Weasel Solar Farm

Noise Impact Assessment

Weasel Solar Farm Pty Ltd. c/-Robert Luxmoore Pty Ltd

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1.2	16 September 2024	Benjamin French	Arvind Deivasigamani	Arvind Deivasigamani
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Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Weasel Solar Farm Pty Ltd. c/-Robert Luxmoore Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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Executive Summary

This technical report is an attachment to the Weasel Solar Farm Development Application submission on behalf of Tasflo Pty Ltd.

SLR Consulting Pty Ltd (SLR) has been engaged by Robert Luxmoore on behalf of Weasel Solar Farm Pty Ltd. to conduct a noise assessment for a proposed solar farm (up to 250 MWp capacity) and 144 MW / 576 MWh battery energy storage system (BESS) located at 'The Weasel' – 3415 Highland Lakes Road, 'Weasel Plains' – 3236 Highlands Lakes Road, and 'Rockford' – 3759 Highland Lakes Road, Bothwell, Tasmania.

Evaluation of noise impacts on sensitive receptors has been undertaken in accordance with the *Environmental Management and Pollution Control Act 1994*, *Environmental Management and Pollution Control (Noise) Regulations 2016* and the *Environmental Protection Policy (Noise) 2009.*

The key project impacts in relation to noise is as follows:

- **Noise from construction activities:** All construction works will be completed under a Construction Environmental Management Plan (CEMP). Due to the distance between the proposed site and non-project involved receivers, construction noise impacts are relatively minimal. However, scheduling construction activities in accordance with the Prohibited Hours as defined in the Regulations[1], community engagement and best practice noise management controls: regular maintenance, broadband reversing alarms, etc. will further minimise residual risk of harm to nearby receptors.
- **Noise from operational activities:** The closest non-project involved receiver, R8 is located approximately 100 m from the boundary of the project (approximately 730 m to the BESS area). Compliance for all time periods is achieved at this receiver and all others with all solar farm inverters, BESS and substation operating at 100% capacity with no additional mitigation.

It is recommended to update the noise model during detailed design to ensure compliance is maintained. Confirmation of compliance will be verified by post commissioning noise measurements.

[1] Refer to Item 2 of Schedule 1 in the *Environmental Management and Pollution Control (Noise) Regulations 2016.* Reproduced in **Table 4** in this report.

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1.0 Introduction

Weasel Solar Farm Pty Ltd. is proposing to develop solar farm, with a nameplate capacity of up to 250 MWp. It will be accompanied by a battery energy storage system (BESS) with a capacity of the order of 4h/144 MW / 576 MWh located at 'The Weasel' – 3415 Highland Lakes Road, 'Weasel Plains' – 3236 Highlands Lakes Road, and 'Rockford' – 3759 Highland Lakes Road, Bothwell, Tasmania.

SLR Consulting Pty Ltd (SLR) has been engaged by Robert Luxmoore on behalf of Weasel Solar Farm Pty Ltd. to conduct a noise assessment to support the development application of the proposed Weasel Solar Farm under the *Land Use Planning & Approvals Act 1993.*

2.0 Project Area

The site is predominantly surrounded by large farming properties and some forestry plantations to the west. The site is approximately 9km north of the town centre of Bothwell (499 residents) and 72 km north of Hobart.

There are several rural residential properties within the vicinity of the site, varying in distance to the different solar panel area boundaries. **Table 1** summaries noise sensitive receivers within 2 km of the site boundary, and **Figure 1** shows the locations of the noise sensitive receivers with respect to the site boundary, proposed solar farm arrays, BESS and substation. Micro-siting of the inverters within the solar farm is based on concept designs and subject to change.

The nearest dwelling is located approximately 150m east of the 'North' PV area (R1 in **Table 1**), with another dwelling further east, approximately 260m from the site boundary (R2). These are owned by a stakeholder who is involved in the project. Excluding dwellings located within the properties of involved landowners (Dungrove, Cluny, and Weasel Plains), there are only two dwellings within 2 km of the Development Area that are owned by a non-involved person (R8 and R10 in **Table 1**). To the northwest of the site, there are 9 dwellings within 3.5 to 5km of the site boundary.

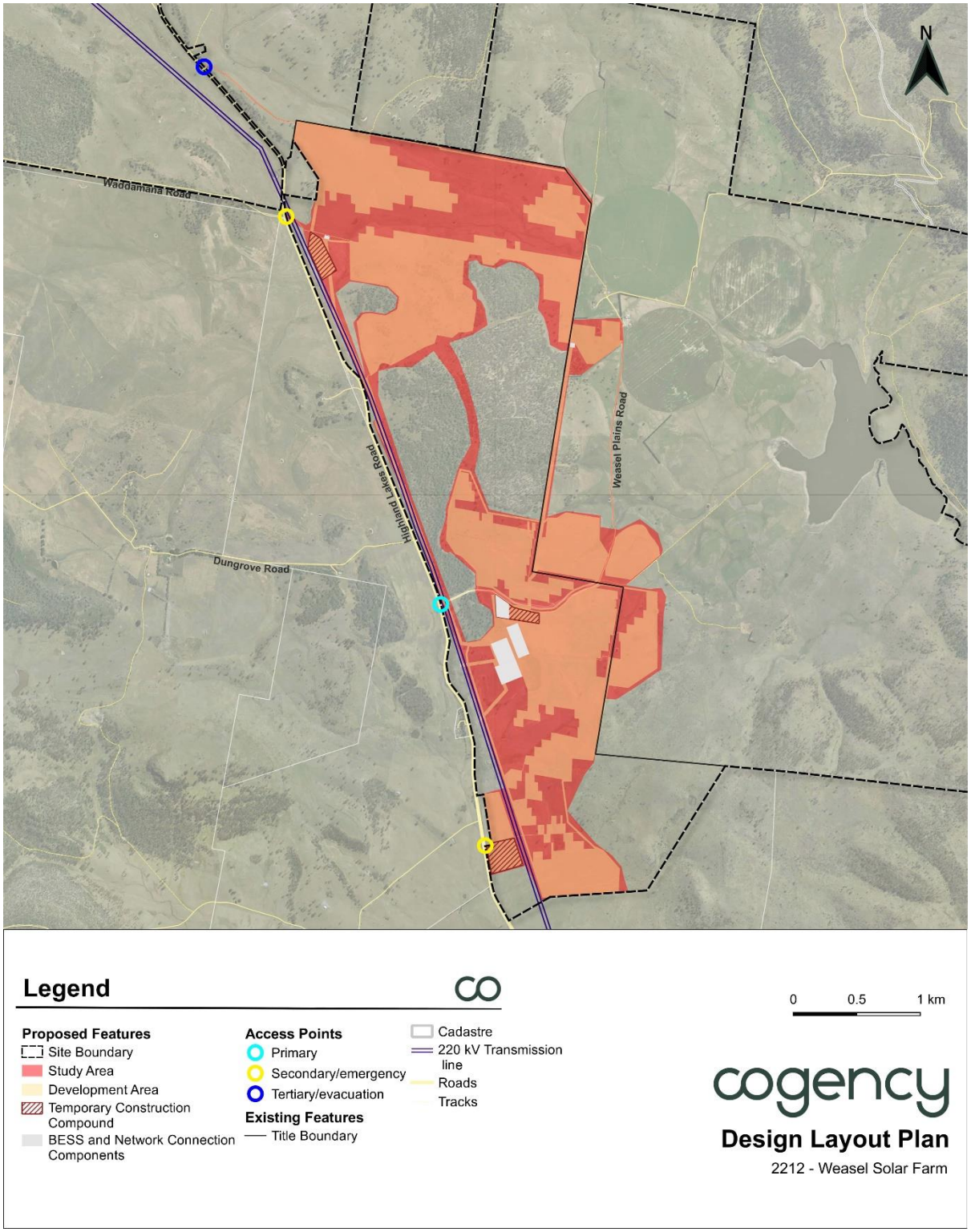
Cattle Hill Wind Farm is approximately 18 kilometres NW of the site. The proposed St Patrick's Plains Wind Farm is approximately 26 kilometres NW of the site.

The existing 220 kV transmission line (*Waddamana to Lindisfarne*) runs within the western boundary of the site, adjacent to Highland Lakes Road. There are no agricultural buildings or other structure of significance within the development investigation areas.

Table 1 Noise Sensitive Receivers

ID	Address	Easting, m	Northing, m	Approx, Distance to Site Boundary
R1*	WEASEL PLAINS' - 3236 Highland Lakes Rd #1	497295	5320402	150 m
R2*	WEASEL PLAINS' - 3236 Highland Lakes Rd #2	497425	5320459	260 m
R3	'CLUNY BLOCK' - 3059 Highland Lakes Rd #1	495188	5319643	320 m
R4	'CLUNY BLOCK' - 3059 Highland Lakes Rd #2	495331	5318296	640 m
R5	'DUNGROVE' - 3287-3289 Highland Lakes Rd #1	493958	5318395	1,850 m
R6	'DUNGROVE' - 3287-3289 Highland Lakes Rd #2	493867	5318468	1,930 m
R7	'DUNGROVE' - 3287-3289 Highland Lakes Rd #3	493727	5318638	1,990 m
R8	'WHITBY' - 3137 Highland Lakes Rd	496249	5317054	100 m
R9	'CLUNY BLOCK' - 3059 Highland Lakes Rd #3	496215	5316179	250 m
R10	2908 Highland Lakes Rd	497193	5315205	560 m
R11	'EAST CLUNY' - 2930 Highland Lakes Rd	497204	5315054	710 m
R12	'CLUNY' - 2925 Highland Lakes Rd #1	496814	5315136	480 m
R13	'CLUNY' - 2925 Highland Lakes Rd #2	496838	5315069	530 m
R14	'CLUNY' - 2925 Highland Lakes Rd #3	496791	5315022	560 m
R15	'CLUNY' - 2925 Highland Lakes Rd #4	496854	5314951	660 m
R16	'CLUNY' - 2925 Highland Lakes Rd #5	496686	5314830	720 m
R17	'CLUNY' - 2925 Highland Lakes Rd #6	496845	5314881	720 m
R18	'CLUNY' - 2925 Highland Lakes Rd #7	496813	5314768	810 m
R19	'CLUNY' - 2925 Highland Lakes Rd #8	496860	5314645	950 m
*: Receivers R1 and R2 are project involved				

Figure 1 Project Area and Noise Sensitive Receivers



3.0 Project Criteria

In Tasmania, the *Environmental Management and Pollution Control Act 1994* (Act), *Environmental Management and Pollution Control (Noise) Regulations 2016* (Regulations) and the *Environment Protection Policy (Noise) 2009* (EPP Noise) regulates noise from industry. The objectives of the EPP Noise are to implement the Act and to protect the acoustic environment that are conductive to:

- The wellbeing of the community including its social and economic amenity, or
- The wellbeing of an individual, including the individual's
    - Health and
    - Opportunity to work and study and to have sleep, relaxation and conversation without unreasonable interference from noise.

