, stoneflies, or caddis flies: or (d) any streams or modified watercourses but excludes artificial watercourses (including irrigation canals, water supply races, and farm drainage canals)

As a result of the above assessment the applicant has now applied for the resource consent set out as follows. Where appropriate the above matters (Certificate of Compliance) are addressed in the body of the resource consent.

3. The Proposed Development (Refer Annexure D)

The solar farm will consist of the following structures. Images of the following structures, including exemplar images as to assist in understanding what is proposed are included in **Graphic Assessment, Sheets 3 – 16 (Annexure D).**

An approximate 79.96ha solar farm will be situated within the site. To allow for further optioneering, a fixed solar table option and two single axis tracking options have been assessed, refer to **GA Sheets 6 - 11 (Annexures C and D)**. The details of each of the three solar farm options are described below.

- *The one panel single axis tracking option will consist of 58,928 solar panels. Each solar panel measures approximately 2.4m long by 1.1m wide (2.64m^2 in area).*

- *The solar panels will be connected to two different sized solar tables and extend north to south in a grid pattern, throughout the site. There will be 294 short tables, each comprised of 29 panels, and 869 long tables, each comprised of 58 panels. In total, there will be 1163 tables.*

- *Nine inverters will be located within the site. The inverters convert the DC current from the solar panels to an AC current so the solar power can be transferred to the nearby substation. Each inverter is approximately 2.8m long, 1.6m wide and 2.3m high (4.48m^2 in area) and are white / off white in colour.*

- *The overall site coverage for the solar panels, inverters, switch station, storage, and operations building will be 15.6ha or 19.5%.[1] In other words, 64.36ha or 80.5% of the site will not be located underneath a solar table.*

- *The solar panels have a 3.2mm thick glass surface with an anti-reflection coating. This coating reduces the amount of potential light that is reflected away from the solar panel and directs the reflection from the solar panels back to its source.*

- *The solar tables are steel structures, and each table is attached to the ground by four (short table) or eight (long table) centralised steel poles. Each table structure is designed to move so the solar panels pivot east to west towards the sun's rays as the sun moves through the sky. In the morning the solar panels will face east, at mid-day the solar panels will be more or less horizontal and at the end of the day the solar panels will face west.*

- *The top of the solar table, when parallel with the ground stands approximately 1.5m above ground level. When the solar tables are tilted as far east or west as possible the top of the solar table will stand 2.2m above ground level with the bottom approximately 1.0m above ground level.*

- *The centre of the rows of solar tables are approximately 4m apart. The solar table is designed to avoid internal shading which means the pivot is restricted to prevent the solar panels facing as far east or west as possible. Instead, each table will start and finish the daily cycle in a semi-tilted position rather than full tilt to prevent shading, full tilt being a position they do not spend much time in.*

- *The two-panel single axis tracking option will consist of 58,986 solar panels. Each solar panel measures approximately 2.4m long by 1.1m wide (2.64m^2 in area).*

- *The solar panels will be connected to two different sized solar tables and extend north to south in a grid pattern, throughout the site. There will be 129 short tables, each comprised of 58 panels, and 444 long tables, each comprised of 116 panels. In total, there will be 573 tables.*

- *Nine inverters will be located within the site. The inverters convert the DC current from the solar panels to an AC current so the solar power can be transferred to the nearby substation. Each inverter is approximately 2.8m long, 1.6m wide and 2.3m high (4.48m^2 in area) and are white / off white in colour.*

- *The overall site coverage for the solar panels, inverters, switch station, storage, and operations building will be 15.6ha or 19.5%.[2] In other words, 64.36ha or 80.5% of the site will not be located underneath a solar table.*

[1] The solar panels were calculated when the panels are parallel to the ground.

- *The solar panels have a 3.2mm thick glass surface with an anti-reflection coating. This coating reduces the amount of potential light that is reflected away from the solar panel and directs the reflection from the solar panels back to its source.*

- *The solar tables are steel structures, and each table is attached to the ground by three (short table) or seven (long table) centralised steel poles. Each table structure is designed to move so the solar panels pivot east to west towards the sun's rays as the sun moves through the sky. In the morning the solar panels will face east, at mid-day the solar panels will be more or less horizontal and at the end of the day the solar panels will face west.*

- *The top of the solar table, when parallel with the ground stands approximately 2.4m above ground level. When the solar tables are tilted as far east or west as possible the top of the solar table will stand 4.5m above ground level with the bottom approximately 0.3m above ground level.*

- *The centre of the rows of solar tables are approximately 7m apart. The solar table is designed to avoid internal shading which means the pivot is restricted to prevent the solar panels facing as far east or west as possible. Instead, each table will start and finish the daily cycle in a semi-tilted position rather than full tilt to prevent shading, full tilt being a position they do not spend much time in.*

Fixed Solar Table Option

- *The solar farm will consist of approximately 88,624 solar panels. Each solar panel measures approximately 2.4m long by 1.1m wide (2.64m^2 in area).*

- *The solar panels will be connected to 1528 solar tables extending east to west in a grid pattern, throughout the site. Each table will comprise of 58 solar panels.*

- *Thirteen inverters will be located within the site. The inverters convert the DC current from the solar panels to an AC current so the solar power can be transferred to the nearby substation. Each inverter is approximately 2.8m long, 1.6m wide and 2.3m high (4.48m^2 in area) and are white / off white in colour.*

- *The overall site coverage for the solar panels, inverters, switch station, storage, and operations building will be 23.4ha or 29%.[3] In other words, 56.56ha or 71% of the site will not be located underneath a solar table.*

- *The solar tables are steel structures, and each table is attached to the ground by 16 steel poles. The tables are fixed in place at a 20 – 30-degree angle. At their lower end, they will stand 0.5 – 1.0m above ground level. At their taller end, they will stand 3 – 3.5m above ground level.*

- *There is an approximate gap of 5m between each row of solar panels.*

Associated Structures

- *A switch station, storage building, and operations building will be located within the eastern corner of the site, immediately south of the Ashley Substation. These buildings will have a combined area of 240m^2.*

[2] The solar panels were calculated when the panels are parallel to the ground.
[3] The solar panels were calculated when the panels are parallel to the ground.

- *Upgrades to the existing farm tracks may occur if the current tracks are inaccessible in inclement weather. Upgrades to the tracks will likely consist of a gravel surface.*

- *Earthworks will consist of trenching of approximately 5kms of cables associated with the solar panels and inverters. The poles that the solar tables are attached to are pile driven into the ground, therefore earthworks are not required. All excavated material will remain on site (Refer Annexure D for full description).*

- *The pastoral grass cover around the supporting structures, inverters and underneath the solar tables will be maintained, as per the exemplar images. Stock will continue to graze this pasture although stock will be limited to sheep only to avoid damage to the solar panels.*

4. Experience

Energy Bay has now applied for and obtained consent for six solar farm applications throughout the country with three more in the consenting process. The consents already obtained are listed below and the experience with these, particularly in terms of operation and mitigation has been adopted in the Ashley proposal. The consented proposals are located at;

Site	Area
Naseby	361ha Nominated site area of 90.5ha
Albury	48.1169ha Nominated site area of 9ha
Waimate	501.8ha Nominated site area of 16.5ha
Ngawha	-
Maungaturoto	58.8ha
Tararua	114.3169ha Nominated site area of 86.93ha

The applicant has also noted the mitigation measures for RC235074/240424065414.

5. The Proposed Solar Farm site and Surrounds

Details of the location of the site, its existing land uses and the close neighbourhood are shown on the plans and aerial photos part of this application. Refer **Fig1**, **Annexure C** consent plans, and **Annexure D** Landscape Assessment.

The site is located fronting (and at the intersection) of Beatties Road and Upper Sefton Road. It has been utilised as a calf raising farm and the land cover is grass with limited trees and shelter planting mainly on the site boundaries. A small ephemeral stream traverses the site from north to south close to its western boundary, and this together with adjacent lower lying land incorporating an ephemeral street have been excluded from the area proposed to be used for the

solar farm. The site is not subject to serious risk of flooding. The two existing ephemeral streams run through the site and will be subject to a setback as required by Rule 27.1.1.2 (ie 10m).

Fig 1 – Site Location

There are existing dwelling houses on adjacent properties, one close to the western boundary of the site, another close to the northern boundary of the site, and three others on the eastern side of Beatties Road opposite the site. The nearest dwellings are identified in **Annexure D** and on **Fig 2** over. These properties are further addressed in **Annexure D**. A pig farm is located opposite the site on the eastern side of Beatties Road (126).

Opposite the site, on the south side of Upper Sefton Road, is the existing fibreboard factory owned by Daiken NZ. This is a large industrial facility which operates 24 hours a day. Both Beatties and Upper Sefton Roads are sealed. Upper Sefton Road is a Strategic road and Beatties Road is a Collector Road. The nearest dwellings are located along Beatties Road (five), Upper Sefton Road (two) and Marshmans Road (four). The principal properties are identified as;

- 47 and 53 Upper Sefton Road,
- 152, 200, 204 and 224 Marshmans Road, and
- 178, 189, 126, 196 and 217 Beatties Road

The effects (visual) on these properties varies significantly both pre and post mitigation and this is addressed in detail in **Annexure D**.

6. Description of the Proposal

6.1 Introduction

EBL are seeking consent from the WDC to establish and operate a solar farm at 87 Upper Sefton Road, Ashley. For clarity the application does not include any works or activity within the Transpower NZ Ltd substation site (Gaz 78-1312, Section ISO 14489 (971m^2), being the Ashley substation, which adjoins the application site on Beatties Road and is designated and the designation given affect to. Transpower high voltage lines are also identified on District Plan Map 83 traversing the site between the substation and the Beatties/Upper Sefton Road intersection. The location of the site and surrounds are set out on **Figs 1 and 2.** The details of the application are as follows.

6.2 Components

These are set out in detail in para 3 of the AEE and Annexure D.

6.2.1 Solar tables

The solar tables consist of a steel structure attached to the ground by steel poles centralised along its length. The structure is designed to move relative to the angel of the sun. In the morning the solar panels face east and as the sun traverses, the panels pivot to the west in the afternoon. Under the fixed panel system the panels are fixed at an angle of between 20^o and 30^o. The spacing of the panels is set to ensure they do not shade one another. The solar tables are 9.7m apart measured centre to centre (Refer **Fig 6**).

The top of the solar tables, when parallel to the ground are approximately 2.45m above ground level. When the tables are facing east or west (maximum rotation), the top edge of the tables are approximately 4.45m above ground level and the bottom edge 30cm above ground level (Refer **Fig 3** over).

When the tables face upwards (flat) there is a gap of 4.8m between the rows of solar tables. When the solar tables face east or west the gap extends to 7.1m. The solar tables are attached to a pile fixed into the ground.

Fig 2 – Surrounding Land Uses

Fibre board factory

Visually impacted dwellings prior to mitigation (Refer Annexure D)

Pig Farm

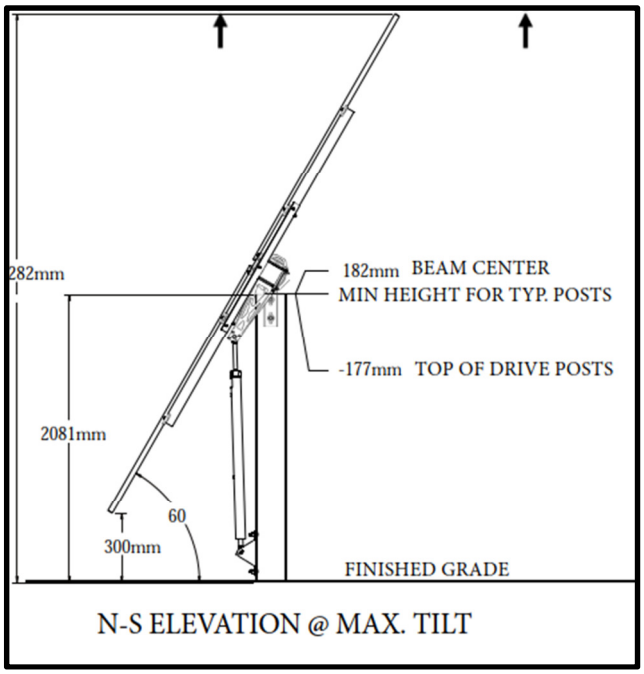

Fig 3 *- Elevation of a single axis tilted solar table*

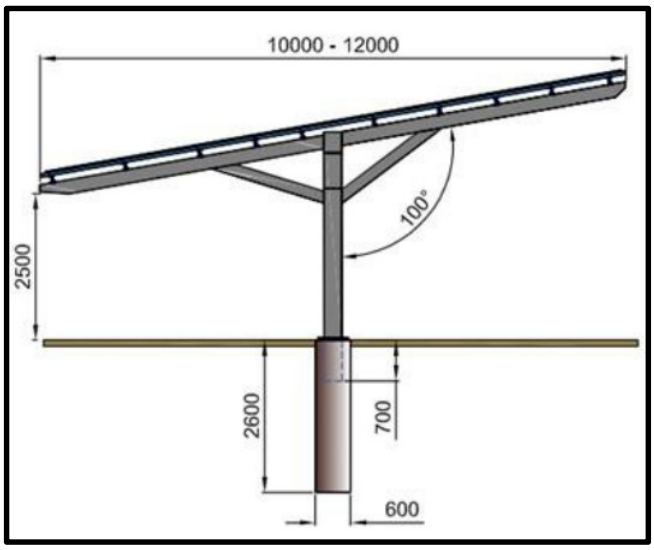

Fig 3.1 *- Elevation of a tilted solar table*

***Fig 3.2** – Indicative image of Fixed Structure*

6.2.2 Solar panels

The proposal will contain either 88,624 (tilt) or 58,928/58,986 (fixed) solar panels. Each panel is 2.4m long and 1.1m wide (2.73m^2) and 3.5cm thick. The solar panels have a 3.2mm thick glass surface with an anti-reflection coating. The coating acts to minimise the amount of light that is reflected away from the solar panel (ie maximises the panels efficiency). An example of what the system will look like is shown in Fig 4 below.