The EPP Noise provides acoustic environment indicator levels, adopted from the World Health Organisation publication *Guidelines for Community Noise, 1999*. A selection of project relevant indicator levels is shown in **Table 2**. Note that these environment indicator levels are indicative, and not mandatory noise levels.

Table 2 Acoustic environment indicator levels

Specific Criteria	Critical Health Effect(s)	Leq [dBA]	Time base [hours]	Lmax fast [dBA]
Outdoor Living Area	Serious annoyance, daytime and evening	55	16	-
	Moderate annoyance, daytime and evening	50	16	-
Dwelling, Indoors	Speech intelligibility & moderate annoyance, daytime and evening	35	16	-
Inside bedrooms	Sleep disturbance, night time	30	8	45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	60
Industrial, commercial, shopping and traffic area, indoors and outdoors	Hearing impairment	70	24	110

The Central Highlands Council has published general guidelines on residential noise but does not have specific noise criteria for industry.

Although the acoustic indicator levels in **Table 2** are not mandatory noise limits, they can be used to form a basis for design targets.

It is noted that the background determination methodology in the Tasmanian Environment Division's document *Noise Measurement Procedures Manual* is very similar to the Rating Background Level prescribed in the NSW's *Noise Policy for Industry, 2017 (NPfI)*. It is proposed to adopt the NSW procedure for defining noise targets as it is more conservative than the WHO Acoustic Environment Indicator levels.

According to the NSW NPfI, project noise targets are the minimum of:

- Recommended Amenity Noise Levels:
    - 50/45/40 dBA for day/evening/night respectively, and
- Project Intrusiveness Noise Levels:
    - Which is the maximum of:
        - Rating Background Level + 5 dB, or
        - 40/35/35 dBA for day/evening/night respectively (rural residential settings)

Time of day is defined as:

- Day: the period from 7 am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays
- Evening: the period from 6 pm to 10 pm
- Night: the remaining periods

The Rating Background Level (RBL) is determined by background monitoring. It is defined as the 90th percentile of the L90. In cases where background levels are expected to be low, in rural areas for example, then it is possible to adopt minimum Project Intrusiveness Noise Levels as noise targets.

Therefore for the purposes of this assessment, the minimum Project Intrusiveness Noise Levels are set as Project Noise Targets

Table 3 Project Noise Targets

Time of Day	Project Noise Target, $L_{Aeq,\ 15\ min}$ dBA
Day	40
Evening	35
Night	35

For sleep disturbance assessments, the NSW Noise Policy for Industry recommends noise targets of:

- L_{AFmax} = 52 dBA or
- L_{AFmax} = RBL + 15 dBA, whichever is greater.

3.1 Construction Noise

The aforementioned Act, Regulations and EPP Policy also control construction noise. Part 2, Section 6 of the Regulations specifies:

1) A person must not operate equipment, or a machine specified in Schedule 1 on-

a. Any residential premises; or

b. Any site where construction, or demolition, that is not the construction or demolition of a public street, is taking place –

If the noise emitted by the equipment, or machine, when so operated is, or likely to be, audible in a habitable room in any residential premises, other than the residential premises referred to in paragraph a. whether or not the doors and windows of that habitable room are opened or closed.

Table 4 presents the prohibited hours of use for mobile machinery, forklift trucks and portable equipment, operation of such equipment is prohibited within these periods if it is likely to be audible in a habitable room. Operation of construction equipment outside of the prohibited hours of use is unlimited, provided the EPP Noise is upheld, i.e. best practice environmental management to reduce noise emissions to the greatest extent that is reasonably practical, dominant or intrusive noise characteristics of an activity should be reduced to the greatest extent that is reasonably practical etc.

Table 4 Schedule 1 – Prohibited hours of use: Mobile machinery, forklift truck or portable equipment

Day of Operation	Prohibited hours of use
Monday to Friday	Before 7 am and after 6 pm
Saturday	Before 8 am and after 6 pm
Sunday or public holiday	Before 10 am and after 6 pm

4.0 Acoustic Investigation

This acoustic investigation assesses construction and operational noise impacts to the closest receptors. The following scenarios were modelled:

- Solar Farm construction – construction of the solar arrays
- BESS Earthworks & Hardstand –
- Delivery and installation of the BESS and substation

The solar farm construction scenario involves specialist pile drivers installing the solar farm arrays. The equipment will move around the entire solar array as each row of PV panels are installed.

The other two construction scenarios are concentrated around the BESS and substation area. The BESS earthworks and hardstand scenario involves bulk earthworks and hardstand construction of the BESS and substation. Delivery and installation includes the construction of the BESS and substation infrastructure.

One operational scenario was modelled:

- All noise sources are operating at maximum capacity (i.e. batteries and inverters in the BESS, the inverters distributed around the solar farm and the substation). This represents a typical day time scenario when the BESS is undergoing a charging cycle and the solar arrays are operating. This scenario is also possible during the early morning (6 am to 7am during summer) of the BESS is discharging during the morning peak and the solar arrays are generating have started to operate. Therefore, predicted noise levels at the receivers are assessed against the day and nighttime criteria. This is considered the worst-case day and night noise scenarios.

4.1 Noise Modelling

A 3D noise model was constructed within the modelling software SoundPLAN 8.2 to predict noise levels at the nearby sensitive receivers.

Noise modelling was conducted using the ISO 9613-2 algorithms incorporated in the noise modelling software. The ISO 9613-2 algorithm predicts the A-weighted sound pressure levels under meteorological conditions favourable to propagation from sources of known sound power levels. This enhanced propagation is equivalent to downwind propagation or a moderate ground-based temperature inversion. The model also includes attenuation due to air absorption, ground attenuation and shielding.

4.2 General Modelling Assumptions

The following general assumptions are made based on best-practice modelling method to suit the project:

- The reflection-order of other buildings was set to three (3), indicating that the noise model allowed for three (3) reflections off façades.
- Source heights were set according to the source item.
- Receivers were set 1.5 m above ground level.
- All equipment is assumed to be in operation for the entire assessment period.
- Ground topography within 3 km of the proposed site was sourced from publicly available 1 m elevation data published by the Tasmanian Government.
- Ground absorption is modelled by a single number parameter between 0 (hard – reflective) and 1 (soft – absorptive). The BESS and Substation area was modelled as hard ground, all other ground surfaces were modelled with a ground absorption parameter of 0.6, suitable for rural farmland.

4.3 Sound Power Levels

4.3.1 Construction Noise Assessment

Sound power levels of typical mobile plant and equipment, taken from SLR's noise database of field measurements and BS 5228-1:2009[3] are summarised in **Table 5**. For a worst-case assessment it is assumed that all equipment is operating continuously over the assessment period, due to sequencing of equipment usage that often occurs on site, this is expected to represent a conservative approach.

The most impactful construction activity is anticipated to be the piling of the steel columns that support the solar panel arrays, which is completed by a specialist piece of equipment. These units are typically track mounted and diesel powered with the high-speed piling achieved hydraulically. The full sequence for completing a pile, (which includes: traversing to next pile position, lifting and loading the pile into position, hammering in the pile, releasing the hammered pile), would typically take approximately 2 minutes of which half of that interval includes the hammering phase.

[3] *Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise*

It is anticipated to have six solar farm pile drivers operating with the solar farm area at one time, the Solar Array installation scenario was modelled as an area source with all sound power located at one point. The levels calculated at each receptor with this method represents the worst case exposure to piling noise.

The earthworks + hardstand and infrastructure and delivery and construction scenarios were modelled as area sources covering the BESS and Substation areas. The overall sound power level is distributed over this area.

Table 5 Construction equipment sound power levels

Scenario	Equipment	Quantity	SWL, per item, $L_{Aeq, 15\ min}$	Overall, $L_{Aeq, 15\ min}$
Solar Array Install	Solar Farm Pile Driver	6	112	120
Earthworks + Hardstand	Excavator	2	104	123
	Dozer	1	108	
	Grader	1	104	
	Dump Truck	2	102	
	Vibratory Roller	1	105	
	Concrete Truck	4	104	
	Concrete Pump	4	102	
	Concrete Poker	4	97	
	Rock Breaker	1	121	
	Chain Trencher	1	102	
	Rock Saw	1	113	
	Water Truck	1	111	
	Diesel Generator	4	94	
	Diesel Pump	2	97	
Infrastructure Delivery and Construction	Trucks	2	102	115
	Powered Hand Tools	4	102	
	Forklift or Telehandler	1	102	
	20 t Franna crane	1	98	
	Diesel Generator	4	94	
	Diesel Pumps	2	97	
	Elevated Working Platform (EWP)	3	952	

4.4 Operational Noise Assessment

Sound power levels of noise producing equipment shown in **Table 6**. All sources were modelled as 1/3 octave spectra based on original equipment manufacturer (OEM) data or similar unit. The inverter sound power level is based on a SMA 3.6 kW inverter. Battery module sound power levels are based on Powin Centipede. The original equipment

manufacturer (OEM) has not been finalised and subject to change, however the acoustic performance of these units are indicative of current BESS technology.

The solar farm inverters were modelled as point sources at a height of 2m above the ground. The BESS and substation were modelled as area sources encompassing each area with a sound power level equal to the sum of all equipment within the BESS and substation shown in **Table 6**, i.e. an overall level of 110 dBA.

Table 6 Equipment Sound Power Levels

Item	Qty	Sound Power Level (SWL), per Item, $L_{eq\ 15\ min}$, dBA
Solar Farm	60	93
Inverter		
BESS[1]		
Inverter[2]	56	90
Battery Module	748	77
Medium Voltage Transformer	56	71
Substation[3]		
High Voltage Transformer	1	86
1: The BESS was modelled as a single area source with an overall SWL of 110 dBA		
2: The inverters in the BESS have silencing treatment		
3: The solar farm substation and the adjacent TasNetworks substation are assumed to contain one high voltage transformer each		

5.0 Assessment Results

5.1 Construction Noise Results

Table 7 presents the construction noise results for the assessed scenarios. It is important to note that transient nature of construction noise, particularly over large areas with a moving work front, such as the solar array construction. Receivers with predicted elevated noise levels will be impacted for a relatively short period of time i.e. less than a week, as the work front moves away from the receiver.

Table 7 Construction Noise Results

Scenario	Number of Receptors				
	Less than 40 dBA	41 to 50 dBA	51 to 60 dBA	61 to 70 dBA	Above 70 dBA
Solar Array Install	3	10	4	2	0
Earthworks + Hardstand	16	2	1	0	0
Infrastructure Delivery and Construction	18	1	0	0	0

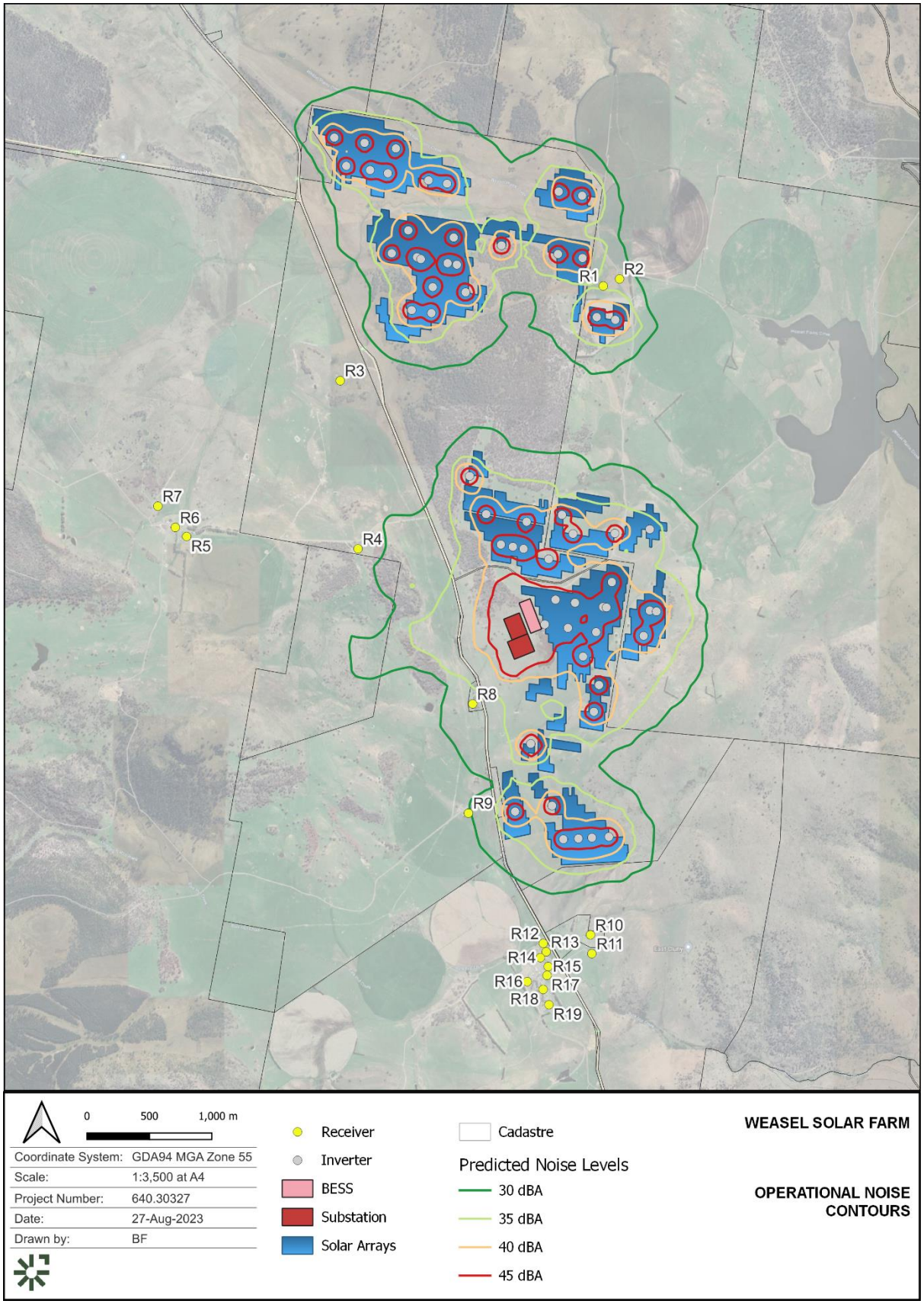
5.2 Operational Noise Results

Table 3 shows the predicted noise levels at the identified receivers, the day and night margin of compliance are also shown. Compliance with the day and night noise limits can be achieved at all receptors with the inverter layout and modelled BESS layout.

Table 8 Operational Noise Results

Receiver	Predicted Noise Level, dBA	Project Noise Limit, dBA		Margin of Compliance, dB	
		Day	Night	Day	Night
R1	35	40	35	5	0
R2	33	40	35	7	2
R3	24	40	35	16	11
R4	27	40	35	13	8
R5	19	40	35	21	16
R6	18	40	35	22	17
R7	18	40	35	22	17
R8	34	40	35	6	1
R9	30	40	35	10	5
R10	24	40	35	16	11
R11	22	40	35	18	13
R12	25	40	35	15	10
R13	24	40	35	16	11
R14	24	40	35	16	11
R15	23	40	35	17	12
R16	23	40	35	17	12
R17	22	40	35	18	13
R18	21	40	35	19	14
R19	20	40	35	20	15

Figure 2 Operational Noise Contours



6.0 Discussion

6.1 Construction Noise

Construction of the solar farm is predicted to not adversely impact amenity of nearby sensitive receptors due to its remoteness. Piling of the solar array steel columns may be audible from the closest receptors for a short period as the closest row of piles are driven.

Some land clearing is required in the solar array areas, however the majority clearing and grading activities will occur around the BESS and substation areas where a hard stand will be installed. R8 is the most impacted receiver during these activities, with predicted noise levels exceeding 50 dBA at times. Since noisy works are limited to day periods these activities be low impact.

The Australian Standard AS2436-2010 *Guide to Noise Control on Construction, Maintenance and Demolition Sites* sets out numerous practical recommendations to assist in taking all reasonable and practicable measures to prevent or minimise noise impacts.

All construction works will be completed under a Construction Environmental Management Plan (CEMP).

Noise control strategies to be considered are listed below:

- Ensure construction works to occur outside of the prohibited hours as defined in the Act (see **Table 4** for a summary of the prohibited hours).
- Notification of receptors of the proposed works schedule and potential noise impacts and relevant contacts for queries or complaints.
- Incorporate clear signage at the site including relevant contact numbers for community enquiries.
- The lowest noise emitting plant and equipment that can economically and efficiently undertake the work should be selected where possible.
- Maintain regular maintenance of equipment to keep it in good working order and operating at the lowest feasible noise level.
- Use less intrusive broadband reversing beepers on mobile plant where possible.
- Equipment operators are to be made aware of noise impacts and techniques to minimise emissions through training/instruction, examples include:
    - Avoid dropping materials from height into bins, trucks and receptacles.
    - Operate mobile plant and power tools in a quiet, efficient manner where possible.
    - Switch plant off when not in use.
- Machines/tools found to produce excessing noise compared with industry best practice should be removed from service until repairs or modification can be made, or the machine/tool is replaced.
- Where possible avoid tonal reversing/movement alarms on machinery and replace with broadband (non-tonal) alarms or ambient noise-sensing alarms.

Use dampened bits on impulsive tools (e.g. ratchet drivers) to avoid ‘ringing’ noise.

6.2 Operational Noise

The predicted operational noise levels at all sensitive receptors are less than the nighttime noise goal of 35 dBA, thus compliance with the *Environment Protection Policy (Noise) 2009* can be achieved.

The operational noise assessment presented in this report is to be considered a conservative approach, i.e., inverters and battery cooling systems and HV transformers operating at 100% capacity all the time combined with atmospheric conditions favourable to noise propagation.

All plant will be reviewed during detailed design to ensure that compliance with the noise goals can be maintained through the selection of equipment and site layout.