***Fig 4** – Example of a single axis tracking solar farm in Marlborough (Annexure D)*

6.2.3 Inverters

There will be 9 inverters. The inverters convert DC current from the panels to an AC current so this power can enter the substation located alongside the site. Each inverter is approximately 2.8m long, 1.6m wide and 2.3m high and are white/off-white in colour (Refer **Fig 5** below).

6.2.4 Storage/Operations buildings

There are two small buildings on the site each of 100m^2. These are a storage building and an operations building. These are located 100m from the Beatties Road frontage.

Fig 5 – *Image of inverter, transformer and switchgear*

While the inverters generate noise they will comply with the Waimakariri District Plan (WDP), Refer **Annexure E**. Where required noise monitoring and if necessary installed.

6.2.5 Earthworks

The total area of earthworks disturbance over the full site is 127,800m^2. This involves the following:

Earthworks	Timeline	Area	Open Period	Sequence
Fencing	Stage 1 (2 weeks)	2,000m²	1-2 weeks	1
Internal Roads	Stage 1 (2 months)	6000 m²	Permanently	3
Car Parking Levelling	Stage 1 (2 weeks)	300 m^2	Permanently	4
Laydown Area Levelling	Stage 1 (1 month)	9500 m^2	2-3 days	5
Stormwater Drain	Stage 1 (2 months)	TBC m^2	Permanently	6
Site Grubbing Levelling	Stage 2 (3 months)	75,492 m^2 in total, split 22 Lots	3-4 days per lot	2
Foundations	Stage 3 (4 months)	Building 200 m2 Inverters 260 m^2 Tanks 40 m2	1-2 weeks	7
Cable Trenching	Stage 3 (3 months)	Total Approx. 8,500 m^2 (including DC and MV trenches) Other Trenches	2-4 weeks	8

The earthworks will be undertaken in three stages and the areas to be disturbed in each stage are set out in **Annexure J**. The area of earthworks disturbed or open is programmed to never exceed 8000m^2 during construction (ie a complying level of disturbance). The earthworks will be undertaken in accordance with the construction methodology (Refer **Annexure J**) and each stage will be grassed/mulched and re-stablished before a second stage is disturbed. No soil is removed from the site reducing the extent of traffic generation for construction. This is assessed in **Annexure C** and will average around 3.5 vehicle movements per day.

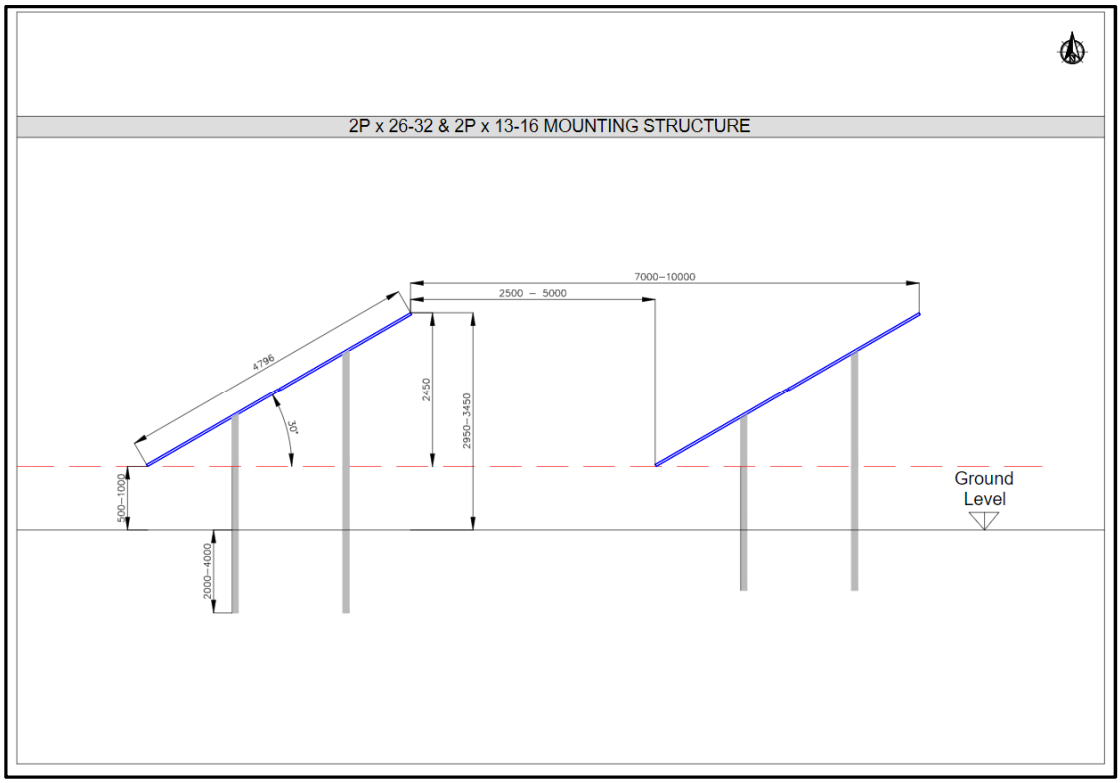

Fig 6 *- Elevation of a fixed tilt ground mounted solar table*

The pastoral grass cover under the solar tables and around the inverters will be maintained and the land will continue to be grazed by calves or sheep.

Consideration is also been given to additional cropping or agricultural uses to continue to utilise the productive capacity of the land.

6.2.6 Other matters

The site is managed remotely and vehicle movements post construction are minimal and only by light utility vehicles able to travel between the rows of solar panels on farm tracks. Two vehicle access points will be provided to the site. Because of the infrequency of vehicle use no hard surfacing is required. The solar farm will comply with the N.Z Electric Code of Practice for Electrical Safe Distances (NZECP 34:2001).

The entire development will contain a security fence located in conjunction with the proposed (and existing) 4m high perimeter planting (Refer **Annexure D**). A small identifying sign is proposed (1m^2) and no hazardous substances are stored on the site.

6.2.7 Decommissioning

The solar panels/farm is estimated to have a life of between 20 and 30 years. The Council RFI raised the matter of decommissioning. The applicant has developed a decommissioning process/rule with other Councils and this is now included for information/assistance within the Volunteered Conditions (Annexure K)

7. Waimakariri District Council - Operative District Plan Assessment

7.1 Introduction

Resource consent is applied for those matters described in the application, and any other resource consents necessary, whether specifically identified or not, in order to allow the proposal to proceed and operate.

The environmental and policy assessments undertaken as part of this application are those of the applicant and not in substitution for the Councils own assessment. The applicant has had available for its assessment, the Council Operative District Plan, the District Plan review and the assessment of the Certificate of Compliance (11 May 2022 **Annexure G).** The applicant has also taken note of the various National Policy Statements and the Regional Policy Statement (RPS). In addition the Council has the ability under Section 104(s) of the RMA to process the application irrespective of the type of activity that the application is made for. An assessment of the application against the relevant consent standards is set out below.

7.2 Zoning

The site is zoned Rural in the operative District Plan and Low Density Living in the recently notified review of the District Plan, notified 18 September 2021. Refer **Figs 7 and 8** over. An area adjacent to the site is subject to designation D082 which protects an existing electricity substation near the south-eastern corner of the site fronting onto Beatties Road. The designating authority is Transpower NZ Ltd and the site name and location is recorded as "Ashley Substation – Beatties Road legal description Gaz 78-1312, section 1 S.O. 14484 (971m^2)" and includes the notation

"has been given effect to". Transpower high voltage lines are also identified on Planning Map 83 traversing the site between the substation and approximate the intersection of Beatties Road and Upper Sefton Road.

7.3 Definitions

Under the Operative Waimakariri District Plan the establishment and operation of a solar energy farm is a "utility".

Definitions

- The proposed solar farm is a "utility" under the plan definitions*: "Utility means any service, facility or structure relating to …*
  a) "the distribution or transmission of electricity…" and
  e) "the generation of energy including electricity".
- The poles and panels are "structures", being
  "any building, equipment, device or other facility … which is fixed to land".
- *Post holes for the solar panels' frames and trenching for cables are "earthworks"*

7.4 Compliance Assessment (Operative District Plan)

Table 1 – District Plan (Operative) Standards

Rules	Assessment	Status
Chapter 23 – Earthworks		
23.1.1.3 and **23.1.1.5** There shall be no earthworks (a) within 20m of any lake or river, or (b) within 50m of any wetland. For the purpose of the above river means: (a) any continually flowing body of fresh water that has a defined bed: (b) any intermittently flowing body of fresh water with a bed width of more than 4m; (c) any intermittently flowing body of fresh water with a bed width of less than 4m averaged over the reach of the river between a point 40m upstream and a point 40m downstream adjacent to where the vegetation clearance or earthworks is located provided that the measured reach usually has stable pools or flowing water in February that show		Will comply with all the setbacks

evidence of fish, crayfish, mayflies, stoneflies, or caddis flies: or (d) any streams or modified watercourses but excludes artificial watercourses (including irrigation canals, water supply races, and farm drainage canals)		
23.1.1.8 and 23.1.1.9 – Rural Zone 23.1.1.8 "Earthworks, including the extraction of minerals, in the Rural Zones, other than in the bed of any river, shall not involve the disturbance of more than 1000m^2 of soil and/or rock per any 1ha." 23.1.1.9 "In relation to any overhead high voltage transmission line as shown on the District Plan Maps, no earthworks shall occur: a. Within 12m of any electrical transmission tower; or b. Within 5m of any transmission pole; or c. Underneath any overhead high voltage transmission line if those earthworks alter the existing ground level resulting in less than 8m clearance between conductors."	The development will involve the total disturbance of 127,800m^2 over the full development of the site with a maximum area of disturbance at any one time (Refer **Annexure J**).	Can comply if done in stages (Refer **Annexure J**) Will comply (Refer **Annexure K**) Will comply – Refer **Annexure K**
Chapter 27 – Natural Hazards		
27.1.1.2 All structures will be setback 10m or more from the ephemeral streams		Complies Refer Also **Annexure K** - Conditions
Chapter 30 - Utilities		
30.1.1.1 Any utility building or structure shall not exceed 35m2 total floor area	The only buildings proposed are the 9 inverters (each 4.48m^2) total 58.24m^2 and two site storage/ control buildings (200m^2) total	Restricted Discretionary Activity (Rule 30.1.1.1 and 30.3)
30.1.1.4 Any utility structure in the Rural Zone shall not exceed a height of 25 metres, heights greater than 14 metres triggers setbacks from adjoining sites and dwellings (30.1.1.15).	Max height 2.3m	Complies

Chapter 31 – Health, Safety and Wellbeing		
31.1.1.10 – Structure Coverage The structure coverage of the net area of any site shall not exceed: c. 20% in the Rural Zone	The assessment is that the solar panels will cover 30% of the site when parallel to and 2.45m above the ground	Discretionary Activity (Rules 31.1.1.10 and 31.4)
31.1.1.15 – Setbacks for Structures Any structure shall comply with the minimum setback requirements Table 31.1 and measurements shall be taken from the nearest point of any part of any structure (or dwelling house).		Will comply (Refer **Annexure K**)
Table 31.1: Minimum Structure Setback Requirements		
Location		
A setback is required from	Setback depth (minimum)	Proposed
Rural Zone Any road boundary	20m for any dwelling house 10m for any structure or other than a dwelling house	200m - Complies (nearest inverter) 100m – (operations building)
Any internal site boundary	20m for any dwelling house 3m for any structure other than a dwelling house	100m – Complies (nearest inverter)
Any existing dwelling house on an adjoining site	10m for any structure (excluding a dwelling house)	200m – Complies (nearest dwellings)
31.7 Signs 31.7.1.7 On any site in any Rural Zone: a. not more than one sign shall be erected per site, except where a site has a road frontage of more than 200m and two or more frontages two signs can be erected, but no more than one sign per frontage; b. where the sign is visible from any road with a posted speed limit of 70km/hr or greater, present an unrestricted view to the motorists for a minimum distance of 180m; c. display no more than six words, or, if a combination of words and symbols, display no more than 40 characters; d. display symbols or letters of	A single sign of $1m^2$ proposed facing Beatties Road	Will comply

a minimum height of 160mm; e. have a display area of any free standing sign not exceeding 3m2, f. not exceed a height limit of 3 metres; g. where the sign is facing a State Highway where the posted speed limit is 70km/hr or greater, the minimum lettering height for the sign shall be 180mm; and h. where the sign is facing a State Highway, be located no closer than 15m to an official road sign erected by the New Zealand Transport Agency.		
31.10 – Glare 31.10.1.1 In any Rural Zone, any artificial exterior lighting within a site shall: a. be directed away from the sky; b. except for any street light, be directed away from the site boundary and roads so as to avoid light spill, or in the case of a road boundary, avoid a distraction or glare which would create a traffic hazard; and c. be placed so as to avoid causing an air or sea navigation hazard.	Refer Glint/Glare Assessment Annexure F and Landscape Assessment **Annexure D**	Complies Refer **Annexures D and F**