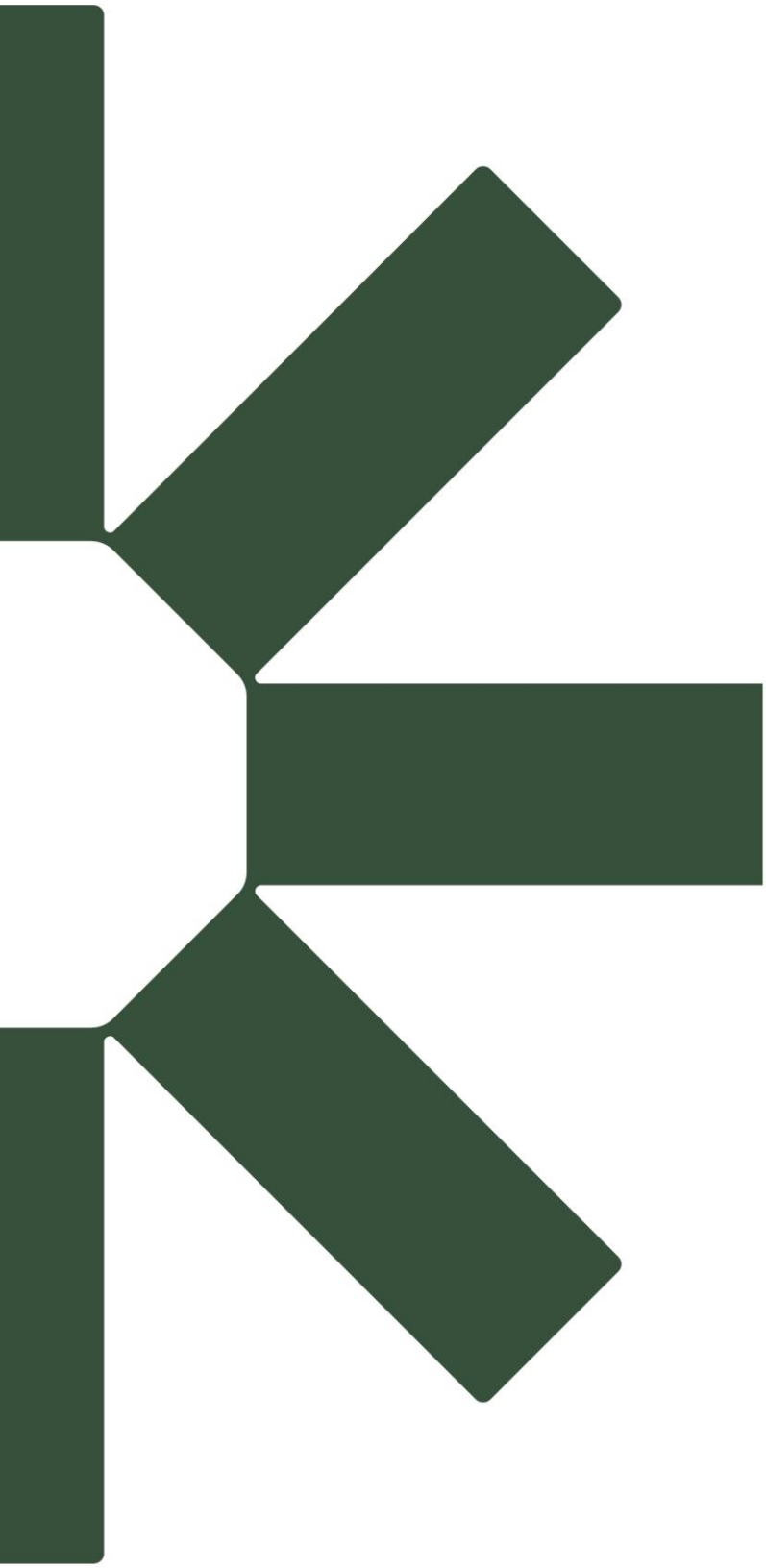
7.0 Conclusions

This Noise Impact Assessment was prepared to support a Development Application of the Weasel Solar Farm project at 'The Weasel' – 3415 Highland Lakes Road and 'Weasel Plains' – 3236 Highlands Lakes Road, Bothwell, Tasmania.

Construction noise impacts are considered relatively minor due to distances to sensitive receptors. Impacts are further minimised by scheduling works to day periods and a combination of training/equipment maintenance and community engagement. Noise control strategies given in **Section 6.1** should be implemented in the Construction Environmental Management Plan (CEMP).

Operational noise impacts are also considered relatively minor, with a 5 to 6 dB margin of compliance for day time operations as the most affected receivers (R1 which is project involved, and R8, the closest receiver to the BESS). Night time operation margins are smaller, with a 1 dB compliance margin at R8 and no margin at R1. Night time operations with the all solar farm and BESS equipment operating at maximum are considered unlikely. This may occur when the BESS is charging/discharging overnight or a more likely but still rare event: a 5 am to 7 am discharge.

This assessment shows compliance with the relevant noise legislation is achieved at all sensitive receptors for all time periods with no additional mitigation. All plant will be reviewed during the detailed design stage to ensure that compliance with the noise goals is maintained as the acoustic performance of plant and site layout is refined, followed by post commissioning noise measurements to confirm compliance.



Making Sustainability Happen

Weasel Solar Farm Project
Central Highlands Region, Tasmania

Historic Heritage Assessment Report
Final Version 1

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15.10.2024

CULTURAL
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Project Details

The Weasel Solar Farm is a large-scale solar project. The proposed site for the Weasel Solar Farm is located around 9km north of the town of Bothwell, in the Central Highlands Region of Tasmania and is in the Local Government Area of the Central Highlands Council (see Figure 1). The site is situated on three rural properties:

- 'The Weasel' – 3415 Highland Lakes Road Bothwell TAS 7030 (Title Ref. 140433/1).
- 'Weasel Plains' - 3236 Highlands Lakes Road Bothwell TAS 7030 (Title Ref 140581/1).
- 'Rockford' – 3759 Highland Lakes Road Bothwell TAS 7030 (Title Ref 104298/1).

The potential overall development area for the Weasel Solar Farm encompasses approximately 435ha plus internal transmission corridors (see Figures 2 and 3).

Robert Luxmoore has been engaged by the proponent (TasFlo Pty Ltd) to undertake the design, planning and approvals process for the Weasel Solar Farm project. As part of this process, CHMA Pty Ltd has been engaged to undertake an historic heritage assessment for the Weasel Solar Farm project. This report presents the findings of the assessment.

Results of the Search of the Heritage Registers

A search of the various historic heritage registers (as listed in section 1.3 of this report) shows that there are no heritage listed properties of features that are situated within the boundaries of the Weasel Solar Farm site. The closest heritage listed feature is the Dungrove property which is situated just to the west of the Weasel Solar Farm site, on the west side of Highland Lakes Road. The property is a permanent registration on the Tasmanian Heritage Register (THR ID Number 72). The north-east corner of the registered boundaries of the Dungrove property approaches to within 60m of the Weasel Solar Farm site.

Figure i shows the THR registered boundaries of the Dungrove property in relation to the Weasel Solar Farm site.

Survey Results, Statement of Heritage Impacts and Archaeological Potential

The field survey was undertaken by Stuart Huys and Shay Hannah) (CHMA archaeologists) and Rocky Sainty (Aboriginal Heritage Officer) and was implemented over a period of 5 days (25.4.2024, 26.4.2024, 29.4.2024, 30.4.2024, 1.5.2024). The primary focus of the field survey assessment was the proposed potential overall development area for the Weasel Solar Farm project, which encompasses approximately 435ha. The field team walked a total of 68.45kms of survey transects across this area with the average width of the transects being 10m.

No historic heritage sites or suspected heritage features were identified during the field survey assessment of the Weasel Solar Farm site. As detailed above, a search

of the various historic heritage registers shows that there are no heritage listed properties of features that are situated within the boundaries of the Weasel Solar Farm site. This assessment has therefore confirmed that there are no known historic heritage features that are situated within the potential overall development area for the Weasel Solar Farm project.

There were some constraints in surface visibility experienced across the surveyed areas, with average surface visibility ranging between 30%-40%. Given these constraints, it can't be stated with absolute certainty that there are no undetected historic heritage sites present within the proposed development area for the Weasel Solar Farm project. However, the negative survey results provides a very strong indication that the archaeological potential for heritage features to be present is very low.

It is acknowledged that the survey assessment was predominantly focused on the potential overall development area for the Weasel Solar Farm project, with very few survey transects across the broader site area, where no development is proposed. Therefore, there is the potential that historic heritage sites or features may be present within the broader bounds of the Weasel Solar Farm site. Indeed, this is likely given that the properties where the Weasel Solar Farm site is located were part of early land grants in the district and were settled in the early to mid 1800s. Historic homestead(s), barns and potentially huts for labourers are likely to be present on the property, as well as other features associated with the early pastoral settlement of the Plains (for example heritage plantings around homestead). However, if present, these will be situated outside of potential overall development area for the Weasel Solar Farm project and will not be under any threat of impact.

Heritage Management Plan

The heritage management options and recommendations provided in this report are made on the basis of the following criteria.

- The results of the heritage register searches and field investigation as documented in sections 3 and 5 of the report.
- The legal and procedural requirements as summarised in section 6 of this report, with specific reference to the Work Guidelines for Historic Heritage Places.

Recommendation 1 (Weasel Solar Farm)

No historic heritage sites, features or areas of elevated archaeological potential have been identified within the potential overall development area for the Weasel Solar Farm project and it has been assessed that there is a very low potential for additional undetected historic sites or features to be present. On this basis it is recommended that there are no further historic heritage requirements or constraints that apply to the overall development area for the Weasel Solar Farm project

Recommendation 2 (The Dungrove Property)

The Dungrove property is a permanent registration on the Tasmanian Heritage Register (THR #72). The north-east corner of the registered boundaries of the

Dungrove property approaches to within 60m of the Weasel Solar Farm site. It is recommended that the location of the Dungrove property boundaries is plotted onto the Weasel Soar Farm development masterplan, and it noted that no development activity is to occur within the property boundaries.

If there is the risk of development activity extending to within the boundaries of the Dungrove property, then the proponent will either need to seek a Certificate of Exemption (for works which will have no or negligible impact) or a Discretionary Permit from the Heritage Council.

Recommendation 3 (Changes to the Design)

If the current potential overall development area for the Weasel Solar Farm changes, then additional survey assessments will need to be undertaken for areas not covered by the current assessment.

Recommendations 4 (Unanticipated Discovery Plan)

As per the Practice Note No 2 by the Tasmanian Heritage Council, processes must be followed should any unexpected archaeological features and/or deposits be revealed during proposed construction works. A process for dealing with Unanticipated Discoveries is presented in section 8.