31.12 – Noise 31.12.1.2 Activities in any zone, other than the Business 3 Zone, shall not exceed the following noise limits within measurement time intervals in the time-frames stated at any point within the notional boundary of any dwelling house in the Rural Zone, or at any point within any Residential Zone: a. Daytime: 7am to 7pm Monday to Saturday, and 9am to 7pm Sundays and Public Holidays: 50dBA L_{10}. Other times: 40dBA L_{10}. Daily 10pm-7am the following day: 70dBA L_{max}.		Will Comply Refer Assessment **Annexure E**

Other Rules
None of the other Rules in the operative District Plan will apply to or limit the proposed solar farm activity. The district plan requires setbacks for structures from the Transpower electricity substation and high voltage power lines. The Transpower substation is designated as number 082 in the plan, and there are no specific setbacks required for structures from its site, only the standard setbacks set out in rule 31.1.1.15 and Table 31.1. That is 10 metres from a road boundary and 3 metres from an internal boundary. District Plan map number 83 shows high voltage power lines across the south-eastern corner of the site, and rule 31.1.1.15 and Table 31.1 require setbacks from the centreline of these. The setback depends on the voltage in the lines and is 32 metres for 110kV lines and also 220kV and 350kV lines where the span length is less than 375 metres. If the span length is greater than 375 metres the setback increases to 37 metres for 220kV lines and 39 metres for 350kV lines. The location of the proposed solar panels and supporting frames/structures will remain clear of these exclusion areas, and the site layout will be finalised with input from both Mainpower and Transpower NZ.

7.5 Certificate of Compliance – Assessment re Council Further Information Request refer Annexure G

Rule	Requirement	Status
Rule 23.1.1.8	Earthworks not to involve disturbance of more than 1000m^2/ha	Can Comply Refer annexures **Annexure J and K**
Rule 23.1.1.7	Water Supply: Confirmation of connection to Ashley Water Supply	Exists
Rule 27.1.1.2	Any structure to be setback 10m from the edge of a wetland. The Council provided a plan of the drain and	Set out to comply

	ephemeral stream	
Rule 30.1.1.1	Utility Buildings not to exceed 35m^2 in area	Restricted Discretionary
Rule 30.1.1.6	Any transformer, line or wire shall not exceed a voltage of 100K or exceed a capacity of 100MVA.	N/A
Rule 30.6..1.13	Any access way, except to a state highway where the speed limit is 70 K/hr or greater shall comply with minimum standard in Table 30.3	Will Comply
Rule 30.6.1.15	All access ways within… the Rural Zone shall be formed to an all-weather standard	Will Comply
Rule 30.6.1.24	Vehicle crossings on an arterial, strategic and collector roads shall have minimum unobstructed sight distances (Table 30.54)	Complies Refer Plans **Annexures C and D**
Rule 30.1.1.10	The structure coverage of the area of any site shall not exceed 20% in a Rural Zone	Approx. 30% Discretionary
Rule 30.1.1.13	Calculation of Structure Coverage – calculated when panels flat – 30%	(As above)
Rule 30.12.1.2	Activities in any zone shall meet the following noise limits within measurement time intervals within time-frames stated within the notional boundary of any dwelling house in a Rural Zone a) Daytime: 7am to 7pm Monday to Saturday, and 9am to 7pm Sundays and Public Holidays: 50dBA L10 b) Other times: 40dBA L10 c) Daily 10pm-7am the following day: 70dBA Lmax	Will Comply
Rule 30.12.1.13	Construction Noise – in any zone shall not exceed the recommended limits specified in, and shall be measured and assessed in accordance with, the provisions of NZS:6803:P1984 "Measurement and Assessment of Noise from Construction, Maintenance, and Demolition Work". Adjustments and exemptions provided in clause 6 of NZS:6803:P1984shall apply.	Will comply (Refer **Annexures E and K)**

7.6 Operative District Plan

7.6.1 Activity Status

The District Plan rules that trigger the need for resource consent are the limits on floor area and the structure coverage of the site. In both Chapter 30 and Chapter 31 the standards refer to "…total floor area of any utility building or structure" (refer 30.1.1.1 and 31.1.2.4). The only aspects of the proposal that could be considered to include a "floor area" are the small buildings to house the power inverters, or any storage sheds for the storage of equipment.

The 13 inverter buildings have a combined floor area of approximately 58.2m^2, and the two service buildings have a total floor area of 200m^2 which exceeds the 35m^2 limit in Rule 30.1.1.1. The solar panels and their supporting frames and posts are structures under the plan and are subject to the structure coverage limit of 20% of the net area of the site specified in Rule 31.1.1.10. All of the solar panels and their

supporting frames are elevated a minimum of 2.4m above ground level and much of the site will remain open to the sky (ie approximately 70%). Because the panels and frames will pivot to follow the sun a precise site coverage calculation is not easily assessed. However for the sake of assessment the panel coverage has been assessed when the panels are parallel to, but still 2.4m above ground/pasture level. It is concluded that in that form the panels will be more than the 20% provided for in Rule 31.1.1.10 (**Refer Annexure D** – para, 5.3). Therefore the consent required is a Discretionary Activity.

8. Proposed District Plan (PDP)

8.1 Status of Activity

The Proposed District Plan was publicly notified pursuant to Clause 5 of the First Schedule of the Resource Management Act 1991 on 18 September 2021. The closing date for submissions was 26 November 2021. The notification of supporting or opposing submissions has now been concluded and hearings are taking place. Accordingly it is understood that under the RMA, none of the provisions of the proposed review are in effect in regard to this proposal. However, it is noted that under the Proposed Review a solar energy farm would be a restricted discretionary activity under E1-R43, with matters of discretion in E1-MD5. These refer:

EI-R43	**New infrastructure for the generation of renewable energy including renewable electricity generation from waste**	
	This activity includes the use of electricity generated on site, and the supply of any surplus electricity generated to the electricity distribution network.	
All Zones	Activity status: RDIS Matters of discretion are restricted to: EI-MD1 – Historic heritage and the natural environment EI-MD2 – Amenity values, location and design EI-MD3 – Operational considerations EI-MD4 – Health and Safety EI-MD5 – Electricity Generation EI-MD8– Water supply, wastewater system, and stormwater infrastructure	**Activity status when compliance not achieved? N/A**

9. National Environmental Standards – Assessing Contaminants in Soil to Protect Human Health (NESCS)

The site is located on rural land which has been used for stock/grazing pasture block but does not contain existing or historic activities which would identify it as being a potential HAIL site.

Methods to connect the solar farm to the Power Co. substation include either an overhead cable or underground trenching of a single cable to an appropriate

connection point. The particular method is yet to be confirmed, due to the location and placement of existing services within the substation. However should trenching be identified as the most appropriate method, the volume of an disturbed soils will not exceed those thresholds identified as permitted in Section 8 of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

10. National Environmental Standards for Freshwater Regulation 2020

The definition for "Natural Wetland' includes but is not limited to:

(c) Any area of improved pasture that, at the commencement date, is dominated by (that is more than 50%) exotic pasture species and is subject to temporary rain – derived water pooling.

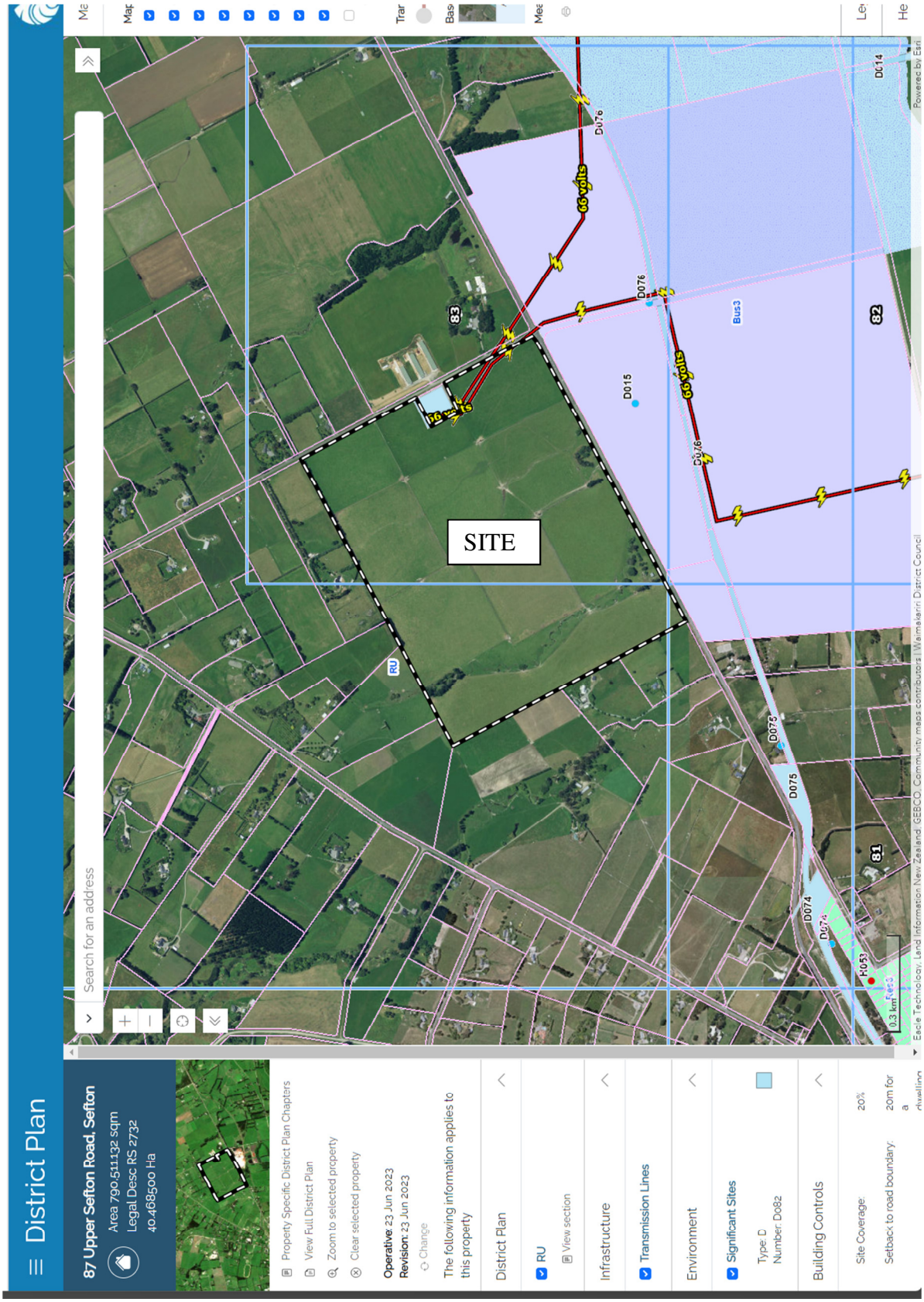

Fig 7 Site – Rural Zoning (Operative District Plan)