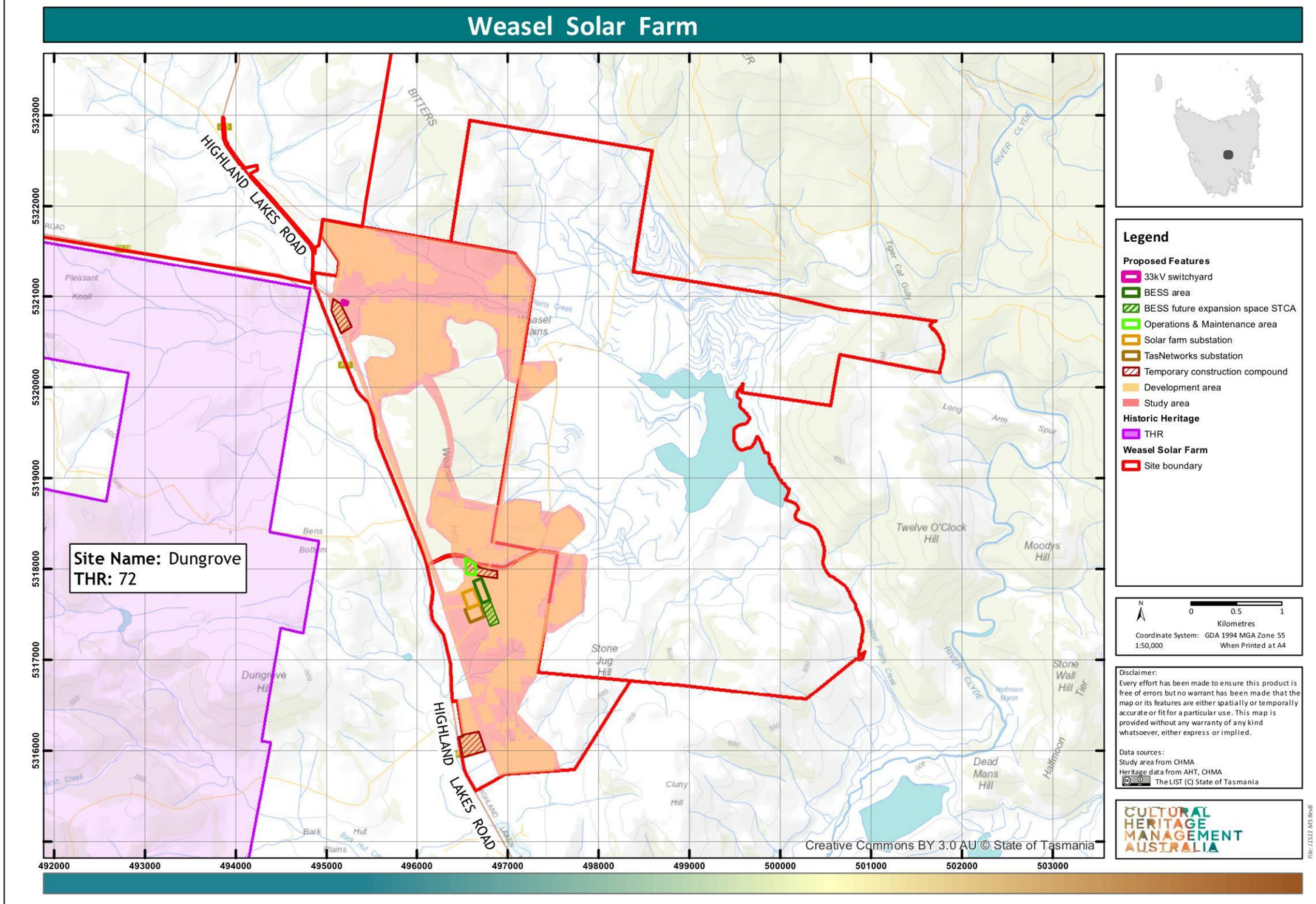

Figure i: topographic map showing the location of the THR listed Dungrove property in relation to the Weasel Solar Farm site

1.0 Project Outline

1.1 Project Details

The Weasel Solar Farm is a large-scale solar project. The proposed site for the Weasel Solar Farm is located around 9km north of the town of Bothwell, in the Central Highlands Region of Tasmania and is in the Local Government Area of the Central Highlands Council (see Figure 1). The site is situated on three rural properties:

- 'The Weasel' – 3415 Highland Lakes Road Bothwell TAS 7030 (Title Ref. 140433/1).
- 'Weasel Plains' - 3236 Highlands Lakes Road Bothwell TAS 7030 (Title Ref 140581/1).
- 'Rockford' – 3759 Highland Lakes Road Bothwell TAS 7030 (Title Ref 104298/1).

The potential overall development area for the Weasel Solar Farm encompasses approximately 435ha, containing approximately 400Ha of solar panels with a nameplate capacity of approximately 200MWp AC. It will be accompanied by a battery energy storage system (BESS) and electricity infrastructure including inverters and a switchyard containing an electrical substation to feed into the existing 220kV transmission line. The proposal includes land for construction, maintenance, and operation, new access tracks and upgrades to existing tracks, laydown areas, security infrastructure, and landscaping. Figures 2 and 3 show the potential overall development area for the Weasel Solar Farm project.

The Weasel Solar Farm is part of a larger 'Highlands Renewable Energy Hub' concept – a multifaceted landowner-led renewable energy concept with the aim to create local jobs and lower electricity costs for Bothwell and the Central Highlands region. The Highlands Renewable Energy Hub comprises this project, along with a potential Wind Farm and Renewable Energy Business Park. The project will be connected to the National Energy Market (NEM) via an interconnection to the existing TasNetworks 220 kV transmission line that lies within the western boundary of the site, parallel to Highland Lakes Road.

Each component of the Highlands Renewable Energy Hub will require separate approval processes. This project is solely focused on the solar and BESS application, including connection to the grid, access roads and associated works (As shown in Figures 2 and 3).

Robert Luxmoore has been engaged by the proponent (TasFlo Pty Ltd) to undertake the design, planning and approvals process for the Weasel Solar Farm project.
As part of this process, CHMA Pty Ltd has been engaged to undertake an historic heritage assessment for the Weasel Solar Farm project. This report presents the findings of the assessment.

1.2 Aims of the Investigation

The principal aims of this assessment are as follows.

- To undertake an historic heritage assessment for the potential overall development area for the Weasel Solar Farm project (the study area as shown in Figures 1-3). The assessment is to be compliant with both State and Commonwealth legislative regimes,
- To determine the extent of registered historic heritage sites within and in the immediate vicinity of the study area.
- To locate and document any historic heritage sites or suspected features that may be present within the identified bounds of the study area.
- To assess the archaeological sensitivity values of the study area.
- To assess the significance values of identified historic heritage sites.
- To develop a set of management recommendations aimed at minimising the impact of the impact of the Weasel Solar Farm Project on any identified historic heritage values.
- Prepare a report which documents the findings of the historic heritage assessment.

1.3 Project Methodology

A three-stage project methodology was implemented for this assessment.

Stage 1 (Pre-Fieldwork Background Work)

Prior to fieldwork being undertaken, the following tasks were completed by CHMA staff.

Heritage Register Searches

A search was carried out of a number of historic registers and databases in order to determine the extent of historic sites and features in the vicinity of the Weasel Solar Farm site. Agency databases searched included:

- Australian National Heritage List (NHL)
- Australian Commonwealth Heritage List (CHL)
- The Australian Heritage Database (AHD)
- Tasmanian Heritage Register (THR)
- The Register of the National Estate (RNE)
- Australian Heritage Places Inventory (AHPI)
- The National Trust (NT)
- The Central Highlands Interim Planning Scheme 2015 (CHIPS).

The collation of relevant documentation for the Project

The following documentation was collated for this project.

- Maps of the study areas;
- References to the land use history of the study area;
- GIS Information relating to landscape units present in the study area;
- Geotechnical information for the study area, including soil and geology data.

Stage 2 (Field Work)

Stage 2 entailed the fieldwork component of the assessment. The field survey was undertaken by Stuart Huys and Shay Hannah) (CHMA archaeologists) and Rocky Sainty (Aboriginal Heritage Officer) and was implemented over a period of 5 days

(25.4.2024, 26.4.2024, 29.4.2024, 30.4.2024, 1.5.2024). The primary focus of the field survey assessment was the proposed potential overall development area for the Weasel Solar Farm project, which encompasses approximately 435ha. The field team walked a total of 68.45kms of survey transects across this area with the average width of the transects being 10m. Section 4 provides further details as to the survey coverage achieved within the study area.

Stage 3 (Report Production)

Stage three of the project involves the production of a Draft and Final Report that includes an analysis of the data obtained from the field survey, an assessment of archaeological sensitivity and management recommendations. The report was prepared by Stuart Huys and Shay Hannah (CHMA).

1.4 Project Limitations

All archaeological investigations are subject to limitations that may affect the reliability of the results. The main constraint to the present investigation was restricted surface visibility due primarily to vegetation cover. Surface visibility across the project footprint was restricted to an estimated average of between 30% and 40%. In the context of Tasmania, this level of average surface visibility is comparatively reasonable. Numerous erosion scalds, graded vehicle tracks and cleared areas were present within the surveyed study area footprint, and these provided locales of improved visibility. The constraints in surface visibility limited the effectiveness of the survey assessment to some degree. The issue of surface visibility is further discussed in Section 4 of this report.