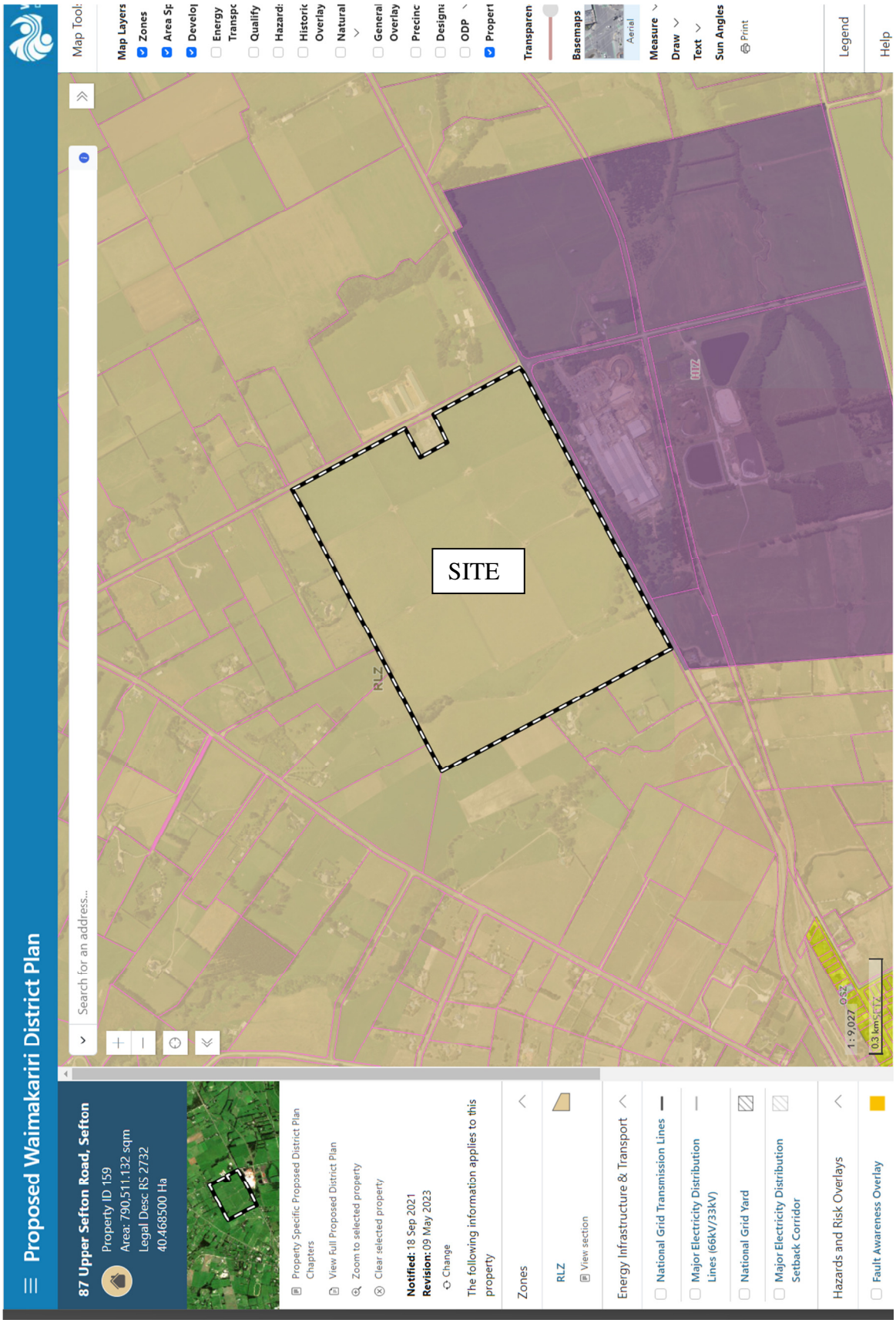

Fig 8 Site – Low Density Living Zoning (Proposed District Plan)

There is a waterway and ephemeral stream within the site and these are identified in **Annexure D.** The provisions of the NES FReg 2020 are set out in Table 2 below.

Table 2: National Environmental Standards for Freshwater Regulations 2020 Compliance Assessment		
Rules	Assessment	Rule Status
Restoration of natural wetlands		
38. Permitted activities 1. Vegetation clearance and earthworks or land disturbance within, or within a 10m setback from a natural wetland is permitted if it is for natural wetland restoration and complies with the conditions.	Vegetation clearance, earthworks or land disturbance will not occur within a 10m setback from the potential wetland. The proposal will not require the taking, using, damming, diversion or discharge of water within a 100m set back from the potential wetland. Restoration planting works are also proposed through the planting of appropriate buffer plantings.	Complies No earthworks within 10m of the ephemeral streams Refer Planting Plans (Annexure D)

11. National Policy Statement on Highly Productive Land

The Government has released the National Policy Statement for Highly Productive Land (NPS-HPL) to protect highly productive land from inappropriate subdivision, use and development and to ensure its availability for food and fibre production.

Until such time that the regional council's incorporate LUC classifications into their maps, district council's must still apply the NPS-HPL to land that is zoned rural general or rural production and has a LUC 1, 2 or 3 classification but is not identified for future urban development or subject to a rezone plan change.
The objectives and policies of the NPS-HPL are assessed in **Table 3** below and an assessment against Clause 3.9 'Protecting highly productive land from inappropriate use and development' is provided in **Table 4** below.

Table 3: *National Policy Statement Highly Productive Land Objectives and Policies*	
2.1 Objective	*Highly productive land is protected for use in land-based primary production, both now and for future generations.*
Policy 1	*Highly productive land is recognised as a resource with finite characteristics and long-term values for land-based primary production.*
Policy 2	*The identification and management of highly productive land is undertaken in an integrated way that considers the interactions with freshwater management and urban development.*

Policy 3	*Highly productive is mapped and included in regional policy statements and district plans.*
Policy 4	*The use of highly productive land for land-based primary production is prioritised and supported.*
Policy 5	*The urban rezoning of highly productive land is avoided, except as provided in this National Policy Statement.*
Policy 6	*The rezoning and development of highly productive land as rural lifestyle is avoided, except as provided in this National Policy Statement.*
Policy 7	*The subdivision of highly productive land is avoided, except as provided in this National Policy Statement.*
Policy 8:	*Highly productive land is protected from inappropriate use and development.*
Policy 9:	*Reverse sensitivity effects are managed so as not to constrain land-based primary production activities on highly productive land.*

Comment:

The site contains Class 2 soils (Refer **Fig 9** below). An assessment of the proposal in terms of the NPS-HPL is set out over. However it is noted that by reference to the Memorandum to the Waimakariri District Plan Review (20 June 2023) in relation to the NPS-HPL and the RLZ the following (Refer **Annexure I**) was concluded:

20. Thus, I note that the RLZ in the PDP was prepared under the rural lifestyle zone descriptor in the National Planning Standards, that was not redefined in the NPS-HPL.

*21. However, as the NPS-HPL itself does not specifically address the specific scenario of a whether a notified plan review proposing changes exists, it could be read that the intention was that this exemption would apply to areas 'subject to a plan change' (**my emphasis**) that would generally consider a specific site or area, rather than a more macro scale analysis of the district's planning framework as occurs in a wider plan review.*

22. Having considered both points, I prefer the interpretation that the NPS-HPL does nt apply to RLZ that is either operative, or is subject to a review/change of that provision (until a decision is made).

23. The Objectives and Policies of the NPS-HPL are appended (Appendix 2). While the policies are directive, there are a large number of exclusions to enable residential development to apply to land that would otherwise be considered as highly productive.

40. Policy 8 is a protective policy for highly productive land against inappropriate use and development. Inappropriate use and development is not defined.

Given my conclusion in paragraph 19 above, if the preferred reading was adopted, the policies of the NPS-HPL would not apply to the RLZ until such a time that the Regional Council has completed its mapping of highly productive land and implemented a change to the RPS. Of note is that RLZ land has not been exluded from potentially being mapped.

Having noted the above the following assessment is made:

EBL recognise that to locate their solar farm over highly productive land where high-class soils are present then it is desirable, but possibly not necessary (Refer **Annexure I**)to provide for the continued use of the land for primary production activities. This not only adds to the positive aspects of their proposal from a consenting perspective, but it also provides other benefits to the applicant such as controlling grass growth around the panels through grazing and ensures continued economic viability of the land.

Solar farms are a relatively new emerging activity in New Zealand but internationally, 'agrisolar' in the form of 'solar grazing' is the predominant form of land co-use due to its benefits for both energy companies and farms. 'The Australian Guide to Agrisolar for Large-Scale Solar' draws on experience from both Australia and internationally. The research sets out that crop selection is important under the solar panels with factors such as climate obviously playing a large part. Grass/clover is identified as being suitable to grow under solar panels where this is already present (like at the application site) with research suggesting that the growth rate of certain crops (including grass) is not reduced under the panels and that the performance of some plants can even be improved.

Due to the continued ability for the land to be used for land based and primary production activities it is considered that the proposed development does not represent an 'inappropriate use or development' of the site and it will not generate reverse sensitivity effects that are likely to constrain land-based primary production activities within the receiving environment.

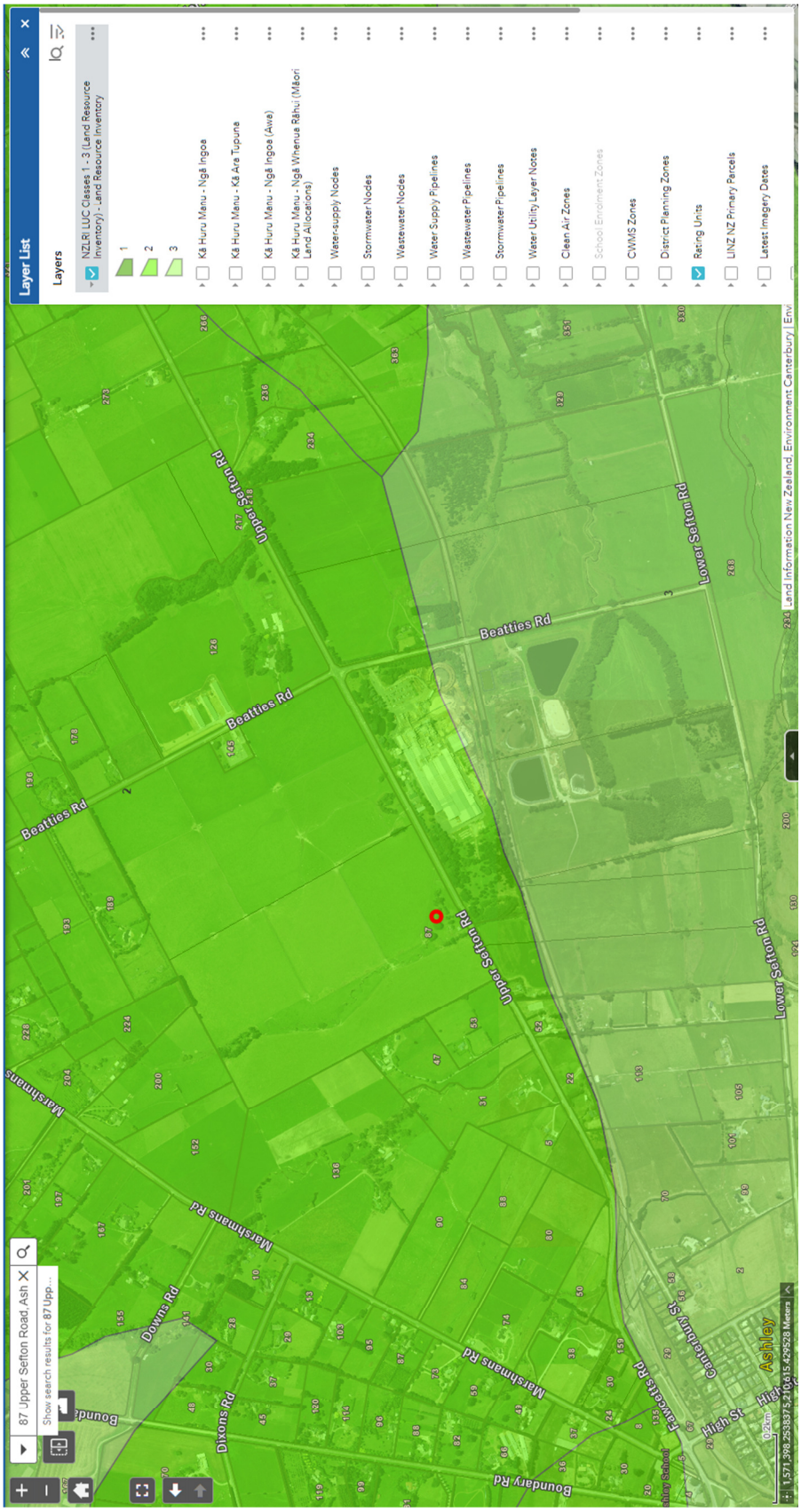

Figure 9: Land Use Capability Map (Source: Manaaki Whenua Landcare Research)

TABLE 4: Consideration of Clause 3.9 of the National Policy Statement Highly Productive Land	
3.9 Protecting highly productive land from inappropriate use and development	
Provision	**Comment**
1. Territorial authorities must avoid the inappropriate use or development of highly productive land that is not land-based primary production.	The proposed development is not a land-based primary production activity. However, the development does not prevent the land from being used for primary production purposes such as land grazing. Land grazing activities occur on the land now and can continue to occur harmoniously together with a solar farm. As such, the proposed development is not 'inappropriate' and therefore does not need to be 'avoided'.
2. A use or development of highly productive land is inappropriate except where at least one of the following applies to the use or development, and the measures in subclause (3) are applied: a) It provides for supporting activities on the land: b) It addresses a high risk to public health and safety: c) It is, or is for a purpose associated with, a matter of national importance under section 6 of the Act: d) It is on specified Māori land: e) It is for the purpose of protecting, maintaining, restoring, or enhancing indigenous biodiversity: f) It provides for the retirement of land from land-based primary production for the purpose of improving water quality: g) It is a small-scale or temporary land-use activity that has no impact on the productive capacity of the land: h) It is for an activity by a requiring authority in relation to a designation or notice of requirement under the Act: i) It provides for public access: j) It is associated with one of the following, and there is a functional or operational need for the use or development to be on the highly	a) The proposal enables the continuation of land based primary production activities and in this manner it will not preclude a farming or other land based primary production activity from occurring. b) The development does not address a high risk to public health and safety. c) The development is not associated with a matter of national importance under section 6 of the Act. d) The site is not specified Māori land. e) The purpose of the development is not for protecting, maintaining, restoring or enhancing indigenous biodiversity. f) There will not be a retirement of land from land-based primary production for the purpose of improving water quality. g) The proposal is not identified as being 'small-scale' or 'temporary' but in terms of the wider site, and there is not considered to be a large loss of land for farming activities as these can still co-exist with the solar farm such that the proposal will not impact on the productive capacity of the land. h) The activity is not one being done by a requiring authority in relation to a designation or notice of requirement under the Act. i) The proposed development does not

TABLE 4: Consideration of Clause 3.9 of the National Policy Statement Highly Productive Land	
3.9 Protecting highly productive land from inappropriate use and development	
Provision	**Comment**
productive land: i. The maintenance, operation, upgrade, or expansion of specified infrastructure: ii. The maintenance, operation, upgrade, or expansion of defence facilities operated by the New Zealand Defence Force to meet its obligations under the Defence Act 1990: iii. Mineral extraction that provides significant national public benefit that could not otherwise benefit that could not otherwise be achieved using resources within New Zealand: iv. Aggregate extraction that provides significant national or regional public benefit that could not otherwise be achieved using resources within New Zealand.	provide for private access. j) The proposal is for the development of 'specified infrastructure' [4] which is infrastructure that is recognised as regionally or nationally significant in a National Policy Statement, New Zealand Coastal Policy Statement, regional policy statement, the WDC district plan review or regional plan. In this regard renewable energy is recognised as locally, regionally and nationally significant in: • NPS for Renewable Electricity Generation 2011 • NPS on Electricity Transmission Alongside being recognised in these documents, there is a functional and operational need to locate on the productive land in this area. Solar farms need to be located on relatively flat land, generally in proximity to a substation or other electricity transmission infrastructure and as they can occupy a large area they need open space that they can occupy. This location offers both proximity to electricity infrastructure and open space. Given the requirement for space, solar farms will often be located within rural areas and on or over highly productive land. The development is not associated with the other listed activities - defence facilities, mineral or aggregate extraction.
3. Territorial authorities must take measures to ensure that any use or development on highly productive land: a) Minimises or mitigates any actual loss or potential cumulative loss of the availability and productive capacity of highly productive land in their district; and b) Avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on land-based primary production activities from the use or development.	a) In granting consent to this application, The District Council can be comfortable that the productive capacity at the site can be retained as land based primary production activities can continue. The solar farm will not prevent pasture growth over the land and grazing of the land can continue. It is important to note that grazing the land within a solar farm provides benefits for ongoing farm management and paddock rotation while also ensuring that the grass height is maintained and manageable around the panels for EBL. The proposal will therefore not result in an actual or potential cumulative loss of the availability and productive capacity of land in the district.

[4] Specified Infrastructure includes infrastructure that delivers a service operated by a lifeline utility. A lifeline utility as defined in the Civil Defence Emergency Management Act 2002 includes "*An entity that generates electricity for distribution through a network or distributes electricity through a network*."

TABLE 4: Consideration of Clause 3.9 of the National Policy Statement Highly Productive Land	
3.9 Protecting highly productive land from inappropriate use and development	
Provision	**Comment**
	b) The proposal will avoid reverse sensitivity effects on land based primary production activities. This is reinforced by the ability of primary production activities to occur under and around the solar panels.

12. Statutory Framework

12.1 Part 2 of the RMA

Part 2 of the RMA sets out the purpose and principles of the Act, being "to promote the sustainable management of natural and physical resources" which is defined to mean:

managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety while –

(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and

(c) Avoiding, remedying or mitigating any adverse effects of activities on the environment.

This assessment is informed by reference to the matters set out in sections 6, 7 and 8 of the Act.

The Court of Appeal decision on Davidson found that the High Court erred when it determined the Environment Court was "*not able or required to consider Part 2 of the Resource Management Act 1991*" when undertaking its decision-making role in accordance with section 104 of the RMA. The decision means that we "*must have regard to the provisions of Part 2 when it is appropriate to do so*." However, where the relevant Plan has been competently prepared under the Act and clearly deals with Part 2 subject matters, then recourse to Part 2 may not add anything to the evaluative exercise.

The Waimakariri District Plan was made operative in November 2005 and Plan Changes have been undertaken since 2005. Despite the age of the Plan the Rural provisions are not considered to be inconsistent with any national policy direction nor the Canterbury Regional Policy Statement (CRPS) and accordingly, the Operative District Plan is considered to provide the appropriate framework for considering the proposal. However it is recognised that those higher order plans to provide support for the application. There are no section 6 matters relevant to this application.

Sections 7(b), (c), (f) and (j) are considered relevant to the proposal. The proposal is considered to be an appropriate use within the Rural Zone and is therefore considered to be an efficient use of natural and physical resources in that it both enables the generation of electricity and the continued use of the land for farming activity, does not compromise amenity values or the quality of the environment, and provides benefits in terms of the development and use of renewable energy.

12.2 Section 104 of the RMA

12.2.1 Section 104(1)

Section 104 of the RMA provides the statutory requirements for the assessment of the application and sets out those matters that WDC must have regard to when considering the application.

"(1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to-

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

(b) The relevant objectives, policies, rules and other provisiosn of national environmental standards, other regulation, national policy statements, regional policy statements (proposed and operative), proposed plans and plans (section 104(1)(b)),

(c) any other matter the consent authority considers relevant and reasonably necessary to determine the application."(Section 104(1)(2)

The position of the words "subject to Part 2" near the outset, and preceding the list of matters to which a consent authority must have regard in s104 clearly show that it is necessary to have regard to Part 2, when it is appropriate to do so.

With regard to the list of matters to which a consent authority must have regard to, the following comments are made:

- The assessment undertaken in Section 12 of this AEE addresses actual or potential effects of the proposal, with the conclusion being that the proposal will on completion result in less than minor effects on the environment – ***Section 104(1)(a).***
- The proposal will ensure positive effects (outlined in section 12 below) on the environment - ***Section 104(1)(ab).***
- The relevant provisions of the NESCS have been addressed in Section 8 – ***Section 104(1)(b)(i).***
- The relevant climate change legislation, being The Climate Change Response (Zero Carbon) Amendment Act and The Climate Change Response (Emissions Trading Reform) Amendment Act has been considered in Section 17 - ***Section 104(1)(b)(ii).***
- The relevant provisions of the NPS-HPL have been addressed in Section 10 and the NPS-REG and NPS-ET are addressed in Section 16 - ***Section 104(1)(b)(iii).***
- The site is located inland, as such, consideration has not been given to the New Zealand Coastal Policy Statement nor is it considered necessary – ***Section 104(1)(b)(iv).***
- Notwithstanding the above, where higher order documents are relevant and if given effect to in regional or district plans then they can be regarded as being

particularised in the relevant plan. The Waimakariri District Plan gives effect to the Higher Order documents (eg RPS)

Sections 13 and 14 of this application sets out an assessment of the proposal against the objectives and policies of the Waimakariri District Plan with the assessment finding that the proposal will be consistent with the relevant objectives and policies of the District Plan - ***Section 104(1)(b)(v) and Section 104(1)(b)(vi).***

- Section 17 of this application sets out climate change as "other matters" which are considered relevant to this application – ***Section 104(1)(c).***

12.2.2 Section 104(2)

Section 104(2) outlines the 'permitted baseline' concept for the purpose of assessing effects:

"(2) 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".

Of relevance to this application is that the shelter belt and stream planting is a permitted activity under the district plan. This is relevant when considering the effects of the proposal on the landscape, natural character and visual amenity being established for the site. In particular:

- Perimeter planting
- Stream planting

As a discretionary activity, section 104B is also relevant. Section 104B of the RMA sets out that a consent authority may grant or refuse a resource consent application, and if it grants the application, may impose appropriate conditions in accordance with section 108. A range of conditions is volunteered without prejudice (Refer **Annexure K**).

13. Assessment of Effects on the Environment

13.1 Overview

In accordance with the requirements of Section 88 and the Fourth Schedule of the Resource Management Act, this section provides an assessment of the actual and potential effects of the proposal on the environment.

The proposal is for a Discretionary Activity, hence there are no constraints on the Council's ability to consider any matter considered relevant to the proposal. The potential effects of the proposed solar farm set out below being landscape, natural character and visual amenity effects, noise, heritage and cultural effects, earthworks and planting, servicing and access and positive effects.

13.2 Written Approvals

Section 95E(3) of the RMA sets out that a person is not an affected person in relation to an application for resource consent for an activity if they have given approval for the proposed activity. Written approvals have been received by the owners and occupiers of the properties identified in **Table 5** below and **Annexure H**.

Table 5		
Address	Owner/Occupier	Location on Figure
126 Beatties Road	D and J Reeves	Fig 2
217 Beatties Road	L and J Kerr	Fig 2

13.3 Landscape, Natural Character and Visual Amenity Effects

An assessment of the landscape, natural character and visual effects of the proposed solar farm has been undertaken by RMM, as documented in their report entitled 'Landscape Assessment Report' attached in **Annexure D**. The assessment has taken into account the Glint/Glare reports by Vector Powersmart and attached (**Annexure F**)

13.3.1 Assessment of Visibility and Visual Effects

RMM have identified that visual effects are a subset of landscape effects.[5] They are consequences of changes in landscape values as experienced in views. They are one technique to understand landscape effects (Refer **Annexure D**). Visual amenity is a measure of the visual quality of a landscape experienced by people living, working and travelling through the landscape. The application site has frontages to Upper Sefton Road (a strategic road) and Beatties Road (a collector road). The site is clearly visible from both roads but the visual impact for passing traffic is and will be mitigated by extensive screen plantings along both road boundaries. The locality is a working rural and farming environment, dominated by open space and farming land uses but also accommodating dwellings, rural industries, large buildings and extensive utility infrastructure. Its visual character has been significantly modified from its original natural qualities.

The site is already partly screened from adjacent roads by mature trees, therefore views to the site where the maximum height of the solar tables is 4.55m at limited times during the day, will be fleeting and only obtained through gaps in trees. Additional perimeter screen and waterway planting is proposed. Where the solar farm is viewed it will appear in context with the substation, the overhead high voltage powerlines and the nearby intensive farm. Much like windfarms for example, a solar farm could be seen as a point of interest on a landscape where they may be viewed positively because of their ability to generate electricity from a renewable energy source. It is concluded that there will be a less than minor effects on road users unfamiliar with the location and a minor effect on road users

[5] Te Tangi a te Manu Aotearoa NZ Landscape Assessment Guidelines: Annexure D

who use the roads more frequently. It is considered that overall the effects on road users will be less than minor.

Neighbouring Residences
Twelve residences have been identified as being potentially impacted by the proposal. Two properties have given written approval. All of the potentially affected properties are addressed in detail in the RMM assessment (**Annexure D**) and summarised in para 12.3.3 of this application.

13.3.2 Landscape Effects

The RMM assessment outlines that landscape effects are, *"a consequence of changes in a landscape's physical attributes on that landscape's values. Change is not an effect: landscapes change constantly. It is the implications of change on landscape values that is relevant."*

The existing landscape and visual amenity values form the baseline, along with policy provisions for an assessment of landscape effects. RMM have considered the landscape attributes of the site and surrounding area under three broad categories being physical, perceptual and associative and have addressed the solar farm against these values. The physical values for the site and its receiving environment are that it is typical of a modified rural agricultural landscape. The land cover has been extensively modified for rural agricultural activities, and rural industries. The perceptual values have been identified as a rural working landscape with a pleasant open character. No cultural or historic sites of significance within the receiving environment have been listed in the District Plan or were obvious from site investigations. The RMM assessment considers the following:

The more intense pattern of rural lifestyle development, its fine-grained pattern of development and human induced characteristics, north of Ashley township and the Ashley River, has been recognised in the PDP. This is because it is proposed to be zoned Rural Lifestyle, and will provide for rural living at increased densities. This means the Rural Zone will inevitably change and an open character is likely to reduce.

Currently the remaining medium sized land holdings, open pasture and shelterbelts are a key characteristic of the area that contributes to a pleasant agricultural aesthetic, open rural character and visual amenity that people experience from their properties and along these roads. This includes views to the surrounding hills.

***"Associative** means the intangible things that influence how places are perceived – such as history, identity, customs, laws, narratives, creation stories, and activities specifically associated with a landscape." Typical Associative factors includes cultural (tangata whenua) and historic values as well as shared and recognised attributes such as recreational opportunities.*

There are no known cultural or historic sites of significance within the site or the receiving environment, as listed in the ODP or PDP or any obvious signs from site investigations.[6]

The proposed solar farm will result in a change to the physical environment of the site where the largely open farming landscape will be modified due to the built form that will be established within the site. The character of the site will change from a rural open pastoral character to a predominantly rural/utility character with an underlying pastoral use. Therefore, the proposal has the potential to result in adverse effects on both the physical and perceptual landscape values attributed to the site.

However it is submitted that the solar farm can be appropriately absorbed into the landscape setting in which it is proposed to be established as the rural landscape has a high capacity to absorb change. This is because the landscape setting, is one where the site is located amongst rural and rural lifestyle landholdings with established screening vegetation. The existing substation, overhead transmission line utilities, fibre board factory and the intensive farm are also visually prominent elements in the environment which provide the context that assists in visually absorbing the proposed solar farm into the receiving environment.