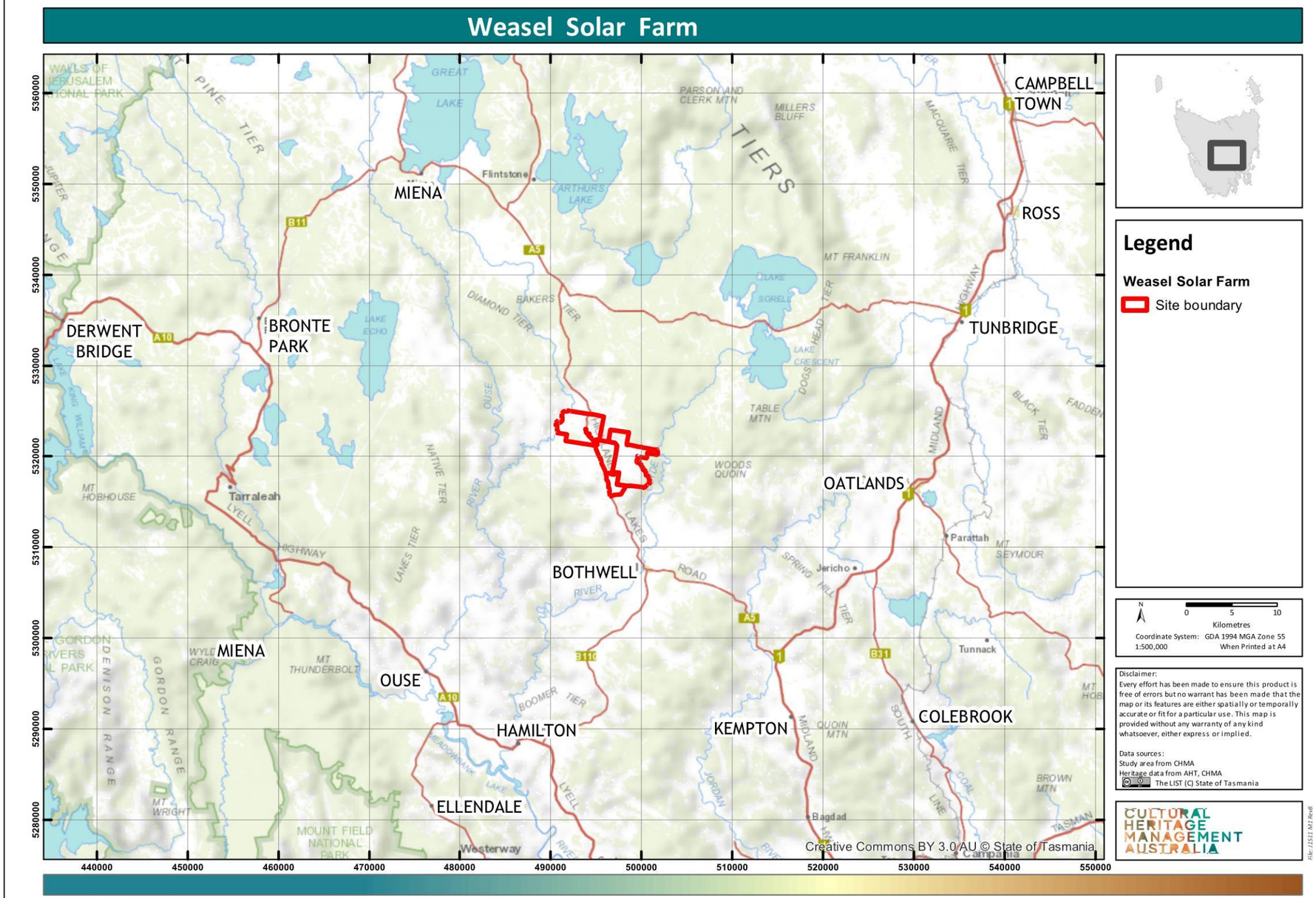

Figure 1: Topographic map showing the general location of the Weasel Solar Farm site in the Central Highlands Region of Tasmania

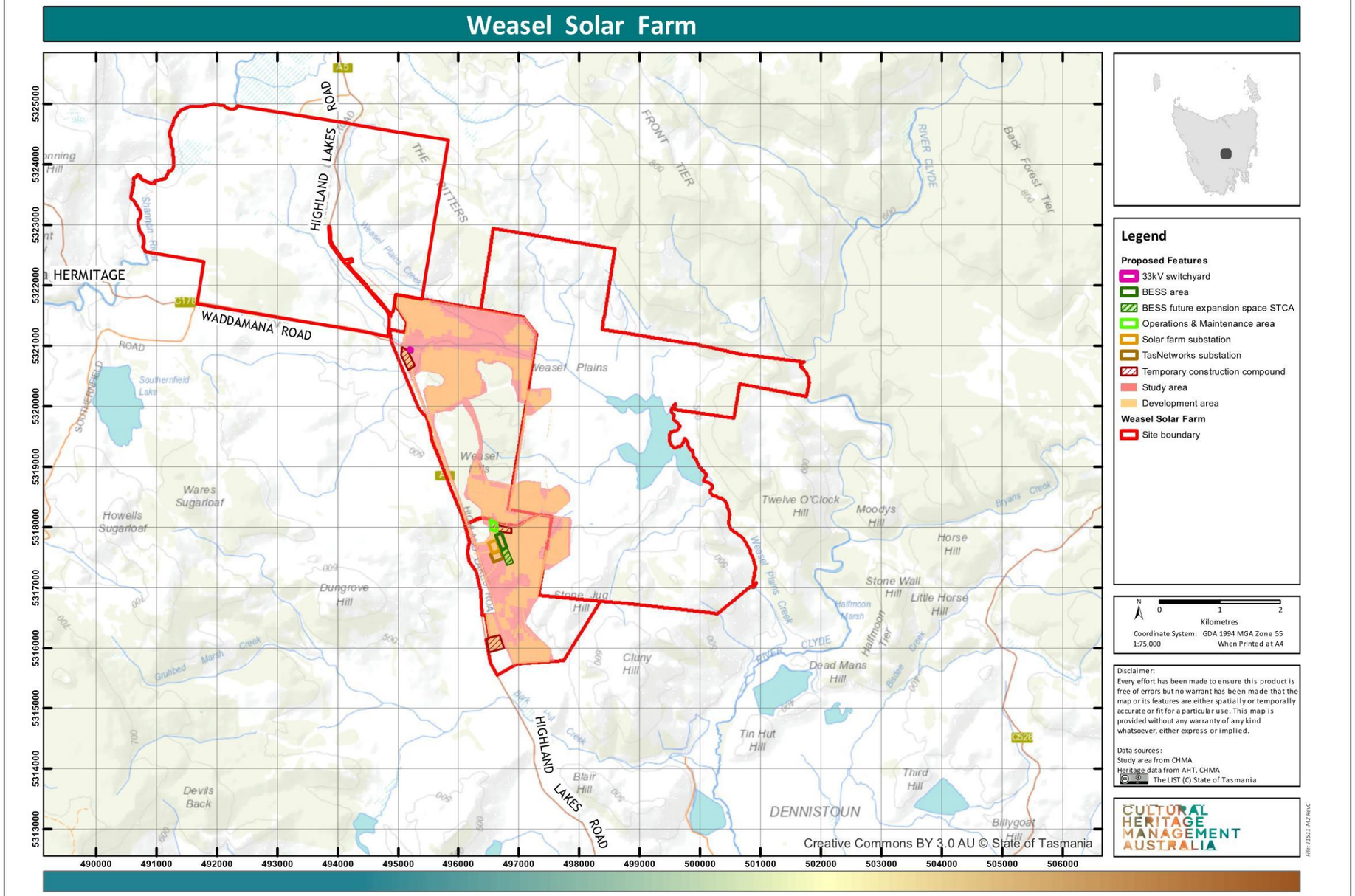

Figure 2: Topographic map showing the landscape setting and potential overall development area for the Weasel Solar Farm project

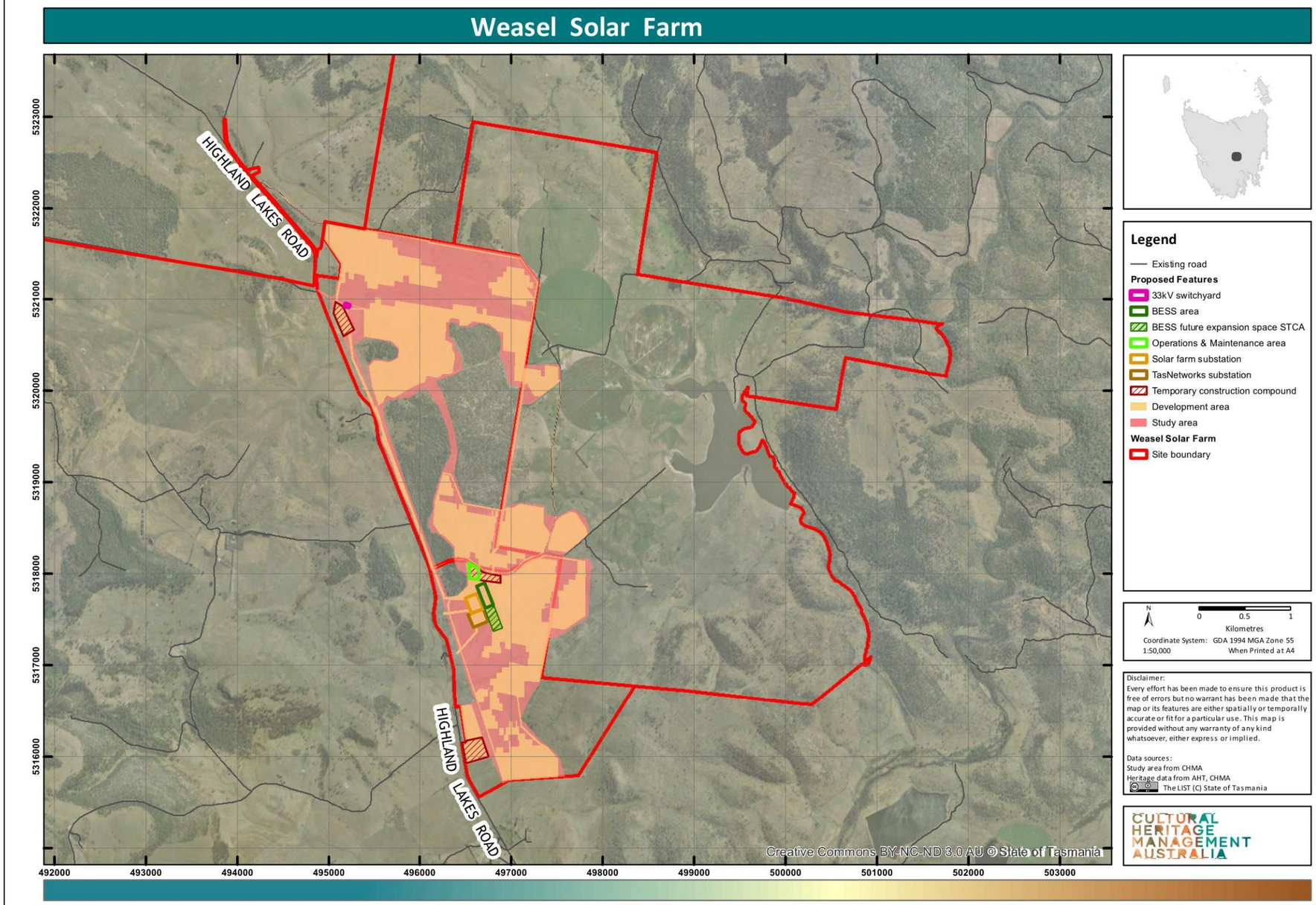

Figure 3: Aerial image showing the potential overall development area for the Weasel Solar Farm project

2.0 The Environmental Setting of the Study Area

The site for the Weasel Solar Farm Project is situated 9km north of the town of Bothwell, in the Central Highlands Region of Tasmania. It is positioned on the east site of Highland Lakes Road and is accessed via Weasel Plains Road.