The landform within the site will not change as only minor excavation will be required for the solar tables and invertors which will largely follow the topography of the land and its existing contours. Although the solar tables and panels cover a relatively large area, they are seen as relatively 'light' structures whereby the pasture cover will be maintained beneath and will remain visible from most views. In addition, stock will be able to continue to graze the land beneath the solar panels meaning that the site, as well as generating renewable energy will continue to have a productive rural use. The glare assessment has indicated that the site will not produce a glint or glare effect for the adjacent sites, particularly given the proposed landscaping.

The potential adverse landscape effects resulting from the change to the character of the site can be mitigated by the existing and proposed vegetation that will screen the site from adjacent roads and nearby dwellings and also by the existing context of the site where the solar farm will be clustered with existing power infrastructure, the Daiken wood processing factory, and within a typical pastoral landscape that is not recognised as or part of an Outstanding Natural Landscape. The solar farm is appropriately sited due to it being located within a geographical area that has high sunshine hours (in excess of 2000 hours per annum), where it is close to an existing substation, transmission towers and lines which minimise the amount of potential infrastructure required to operate effectively and efficiently.

RMM have identified that the proposal will result in a change to the physical and perceptual landscape values of the site but overall the landscape is considered to

[6] RMM: Landscape Assessment, Annexure D p12

have a reasonable capacity to absorb the change anticipated by the proposal for the following reasons[7]:

- *The site is located within a limited visual catchment, it is not prominent or highly visible and there are no unique elements or public views into the site that are considered to be locally important or significant.*

- *The design and layout of the solar farm responds to elements and patterns within the local landscape and as such has preserved some natural character values.*

- *The existing substation and overhead transmission lines are visually prominent and provide the context for the solar farm to be absorbed within.*

- *The character of the site is influenced by its peri-urban location beside the fibre board plant and factory farm and these features provide an additional layer of absorption for development of the landscape.*

- *Only minor soil disturbances is required which ensures that the landform at the site will not change significantly and that the valuable topsoil will be retained ensuring that the land can continue to be used for pastoral/grazing purposes.*

The character of the site will change with the introduction of a rural/industrial utility. However, rural aspects and natural character elements will be retained through the ongoing grazing of the underlying pastoral cover or other land-based production, retention and addition of some on-site vegetation which provides reasonable screening for structures and the recessive nature of the landform so that the introduced structures will not be prominent while the ongoing grazing of the underlying paddock will be retained within the site.

This location from a landscape values perspective is therefore considered to be well suited to the proposal. When all considerations are taken into account such as the need for the facility to locate adjacent to or close to infrastructure, the dual use of the site and the ability for it to continue to be used for productive purposes, the current drive and demand for sustainable and renewable energy generation at a national and global level and the local benefits, the chosen location can be seen as entirely appropriate.

13.3.3 Overall Conclusion of Landscape Effects

Based on the above assessment and RMMs assessment[8], the proposal will have a low degree of adverse effects on the landscape values of the site and its receiving environment which equates to effects which are minor. This conclusion as set out in RMMs assessment is based on several factors:

[7] RMM Landscape Assessment – Annexure D
[8] RMM Landscape Assessment – Annexure D

- *The solar farm will largely be out of sight in the area and travelling past once the perimeter planting is established. There will be change when the activity is first established but renewable electricity generation is often viewed as a positive contribution to the landscape and the community,*

- *Once developed the traditional element of productive land will remain,*

- *There will be significant planting enhancement around the ephemeral waterway, and*

- *That the solar farm is located within a relatively limited visual catchment which means that the travelling along Beatties and Upper Sefton Roads (at a speed of up to 100k) the views towards the solar far will be relatively fleeting.*

- *Upper Sefton Road and Beatties Road. The solar farm will have a moderate degree of adverse effects on the visual amenity experienced by road users when it is first constructed and for the limited period of the day when the solar panels will stand above a height of 3.5m. However, for the majority of the day, adverse effects will be of a low-moderate degree. Once the shelterbelt is 2.5m - 3m tall these effects will be reduced to a low to low-moderate and when the shelterbelt reaches 4m tall these adverse effects will be nil, and interms of the adjoining properties …*

- *47 Upper Sefton Road - No adverse visual effects.*

- *53 Upper Sefton Road. The solar farm will have a low to low-moderate degree of adverse effects on the visual amenity when it is first constructed and for the limited period of the day when the solar panels will stand above a height of 3.5m. However, for the majority of the day, these adverse effects will be of a very low to low degree. Once the shelterbelt reaches 4m tall these adverse effects will be nil.*

- *159, 167, 204 and 224 Marshmans Road. The solar farm will have a low to low-moderate degree of adverse effects on the visual amenity when it is first constructed. Once the shelterbelt is 2.5m – 3m tall these effects will be reduced to a low and when the shelterbelt reaches 4m tall adverse effects will be nil.*

- *178 Beatties Road. The solar farm will have a moderate degree of adverse effects on the visual amenity when it is first constructed and for the limited period of the day when the solar panels will stand above a height of 3.5m. However, for the majority of the day, these adverse effects will be of a low-moderate degree. Once the shelterbelt is 2.5m - 3m tall these effects will be reduced to a low to low-moderate and when the shelterbelt reaches 4m tall these adverse effects will be nil.*

- *189 Beatties Road. The solar farm will have a low degree of adverse effects on the visual amenity when it is first constructed. Once the shelterbelt is 4m tall*

these effects will be reduced to no more than a very low degree and when the shelterbelt reaches 6m tall these adverse effects will be nil.

- *126, 190, 196 and 217 Beatties Road. The solar farm will have a low-moderate to moderate degree of adverse effects on the visual amenity experienced when it is first constructed and for the limited period of the day when the solar panels will stand above a height of 3.5m. However, for the majority of the day, these adverse effects will be of a low to low-moderate degree. Once the shelterbelt is 2.5m - 3m tall these effects will be reduced to no more than a low-moderate and when the shelterbelt reaches 4m tall these adverse effects will be nil.*

13.3.4 Effects on Soil Resource

Due to the height of the solar tables and panels above ground (which is similar to a standard ceiling height in a house), the site can continue to be used as a pastoral block for stock grazing while also being used as a site for renewable electricity generation.

Stock can graze underneath the solar table or to the side of the tables. In this regard, the solar panels are designed so that they move with the sun meaning that they pivot east to west as the sun moves across the sky. The gaps between the tables ensure that both sunlight and rain will continue to reach the soil resource therefore enabling the growth of pasture on which the stock can graze upon. When the tables are facing directly upwards there is a 4.8m gap between the rows of the solar tables and when they are at maximum tilt there is a 7.1m gap. This will ensure both sunlight and rain will continue to reach the soil resource.

13.3.5 Earthworks Effects

An assessment of the extent of earthworks required is set out in **Annexure J**. The applicant proposes to limit the ground disturbance to a maximum area of 8,000m^2 at any one time to achieve compliance. Conditions to ensure this outcome are set out in **Annexure K**. There is the potential for nuisance effects to arise from the proposed earthworks from an increase in dust, stormwater and traffic. The applicant has provided conditions to address the nuisance effects by way of Construction Management Plans. The level of traffic is modest and temporary.

In terms of dust, it is noted that the site is located in a rural location where typical rural activities such as the cultivation of land can commonly result in dust generation. The potential for dust generation is therefore not inconsistent with permitted rural activities and will be restricted to the duration of site works until the solar tables, inverters and cabling has been established on the site and any exposed areas of soil, not covered in buildings are re-grassed. It is a primary goal to retain the pasture at the site, and ensure that the earthworks are limited to the areas only where they are necessary to establish the infrastructure.

In terms of stormwater runoff, the site is generally flat with very minor undulation, that the earthworks can be undertaken away from the site boundaries, that the ground cover will enable stormwater to permeate through the ground and that the

earthworks will be undertaken both in limited stages (m^2) and over a limited timeframe minimising any potential effects from stormwater runoff. The potential effects of stormwater runoff will be less than what could result from a permitted rural activity.

While additional traffic to the site could be expected for the earthwork/construction phase of development (Refer **Annexure J**) it is not anticipated that any additional vehicle movements would result in a noticeable increase of traffic to the site. The additional level of traffic is estimated at 3.5vpd. This is in part because the earthworks do not require any soil to be transported to or from the site. Rather, the traffic to and from the site is expected to be limited to construction workers travelling to and from the site, typically at the start and finish of the working day delivering the solar farm infrastructure.

Overall, it is concluded that any potential adverse effects resulting from earthworks and site development will be less than minor.

13.3.6 Noise

Marshall Day Acoustics have undertaken a noise assessment for the proposed solar farm. The key operational noise source is the inverters which have been positioned centrally within the site to provide practicable separation distances from the nearest receivers. Transformers and tracker motors will also generate noise but to a lesser degree than the un-attenuated inverters. The noise level calculations represent the 'worst case' situation, but all calculations show that compliance can be achieved with the District Plan maximum daytime and night-time noise limits at the notional boundaries (Refer **Annexure E**).

13.3.7 Heritage and Cultural

There are no heritages or cultural values identified within the District Plan or apparent on site. The proposed development is therefore not anticipated to have any adverse effects on heritage or cultural values. The applicant is aware of their responsibility to follow an accidental discovery protocol as per the Heritage New Zealand Pouhere Taonga Act 2014 during the works should an accidental discovery be made and a condition is proposed to this effect. The applicant has read the report (Dec 2023) prepared by MKT and accepts the recommendations in that report.

13.3.8 Traffic

The solar farm has access to both Beatties and Upper Sefton Roads. The proposal will retain a single new main access point to Beatties Road designed in accordance with Rule 30.6.1.13 of the Operative District Plan being a separation distance of 250m from the intersection. The access way off Upper Sefton Road near the south corner will be retained. A condition to this effect has been volunteered (Refer **Annexures C, D and K**).

The solar farm is operated remotely and once constructed will only generate intermittent traffic to the site for maintenance and inspection. No new access ways are proposed to the site and no sealed access ways are required within the site. The site will operate much like a farm with light vehicles able to traverse the site grazing surface. The construction period is anticipated to take approximately 15 months and during that time an average of around 3.5 vehicles will access the site to bring the solar structures/panels (Refer **Annexure J**).

13.3.9 Positive Effects

The applicant seeks to optimise the land-use at the site, enhancing environmental outcomes in a way that the traditional grazing of the land and the underlying pastoral use of the site is retained. The site is located within an optimal geographical location given the solar farm can connect into the existing electricity infrastructure minimising the need to establish further transmission line infrastructure or substations. The site is also located within an area which has suitable sunshine hours and is also located within a confined visual catchment.

The applicant is therefore seeking to make the most of the opportunities afforded by the site's location to generate electricity from a renewable rather than finite resource. This diversification of electricity generation will result in an increase in electricity generation capacity and an increase in the security of electricity supply.

The establishment of a solar farm also has benefits to the local economy as it can provide economic benefits to local contractors who may be employed to undertake tasks such as during the land preparation and construction phase where local staff may be employed and the wages, construction, planting and use of materials will contribute to the local economy and once the solar farm is operational there may be some new local employment opportunities including electrical, security and maintenance operations.

The proposal also involves the reduction of a dairy farming operation therefore it can be reasonably expected that there will be a reduction in environmental effects commonly attributed to dairy farming such as ground and surface water contamination from nitrate leaching, excess nutrient losses, larger emissions of greenhouse gases particularly methane and nitrous oxide from animal waste and effects on biodiversity.

As an aside the 48.2 MWp plant is estimated to produce 78,000 <Ha/year. Using an estimate of 8000 KWh/year for an average house. That means the complex could supply the energy equivalent of the needs of approx. 9750 houses.

Overall, it is considered that the establishment and operation of a solar farm in this location will result in significant positive effects and contribute to local regional and national communities through generation of renewable electricity. It will assist with meeting the Governments national strategic target to generate 100% of electricity from renewable energy sources by 2030.

13.3.10 Summary of Effects

The proposed development has the potential to result in a change in the landscape character and amenity but this change in effect is concluded to be less than minor. In addition, having regard to the character of the area and the additional landscaping proposed that positive effects will result. In summary:

- In particular the District Plan specifically provides for utility operations and renewable energy opportunities (Solar) and is anticipated by the Proposed District Plan, (Refer provision E1-R43) recognising the local, regional and national benefits that derive from network utilities and the development of renewable electricity generation,
- The landscape effects on the surrounding environment are considered to be minor taking into account the RMM assessment on landscape, natural character and visual amenity values alongside the proposed mitigation,
- There will be less than minor effects on the soil resource given that the valuable top soil will be retained and continue to be used for calf/sheep grazing and a variety of cropping options,
- The solar farm can meet the District Plan noise requirements and conditions are offered to ensure that the noise generated from the solar farm does not exceed the ambient noise level recorded in the area,
- That the earthworks are small in scale and any nuisance can be mitigated. No soil is removed from the site and any disturbed areas re-grassed, and
- That the activity is respectful of cultural values in that;
    - It will support both the sensitive protection sustained by the life supporting capacity of the environment while providing for a sustainable/renewable energy source,
    - The stream and ephemeral waterway are protected,
    - An accidental discovery protocol is recommended, and
    - An assessment has been sought from the Iwi

Overall the environmental effects arising from the proposal are considered minor (during construction and planting) reducing to less than minor.

14. Objectives and Polices – Operative District Plan

The relevant objectives and policies applicable to this application are contained in Chapter 2 – Maori, Chapter 11 – Utilities and Traffic, Chapter 12 – Health and Safety and Chapter 14 – Rural Zones.

14.1 Chapter 2 - Maori

Issue 2.1
The need for recognition and provision for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga.
Objective 2.1.1
Effective and appropriate processes and practices that acknowledge the status of tangata whenua as treaty partner and take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi)

Policy 2.1.1.1 *In identifying tangata whenua, Te Runanga o Ngai Tahu is recognised as the iwi authority and Te Ngai Tuahuririr as manawhenua.*
Objective 2.1.2 *Recognition and provision for the mana whenua concept and practice of kaitiakitanga in the management of natural and physical resources.* ***Policy 2.1.2.1*** *To have particular regard to manawhenua and spiritual kaitiakitanga in the management of natural and physical resources.*
Objective 2.1.3 *Recognition and provision of wahi taonga that is culturally, spiritually and/or physically important to Ngai Tuahuriri.* ***Policy 2.1.3.1*** *To identify wahi taonga recognised by Ngai Tuahrurir.* ***Policy 2.1.1.2*** *Provide for the participation of tangata whenua in the management of the District's natural and physical resources.*

Comment:

At present the review of the cultural interests and values has been undertaken by the applicant in terms of the overall District Plan objectives and policies. Runanga interests have been advised of the proposal and invited to provide an assessment or respond in terms of the effect of the proposal on cultural interests and this will be provided to the Council once obtained.

14.2 Chapter 11 – Utilities and Traffic Management

Issue 11.1 *Utilities are necessary to enable people and communities to provide for their wellbeing, health and safety.* ***Objective 11.1.1*** *Utilities that maintain or enhance the community's social, economic and cultural wellbeing, and its health and safety.*
Policy 11.1.1.1 *A utility should:* *a. contribute to a safe environment;* *b. maintain or enhance public health;* *c. promote efficient use of resources and efficient development of the utility, so that resources are conserved and used in a sustainable manner;* *d. have regard to cross boundary issues where the utility or the service provided by the utility crosses the territorial boundary;* *e. where it is necessary to service new development, be paid for by the developer, or as a condition of consent for the development; and* *maintain and enhance social wellbeing.*

Comment:

Issue 11.1, Objective 11.1.1 and Policy 11.1.1.1 all support the application with the exception for d. and e. which are not relevant to this proposed land use.

The remaining policies in support of objective 11.1.1 (Policies 11.1.1.2 and 11.1.1.9) are not applicable to the application, being relevant to other types of utility than the generation and transmission of renewable electricity. Consenting a new solar farm in this location will enable the establishment, efficient use and maintenance of a utility in a sustainable manner and enhance the well-being of the community. Solar farms have strategic requirements such as being located in areas with high sunshine hours and near existing infrastructure. It is concluded that the solar farm is of high importance due to the benefits that result from its establishment and operation of a renewable electricity generation activity. The benefits include using a renewable resource over a finite resource, avoiding reliance on imported fuels for the purpose of generating electricity, increasing electricity generation capacity and enhancing the security of electricity supply at local, regional and/or national level.

Issue 11.2
The provision, use, maintenance and upgrading of utilities can have adverse effects on the environment including public health.

Objective 11.2.1
Adverse effects on the environment caused by the provision, use, maintenance and upgrading of utilities are avoided, remedied or mitigated.

Policy 11.2.1.1
Avoid, remedy or mitigate adverse environmental effects created by the provision, use, maintenance and upgrading of utilities by:
meeting environmental standards set by the Plan;
having regard to the particular amenity or character of the area in which it is placed;
integration with, and co-siting of, existing utilities where they are accessible and are, or can be, expanded to manage any additional loading and where such loading is technically and operationally feasible;

a. meeting accepted design standards;
b. in the case of the utilities associated with the development and occupation of Pegasus, requiring adequate redundant plant to be provided as part of the sewage treatment and disposal system, in order to avoid adverse effects on the surrounding environment in the event of any plant breakdown or loss of power supply;
c. encouraging new utility services in residential areas to be placed underground, in consultation with utility operators;
d. encouraging the under grounding of utilities as they are installed and upgraded in areas where the visual and amenity impact of overhead reticulation is significant, provided that under grounding is technically and operationally feasible;
e. protection of areas of outstanding landscape, or areas of significant indigenous vegetation or significant habitat of indigenous fauna;
f. requiring all new roads to be sealed and existing metal roads to be sealed where appropriate;
g. protecting aquatic ecosystems and the habitat of trout and salmon from the adverse effects of roading, stormwater runoff and effluent discharges;

CROSS REFERENCE: Policies 6.3.1.1 and 6.3.1.2

k. avoiding in the receiving environment the noise effect created by aircraft approaching Christchurch International Airport; and

CROSS REFERENCE: Policy 12.1.1.12

l. avoiding land uses under airfield approach paths that could adversely affect the safety of airfield operations.

Comment:

Issue 11.2, Objective 11.2.1 and Policy 11.2.1.1 clauses a, b, c and d may be relevant to this application, in that they repeat the need to avoid, remedy or mitigate adverse environmental effects. Policy d. positively supports the proposed solar energy farm as it will be integrated with and sited adjacent to the existing electricity substation on Beatties Road.

14.3 Chapter 12 – Health, Safety and Well being

Issue 12.1 *The adverse effect on the health, safety and wellbeing of the community arising from a loss in the amenity values and/or quality of the environment as a result of inappropriate subdivision, land use, and development.* ***Objective 12.1.1*** *Maintain the amenity values and a quality of environment appropriate for different parts of the District which protects the health, safety and wellbeing of present and future generations, and ensure that any potential adverse environmental effects from buildings and structures, signs, glare, noise and hazardous substances are avoided or mitigated.*
Policy 12.1.1.5 *In the Rural Zones maintain the amenity values and quality of the environment by ensuring that the land is not dominated by dwellinghouses.* ***Policy 12.1.1.7*** *Maintain and enhance the positive amenity values associated with natural features and structures on Business Zone sites which front onto strategic, arterial and collector roads.* ***Policy 12.1.18 and Policy 12.1.1.9*** *Both apply only to glare from artificial lighting.* ***Policy 12.1.1.10*** *Control noise to a level that is not unreasonable, measured against the character and circumstances of the zone.* ***Policy 12.1.1.11*** *Avoid noise adversely affecting the amenity values and health and safety of people on neighbouring sites or zones.* ***Policy 12.1.1.12*** *Avoid the noise effect from aircraft and avoid or mitigate the noise effect from road traffic in the receiving environment.* ***Policy 12.1.1.15 – 12.1.1.18*** *All refer to hazardous substances* ***Objectives and associated polices 12.1.3, 12.1.3.1 and 12.1.3.2*** *Relate to protecting existing activities from adverse change, the discharge of contaminants to air, the retention of plants that contribute to amenity and character.*

Comment:

The policies in support of objective 12.1.1 do not add to the general direction of that objective to protect health, safety and wellbeing from adverse environmental effects, insofar as they relate to this application for consent to establish and operate a solar energy farm. The development will meet and satisfy those polices particularly in regard to amenity, glare and noise.

14.4 Chapter 14 - Rural Zones

Issue 14.1 identifies additional dwelling house developments in the Rural Zone as potentially causing constraints on rural production and a loss of rural character.

However the supporting objective and policies go beyond this issue, and apply more generally to the maintenance of rural character and farm production.

Objective 14.1.1 *Maintain and enhance both rural production and the rural character of the Rural Zones, which is characterised by:* *the dominant effect of paddocks, trees, natural features, and agricultural, pastoral or horticultural activities;* *a. separation between dwellinghouses to maintain privacy and a sense of openness;* *b. a dwellinghouse clustered with ancillary buildings and structures on the same site;* *c. farm buildings and structures close to lot boundaries including roads;* *d. generally quiet – but with some significant intermittent and/or seasonal noise from farming activities;* *e. clean air – but with some significant short term and/or seasonal smells associated with farming activities; and* *f. limited signage in the Rural Zone.*
Policy 14.1.1.1 *Avoid subdivision and/or dwellinghouse development that results in any loss of rural character or is likely to constrain lawfully established farming activities.* ***Policy 14.1.1.2*** *Maintain the continued domination of the Rural Zones by intensive and extensive agricultural, pastoral and horticultural land use activities.* ***Policy 14.1.1.3*** *Maintain and enhance the environmental qualities such as natural features, air and noise levels, including limited signage and rural retail activities that contribute to the distinctive character of the Rural Zones, consistent with a rural working environment.* ***Policy 14.1.1.4*** *Maintain rural character as the setting for Residential 4A and 4B Zones.*

Comment:

The proposal represents both a sustainable rural land use and an efficient use of resources. It is sustainable in that the solar farm will generate electricity from a renewable resource while protecting the land resource. The proposal optimises the capability of the site to be used for dual purposes (electricity generation and farming) in that by positioning the solar panels means that the underlying land can be grazed and planted.

The site does not contain steep slopes with little or no vegetation required to be removed but substantial additional perimeter and stream side planting proposed. There will be no off-site effects in relation to erosion, subsidence or landslips.

Water quality on the property has the opportunity to be enhanced by a reduction in dairy activity and more grazing and limited cropping.

The LRIS identified the soils are predominantly being land use capability (Class 2) soils. Although these are versatile, high class soils, the site will retain an ability to be used for productive purposes due to minimal earthworks and access tracks which are the same as farm access tracks and which will ensure the top soil will remain in place.

In terms of the Proposed District Plan the land is zoned Low Density Living and anticipates solar energy projects as a restricted discretionary activity and is not considered to adversely impact the NPS-HPL.

15. Objectives and Polices – Operative District Plan

Although these objectives and policies are of limited status at present, the 'RMM' Landscape Assessment has addressed the applicable objectives and policies of the PDP (**Refer Annexure D**). In particular the principle Objectives and Policies are summarised below.

15.1 PDP – Rural Lifestyle Zone

Objectives

RLZ-O1 - Purpose of the Rural Lifestyle Zone

Primary production activities and activities reliant on the natural and physical resources of the rural environment occur while recognising that the predominant character is small rural sites with a more intensive pattern of land use and buildings than the General Rural Zone.

Policies

RLZ-P1 - Character of the Rural Lifestyle Zone

Maintain the character in the Rural Lifestyle Zone which comprises:

1. *a highly modified landscape strongly influenced by fine grained patterns and processes of human induced activity, including a predominance of small rural lots with a resulting pattern of residential units, buildings, fencing, amenity and domestic planting mixed with smaller scale primary production activities;*
2. *a dominance of human modified open space and vegetation, including paddocks and trees over buildings; and*
3. *a zone supporting activities reliant on the natural and physical resources of the Rural Lifestyle Zone.*

Solar farms require large areas of land and are almost without exception located in rural areas/zones. They also require proximity to a substation. There will be a change in character but this needs to be considered against a baseline of 20 4ha lots and dwellings.

RLZ-P2 Activities in the Rural Lifestyle Zone

Retain opportunities for land within the zone to be used for primary production activities while maintaining the predominant character of small rural lots by avoiding new sites being created, or residential units being erected on sites, that are less than 4ha, unless:

1. *associated with the development of infrastructure which reduces the size of the balance lot or site to below 4ha;*
2. *associated with the establishment of a bonus residential unit or creation of a bonus allotment;*

3. *the erection of a residential unit is protected by a legacy provision in this Plan; and*
4. *is the establishment of a minor residential unit, where the site containing a residential unit is 4ha or greater, or is protected by a legacy provision in this Plan.*

The site will continue to be used for primary production as well as being a source for renewable energy. The site will not be subdivided nor will it contain living activities.

15.2 PDP – Energy and Infrastructure Objectives

EI-O2 Adverse effects of energy and infrastructure

Adverse effects of energy and infrastructure on the qualities and characteristics of surrounding environments and community well-being are avoided, remedied or mitigated.

Policies

EI-P5 Manage adverse effects of energy and infrastructure

Manage adverse effects of energy and infrastructure, including by the following:

1. *enabling or providing for the ongoing operation, maintenance, repair, renewal, removal and minor upgrade of existing energy and infrastructure;*

The potential landscape and visual effects resulting from the solar farm have been assessed above. The potential adverse effects that can be managed, primarily visual effects have been by screening the solar farm from the surrounding public and private places. Also, the site selection process has resulted in the potential reduction of associated infrastructure, such as powerlines.

2. *avoiding, remedying or mitigating adverse effects of more than minor upgrades to existing energy and infrastructure, including effects on:*
    a. *natural and physical resources;*
    b. *amenity values;*
    c. *sensitive activity;*
    d. *the safe and efficient operation of other infrastructure;*
    e. *the health, safety and well-being of people and communities;*

The proposal is for a new solar farm, not an upgrade. Refer to 3, below.