The site is on the southern edge of the Central Plateau, above the more gently undulating plains to the south east. The southern slopes of the Central Plateau are characterised by elevated basalt and dolerite ridgelines interspersed by open marshy valleys and lagoons. Drainage across the plateau is mainly to the south east, eventually draining into the Derwent River catchment (Jetson 1989:xiii).

The project site is located on the Weasel Plains, with the terrain across the site area being characteristically gently to moderately undulating. Slope gradients are typically in the range of between 2º and 15º, but do increase to over 20º in parts (see Plates 1 and 2). The Weasel Plains are surrounded by a series of more steeply undulating hills, including Weasel Hills to the south-west, Cluny Hill to the south, Twelve O'Clock Hill to the east and the Bitters to the north. The underlying geology across the entire site is dominated by Upper glaciomarine sequences of pebbly mudstone, pebbly sandstone and limestone (see Plate 3) associated with the Lower Parmeener Supergroup (TheList 2024). The Parmeener Supergroup is generally divided into a Lower division which includes all known glaucomarine strata and an Upper division which includes all freshwater strata. The Lower Parmeener group consists of muddy lagoonal and estuarine rocks. The change from rocks of a restricted glaciomarine environment to rocks of a fluviatile environment is relatively abrupt in stratigraphic sections. A eustatic fall in sea level or regional uplift in eastern Australia may have contributed to the abrupt change in the Lower/Upper Parmeener Supergroup boundary.

Soils which have formed on the sedimentary rocks of the Parmeener Supergroup have a tendency to be highly erodible. Grey brown duplex soils have formed on the sandstones and mudstones in the Bothwell area, while thin yellow Tenosols commonly occur on the crests of hills and rocky outcrops in the Hermitage area. Due to the high erodibility of these soil types, buried archaeological material is not predicted to commonly occur.

Weasel Plains Creek is the only named water course in the study area (see Plate 4). The creek flows in a north-west to south-east direction and cuts through the northern portion of the site. This an ephemeral water course, which is a tributary of the Clyde River. It merges with the river around 3km to the south-east. The Clyde River is one of the major water natural water course in this area, and has its headwaters around Lake Crescent. The river flows in a south-west direction out of Lake Crescent and eventually empties into the River Derwent just south of the town of Bothwell. Other minor, unnamed water courses occur across the site area, all of which are tributaries of Weasel Plains Creek.

The proposed potential overall development area for the Weasel Solar Farm project, encompasses approximately 435ha. The native vegetation across this area has predominantly been cleared as part of past farming practices and replanted with grasses. Some areas around Weasel Plains Creek (in the north of the study area) have also been ploughed in the past. Patches of remnant native vegetation occur throughout parts of the site, mainly around the Weasel Hills, *where Eucalyptus pauciflora* forest and woodland is the dominant vegetation structure. Surrounding this woodland are patches of Lowland grassland complex and Lowland grassy sedgeland (see Plates 5 and 6).

From an archaeological perspective, any historic heritage sites that are situated within those parts of the study area that have been cleared as part of past farming practices will have been subject to moderate levels of disturbances. These disturbances are likely to involve soil mixing within the upper 30cm of the soil horizon and some level of spatial disturbance. There are also a series of existing vehicle tracks that extend across many parts of the site area, associated with existing pastoral activities. A major transmission line easement also runs through the site.

Within the lesser disturbed parts of the study area footprint, where the remnant native vegetation is still present, natural processes of deposition, erosion and pedogenisis are the only likely causes of movement of archaeological materials within these areas of lesser disturbances. The potential therefore exists for in situ archaeological deposits to remain in these parts of the site.

The climate of the Central Highlands is cold – temperate. Rainfall is generally consistent throughout the year, although late summer tends to be slightly dryer (BOM 2024). Mean annual rainfall for Bothwell is 529.2mm (BOM 2024). The warmest part of the year is late summer, however mean maximum temperatures are below 23 degrees Celsius. In winter the region frequently has snow with minimum temperatures below freezing.

Plate 1: View north-west across the central part of the site, showing typical gently undulating terrain

Plate 2: View east showing an example of the typical terrain in the northern part of the study area

Plate 3: A pile of rocks in a farm paddock, illustrating the underlying geology of the site

Plate 4: View north-west along Weasel Plains Creek which flows through the north part of the site

Plate 5: View north-east showing cleared farm paddocks

Plate 6: View east at stands of native forest within the central part of the site

3.0 Historic Background for the Study Area

3.1 Early European Settlement of the Central Highlands Region

The exploration of the Central Highlands region of Tasmania occurred early in the settlement phase of the colony, with Robert Brown undertaking a reconnaissance of the Derwent River system in 1803. Brown followed the course of the River some 50 miles upstream, sighting the Clyde and Ouse Rivers in the process. This was followed four years later by an excursion into the Western Tiers and Central Highlands by Laycock and his party in 1807, when he sought an overland route between Port Dalrymple and Hobart in order to obtain supplies. There was a hiatus of almost 10 years until John Beaumont and his exploration party was dispatched to examine the lands towards the Great Lake. The party are reported to have penetrated as far west as the highlands north of Lake St Claire. The 1820s through to the mid 1830s saw an increased number of surveying and exploration parties entering the Central Highlands. These included Scott from 1821-1823, Helder in 1825, Sharland in1832 and Frankland in 1835 (CHMA 2009).

The increasing shortage of food supplies in the colonies led to the dispatch of Kangaroo hunters into the un-settled parts of the colonies. These hunting parties were soon roaming well beyond the borders of the colonised areas. One Kangaroo hunter called Toombs is reported to have advanced as far as the Great Lake by 1815. Other hunting parties subsequently expanded out into the rich hunting grounds around the lakes areas in the Highlands. In 1831, Augustus Robinson, who was looking for the Big River Nation of Aboriginal people reports meeting with one of these hunters/shepherds on a small property at Bashan Plains, in the general vicinity of the study area (Kostoglou 1998).

Pastoralists soon followed behind the hunting parties, with shepherds penetrating into the eastern fringes of the Lakes District by 1818. By the early 1820s larger flocks of sheep are reported to be grazing as far west as the Great Lake. Wild cattle are also reported as grazing these areas in the early 1820s. The grazing of sheep and cattle in the Central Highlands were generally small scale operations run by a single shepherd or small groups of men, with the herds rarely being contained by fences. By the latter part of the 18th Century, many of the small-scale pastoral holdings had been abandoned or bought out by large sheep stations, which had begun to operate in the district (Kostoglou 1998).

Confrontations between these early pastoralists and the local Aboriginal inhabitants (the Big River Nation) quickly escalated, and by the mid 1820s, settlers were engaged in open warfare with the Aboriginals, in competition for land access. This led to a series of military parties being sent into the Central Highlands in attempt to quell the violence.

Bushranging gangs are known to have operated in the Central Highlands area in the 1820s. One of the more prominent of these gangs was the Martin Cash gang, who operated in the vicinity of the study area. Martin Cash and his gang are known to have robbed the occupants of a shepherds hut at Bashan Plains. The gang

subsequently had a number of other more equitable encounters with shepherds in the Lake Echo area, before raiding the property of Captain McKay. Martin Cash's Marsh, which is located 4km east of Lake Echo has been named after this bush ranger (Kostoglou 1998).

Michael Howe, a convict who had absconded, reputed to be the worst of the bushrangers was captured and killed on the banks of the Shannon at Hunterton, a little north of Bothwell, and it's reputed his head was carried back to Hobart Town as proof he had been killed. (http://www.think-tasmania.com/bothwell-history-convicts-bushrangers/, sourced 1/2/2015).

The gradual amalgamation of small holdings into larger estates coincided with the establishment of government funded infrastructure such as roads in the district. Early roads through the district included the Marlborough track (between Hamilton and Marlborough) and the Calder's track (from Marlborough and Lake St. Clair, and subsequently Frenchman's Cap).

The Central Highlands was further opened up to European settlement with the construction of the Great Western Railway between 1890-1912. The convict built railway line, which was largely inspired by James Calder, constituted the major transport artery through the southern Central Highlands until the construction of the Lyell Highway in the late 1920s.

In the early 1900s, hydro electricity development began to occur in the Central Highlands. The hydro electric scheme was initiated in the district in 1911 when the Hydro Electric Power and Metallurgical Company built a small dam at Great Lake with the intention to store water for conveyance to Waddamana where it was planned to construct a power station. The scheme failed to eventuate, and was subsequently taken over by the state government (through the Hydro Electric Department). By 1916, two generators had been installed at Waddamana and power was transmitted to Hobart via a transmission line. A second station at Waddamana was subsequently completed in 1948.

The sporadic and dispersed nature of European occupation in the Central Highlands, and the harshness of the terrain were a discouragement to further advancement of a systematic road network in the district. This changed with advent of logging in the Central Highlands. The initial logging tracks were generally just rudimentary paths cut through the bush by bulldozers. As logging activities increased in scale after the second World War, these tracks became more formalised, providing access for wheeled vehicles. Much of this logging activity was carried out by private operators. However, the roads and associated forests were largely subsequently taken over and managed by the Crown (the Forestry Commission).

3.2 Early Historical Period; Bothwell, Shannon, Ouse and Clyde Rivers

The proposed site for the Weasel Solar farm is situated around 9km north of the historic township of Bothwell. Europeans first came to the Clyde River in the first decade of the 1800s, when Thomas Laycock, a Lieutenant in the N.S.W. corps was

sent by Lieut-Governor P. William Patterson from Launceston to Hobart for food. During his passage, Laycock camped on the banks of the Clyde River, close to where the township of Bothwell sits (on the 18th February 1807). (http://www.think-tasmania.com/bothwell-history-convicts-bushrangers/, sourced 1/2/2015).