3. *new energy and infrastructure, or major upgrades to existing energy and infrastructure, should, to the extent considered practicable, ensure that the route or site is located outside of the following types of sensitive environments to protect such environments from significant adverse effects, taking into account the constraints imposed by the functional need or operational need of the energy and infrastructure:*
    a. *ONF, ONL and SAL;*

b. *areas of ONC, VHNC and HNC, and natural character of scheduled freshwater bodies setbacks;*
c. *SNAs;*
d. *buildings, other structures and settings with heritage values, and archaeological sites;*
e. *SASM;*
f. *places adjoining the coastal marine area;*

The site is not situated within any of the above-mentioned sensitive environments.

(3) *4. where new energy and infrastructure, or major upgrades to existing energy and infrastructure, cannot locate outside of the sensitive environments in above, the energy and infrastructure should, to the extent considered practicable, ensure that the proposed route, site, structure and construction method demonstrate the following, taking into account the constraints imposed by the functional need or operational need of the energy and infrastructure:*

a. *energy and infrastructure will be located in more compromised parts of the areas in (3) above where that reduces adverse effects on the values of those areas;*
b. *techniques (such as structure selection or construction methodology) will be used to mitigate adverse effects on the areas in (3) above;*
c. *adverse effects on the areas in (3) above will be remedied or mitigated;*

The site is not situated within, and is situated far enough away from these above-mentioned sensitive environments so it will not adversely affect their landscape values.

5. consider biodiversity offset for residual adverse effects on indigenous biodiversity that cannot otherwise be avoided, remedied or mitigated;
The solar farm will not result in any adverse effects on indigenous biodiversity.

The solar farm will not result in any adverse effects on indigenous vegetation.

15.3 PDP – Activity Status: RDIS

Matters of discretion are restricted to:

- *EI-MD2 - Amenity values, location and design*
- *EI-MD3 - Operational considerations*
- *EI-MD4 - Health and safety*
- *EI-MD5 - Electricity generation*

EI-MD8 - Water supply, wastewater system, and stormwater infrastructure

These matters are all addressed in Annexure D but in summary:

- Mitigation is proposed to address visual amenity,
- The activity needs a large area of land and proximity to a substation,
- There is no adverse effect on human health,
- The infrastructure will make a very significant contribution to renewable energy targets from local through to national, and
- There is no adverse impact on water supply, waste water or stormwater. The ephemeral streams are enhanced (Refer Annexure D).

16. Canterbury Regional Policy Statement

The Canterbury RPS contains a discussion on the issues around increasing the supply of renewable energy while managing potential conflicts and environmental effects. Objective 16.2.2 supports the expansion of energy supply in Canterbury, particularly of renewable energy, while managing or controlling adverse environmental effects. This objective recognises the need to provide for the benefits of renewable electricity generation as a matter of national significance, even though there may be associated potential adverse effects. Policy 16.3.2 in support of this objective is:

"Encourage and provide for the operation maintenance and development of small and community scale distributed renewable electricity generation provided that:

(1) Any adverse effects on significant natural and physical resources or cultural values are avoided, or where this is not practicable, remedied or mitigated; and

(2) Other adverse effects on the environment are appropriately controlled."

And includes a commitment of:

"Encourage, through education and advocacy, the use of small-scale distributed renewable electricity generation.

Advocate the use of small-scale distributed renewable electricity energy generation across all sectors."

While being generally supportive of the proposed solar energy farm the CRPS (Chapter 16) does recognise that the provision of renewable electricity generation is a matter of national significance which has been addressed by Central Government in policy statements and the setting of renewable energy targets for New Zealand.

17. National Policy Statement for Renewable Electricity Generation 2011

The National Policy Statement for Renewable Electricity Generation 2011 (NPS REG) came into effect on 13 May 2011 and has played a significant role in promoting renewable energy developments. The NPS REG sets out the objectives and policies for renewable electricity generation under the RMA and requires recognition of the benefits of renewable electricity generation activities. Notably the NPS REG acknowledges that decision makers should have particular regard to the need to

locate the renewable electricity generation activity where the resource is available and the connection to existing infrastructure, especially the national grid, is viable.

The NPS REG sets out an objective and policies to enable the sustainable management of renewable electricity generation under the RMA. The stated matters of national significance to which this national policy statement applies are:

a. *the need to develop, operate, maintain and upgrade renewable electricity generation activities throughout New Zealand; and*
b. *the benefits of renewable electricity generation.*

The single objective 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 seeks to achieve the objective through a range of policies. The following provisions are directly relevant to the proposal:

a. *Recognising the benefits of renewable electricity generation activities.*
b. *Acknowledging the practical implications of achieving New Zealand's target for electricity generation from renewable resources.*
c. *Acknowledging the practical constraints associated with the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities.*

The Resource Management Amendment Bill currently passing through Parliament recommends the removal of statutory barriers to considering the effects of activities on climate change under the RMA. Should the Bill pass in its current form, the amendments will place positive obligations on local and regional councils to consider climate change matters when preparing or changing their plans and considering consent applications, which it is expected will be positive for renewable energy project development.

17.1 Assessment of the National Policy for Renewable Electricity Generation 2011

Policy A states that *"decision-makers shall recognise and provide for the national significance of renewable electricity generation activities"*. The policy goes on to describe the benefits as including (relevantly) *"maintaining or increasing electricity generation capacity while avoiding greenhouse gas emission", "maintaining or increasing security of electricity supply at local, regional and national levels", "using renewable resources rather than finite resources", "the reversibility of adverse effects on the environment",* and *"avoiding reliance on imported fuels for the purposes of generating electricity".*

The proposed solar farm is in complete alignment with Policy A.

Policy B recognises the importance of retaining existing renewable electricity generation activities in order to achieve national targets for the generation of electricity from renewable sources. It notes that significant development of renewable electricity generation will be required to meet those targets.

The proposed solar farm is in complete alignment with Policy B.

Policy C1 recognises the practical constraints of operating, maintaining and upgrading renewable electricity generation activities including the need to locate the activity where the resource is available, the efficiencies associated with the utilisation of existing infrastructure, and the need to connect renewable electricity generation activities to the national grid.

The location of the proposed solar farm was determined based on the ideal combination of the solar resource, ability to connect to the existing network, as well as the ability to achieve a low environmental impact/low disturbance design. It is located in an appropriate location for renewable energy activities, any adverse effects on the surrounding environment can either be disregarded or will be less than minor, while the proposal will generate a range of positive effects.

Policy C2 states that *"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".* There are no effects that require offsetting or compensation with respect to the proposed solar farm.

It is therefore concluded that the proposal is consistent with the objective and relevant policies of the NPSREG.

17.2 National Policy Statement on Electricity Transmission

The National Policy Statement on Electricity Transmission sets out the objective and policies for managing the electricity transmission network. It gives guidance across New Zealand for the management and future planning of the national grid. The proposed solar farm will connect to the national grid so that electricity generated at the site can effectively be distributed around.

18. Other Matters

18.1 Climate Change

18.1.1 The Climate Change Response (Zero Carbon) Amendment Act

The Climate Change Response (Zero Carbon) Amendment Act 2019 provides a framework for New Zealand to develop and implement clear and stable climate change policies that contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5 degrees Celsius above pre-

industrial levels and to allow New Zealand to prepare for and adapt to the effects of climate change. This Amendment Act sets new domestic greenhouse gas emissions reduction targets for New Zealand to:

- Reduce net emissions of all greenhouse gases (except biogenic methane) to zero by 2050.
- Reduce emissions of biogenic methane to 24-47 per cent below 2017 levels by 2050, including to 10 per cent below 2017 levels by 2030.
- Establish a system of emissions budgets to act as stepping stones towards the long-term target.
- Require the Government to develop and implement policies for climate change adaptation and mitigation.
- Establish a new, independent Climate Change Commission to provide expert advice and monitoring to help keep successive governments on track to meeting long-term goals.

18.1.2 The Climate Change Response (Emissions Trading Reform) Amendment Act

This Bill amends the Climate Change Response Act 2002 to improve certainty for businesses, make the New Zealand Emissions Trading Scheme more accessible and improving its administration, with particular goals to strengthen the role of forestry in climate change mitigation.

18.1.3 Assessment of Climate Change Legislation

EBL have identified the site at Ashley as having a unique opportunity to produce energy generated from a renewable energy source particularly because the site receives good sunshine hours, is close to existing electricity infrastructure negating the need to establish and provide further substations, transmission towers and overhead high power transmission lines and because it is located in a limited visual catchment. The proposal is therefore considered to contribute positively towards climate change response whilst also retaining the underlying soil resource and potential pastoral use at the site. It is considered that when it comes to landscape values there comes a point when the value of a landscape is moderated by broader issues such as the provision of renewable resources and the contribution made to climate change mitigation and long-term sustainability. In this regard, it is concluded that the proposal has been well considered, such that the solar farm will be appropriately located in an area where effects on broader landscape values will be no more than minor and the visual effects, with mitigation, associated with individual properties will be less than minor, as assessed in Section 8 above, while also providing positively to climate change and long-term sustainability.

The granting of consent to a new solar farm in this location will enable the establishment, efficient use and maintenance of utilities which are necessary for the well-being of the community. Solar farms are of high importance due to the benefits that result from the establishment and operation of this renewable electricity generation activity. Benefits include using a renewable resource over a

finite resource, avoiding reliance on imported fuels for the purpose of generation electric, increasing electricity generation capacity and increasing the security of electricity supply at local, regional and/or national level. This is now reflected in the Proposed District Plan E1-R43.

Overall, it is considered that there is sufficient uniqueness and distinguishing factors which adequately set the proposal apart from others so that a precedent is not created and the integrity of the District Plan is maintained.

19. Consultation /Notification

Section 36A of the RMA confirms that an Applicant has no duty to consult any person on their resource consent application. However, Clause 1(h) of the Fourth Schedule to the RMA does states that an AEE should identify those persons affected by a proposal, detail the consultation undertaken with those, or any other, persons, and outline any response to the views of those persons consulted.

Under the provisions of the amended RMA there is now no presumption in favour of notification (section 95A). The requirement for the Council to be "*satisfied*" that the effects "*will be minor*" before proceeding on a non-notified basis has been removed.

Instead, public notification is only required if the Council "*decides*" that the activity:

> *... will have or is likely to have adverse effects on the environment that are more than minor.* (Section 95A (2)).

In making this decision, the consent authority must disregard any effects on persons who own or occupy:

> *i. the land in, on, or over which the activity will occur; or*
> *ii. any land adjacent to that land; ???*

Pursuant to section 95D (e), for the purpose of deciding whether the effects are more than minor the consent authority *"must disregard any effect on a person who has given written approval to the relevant application"*.

The above assessment has determined that the effects of the proposal are not more than minor and therefore the proposal does not need to be publicly notified.

Under section 95B 'Limited notification of the consent application', the consent authority is then to decide (under sections 95E to 95G) whether there are any affected persons in relation to the activity. The threshold for identifying affected persons is more rigorous, whereby, pursuant to section 95E(1), the consent authority must decide that a person is affected *"if the activity's adverse effects are minor or more than minor (but not less than minor)"*. Therefore, in order for there to be no affected parties the effects must be assessed as being *"less than minor"*.

The Applicant has undertaken an initial round of consultation with near neighbours in the area. Two parties have given affected party approval.

20. Mitigation

Refer Annexure K. The activity is unusual in the community and has very specific locational needs which will generally require a large area of unobstructed land in a rural location and in proximity of substations. It is recognised that there may be environmental outcomes that need to be addressed or conditioned and in the context of this proposal those effects are predominantly visual amenity and to a much lesser degree noise.

To this end the applicant has set out in Annexure K a draft set of mitigation or Management conditions which, without prejudice could provide the basis of any consent if granted. The provisions are acknowledged as being draft and not intended to exclude input from other parties or to be full, final or correct in every matter.

21. Conclusion

On the basis of the above assessment, it is concluded that any potential adverse effects from the establishment and operation of the solar farm on the site can be mitigated to a level where they will have less than minor effects on landscape values and visual amenity, and less than minor effects on the soil resource, cultural interests and noise. The only exception to this is in relation to visual and landscape effects on identified properties in the short term until the boundary vegetative screening matures. The proposal will also result in significant positive effects.

The conclusion is that the proposed activities are consistent with the relevant provisions of the planning documents that are applicable including the various National Environmental Standards, National Policy Statements, the Regional Policy Statement and the WDC District Plan.

Overall, the proposal is considered to be in accordance with the District Plan requirements, which give effect to Part 2 of the Act, and therefore land use consent for this discretionary activity can be granted on a non-notified basis.

ANNEXURE B:

CERTIFICATE OF TITLE

ANNEXURE C:

APPLICATION PLAN

ANNEXURE D:

LANDSCAPE ASSESSMENT AND PLANS

ANNEXURE E

ACOUSTIC REPORT

ANNEXURE F

GLINT/GLARE REPORT

ANNEXURE G

CERTIFICATE OF COMPLIANCE

ANNEXURE H

AFFECTED PARTY APPROVALS

ANNEXURE I

COUNCIL REPORT – NPS – HPL

ANNEXURE J

DRAFT CIVIL CONSTRUCTION METHODOLOGY

ANNEXURE K

VOLUNTEERED CONDITIONS