The neighbourhood was first surveyed in 1817, and in 1818. The first Europeans to settle in the Bothwell area, began arriving in 1821, and were predominantly wealthy, well connected Scottish, or occasionally Welsh, free settlers. A Welshman, Edward Nicholas, took up a grant of 1800 acres on the Clyde River at this time (then known as Fat Doe River, Big River and now referred to as the Ouse). Today his property, now a distillery, is still known as "Nant". Other early settlers to take up significant landholdings included the Scottish Alexander Reid who, arriving in Hobart Town on 1st March 1822, was shortly thereafter granted land on the Clyde River. The land comprised two sections, including "*1400 acres which he named 'Ratho' after the family property back in his homeland, and 600 acres five miles downstream, which he named Humbie after the town of his birth in Scotland"* (http://www.think-tasmania.com/bothwell-history-convicts-bushrangers/, sourced 1/2/2015). Ratho comprised the earliest golf course in Australia, laid out by the Reid family in the 1830s.

North-west of the study area of is the township of Ebrington. According to Holmes (2014:210-211) the township dates to 1834 when 640 acres of land within the township was offered for sale. It was included in the official Schedule of Townships dated to 1836, however interestingly, *the comment 'not built upon' was included in the Statistics for the County and electoral District of Cumberland in 1857*. In 1902, the correspondence from Secretary of Lands indicated that the township was sold to the 'Meadsfield' Estate, first settled by Edward Nicholas (see ELECTORAL ROLL Legislative Council, DISTRICT OF DERWENT for the year commencing August 1856, http://www.rootsweb.ancestry.com/~austas/Derwent.htm, sourced 1/2/2015). In July 1944, the Bothwell Council suggested that the town reserve should remain because here is a 'church, a school building and a church cemetery".

A review of the Land District Charts shows that the majority of the land encompassed by the Weasel Solar Farm site was within the original land holdings granted to George Cartwright and Joseph Allport. The exception is the north-west portion of the Weasel Solar Farm site which was part of the land holdings of Sinclair Williamson (see Figure 4).

Joseph Allport (1800-1877), solicitor, was the youngest son of William Allport, land surveyor and schoolmaster, of Aldridge, Staffordshire, England, and his wife Hannah, née Curzon. On leaving school he was articled to Sir John Fowler, a solicitor of Burton-on-Trent, and after completing his articles in London was placed on the roll of solicitors. He practised at Wolverhampton, Lichfield and West Bromwich. On 20 December 1826 he married Mary Morton Chapman, whom he had first met as a pupil at the school for young ladies kept by his parents. In 1830 he decided to emigrate to Australia with his wife and young son. They left England in the *Platina* in July 1831, arriving at Hobart Town next December, with two cousins and two friends and,

although the policy of land grants had been discontinued, they obtained a grant at Black Brush about twenty miles (32 km) from Hobart and began farming. In less than a year they realized that their land would not support them all and it was decided that Joseph Allport should withdraw from the partnership and practise law in Hobart.

George Meredith, son of a Birmingham solicitor, negotiated a partnership for him with George Cartwright, the oldest practitioner in Hobart. The business, known as Cartwright & Allport, grew so rapidly that two years later Allport wrote: 'I was not accused of neglecting my business in England but my life was one of positive idleness compared with what it is at present'. In 1835 he was appointed a notary public. In 1841 Cartwright retired from the firm and Joseph Allport took into partnership John Roberts, to whom he had previously given his articles, the firm then becoming Allport & Roberts. Allport's son, Morton, joined the firm in 1855 when it became Allport, Roberts & Allport. In his younger days Joseph Allport practised extensively at the Bar and according to contemporary reports was considered the most successful barrister of his day. Later the growing demands of his extending business forced him to give up all court work and devote himself entirely to the conveyancing and commercial work. He was recognized as an authority on real property law not only in Tasmania but also in England, and was quoted in the *Solicitors' Journal* of December 1861 and January 1862. He was offered, but refused, a judgeship. He did not seek political honours, although he was active in the agitation to have transportation of convicts to Van Diemen's Land abolished.

Outside his business Joseph Allport took a keen interest in many subjects, especially nature study. In 1842 he constructed ponds for rearing imported fish and introduced freshwater perch and tench from England. He was an ardent horticulturist with extensive gardens and orchards; he brought the white and yellow water-lilies to Tasmania and took an active interest in the botanical gardens at Hobart. He was an original member of the Tasmanian Society, the forerunner of the Royal Society of Tasmania, of which he was a fellow to the time of his death; and from its formation was a trustee of the Tasmanian Public Library. He was a member of the Church of England. He died at Hobart on 30 October 1877, survived by his wife and four of their six children. His wife achieved colonial distinction for her miniatures, lithographs and studies of Tasmanian flowers, shown in Hobart exhibitions between 1845 and 1863.

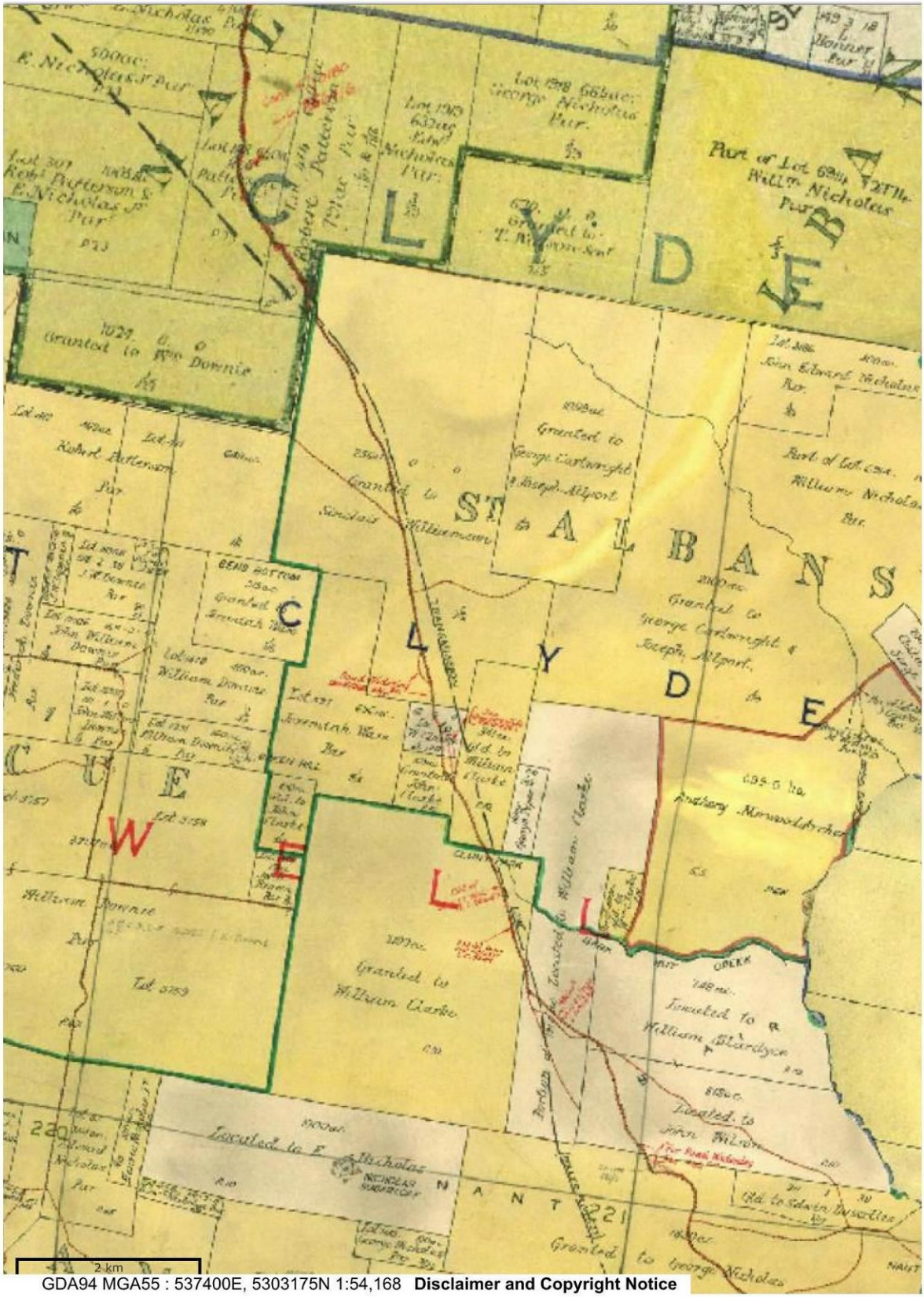

Figure 4: Land District Charts shows that the original land holdings grants within and in the surrounds of the Weasel Solar Farm site (Source TheList 2024)

3.3 Results of the Heritage Registers Search

A search of the various historic heritage registers (as listed in section 1.3 of this report) shows that there are no heritage listed properties of features that are situated within the boundaries of the Weasel Solar Farm site. The closest heritage listed feature is the Dungrove property which is situated just to the west of the Weasel Solar Farm site, on the west side of Highland Lakes Road. The property is a permanent registration on the Tasmanian Heritage Register (THR ID Number 72). The north-east corner of the registered boundaries of the Dungrove property approaches to within 60m of the Weasel Solar Farm site.

Figure 5 shows the THR registered boundaries of the Dungrove property in relation to the Weasel Solar Farm site. Table 1 provides the summary listing details for the Dungrove property.

Table 1: Summary details for the THR listed Dungrove Property

Feature	
Tasmanian Heritage Register - Unique ID Number	72
Tasmanian Heritage Register - Site Name	Dungrove
Title Reference	140434/1
Registration Status	Permanently Registered
Boundary Reference	Interim Boundary
Boundary Confidence	Unconfirmed (Interim Boundary)
Address	3287-3289 HIGHLAND LAKES RD, BOTHWELL, 7030
Municipality	Central Highlands Council

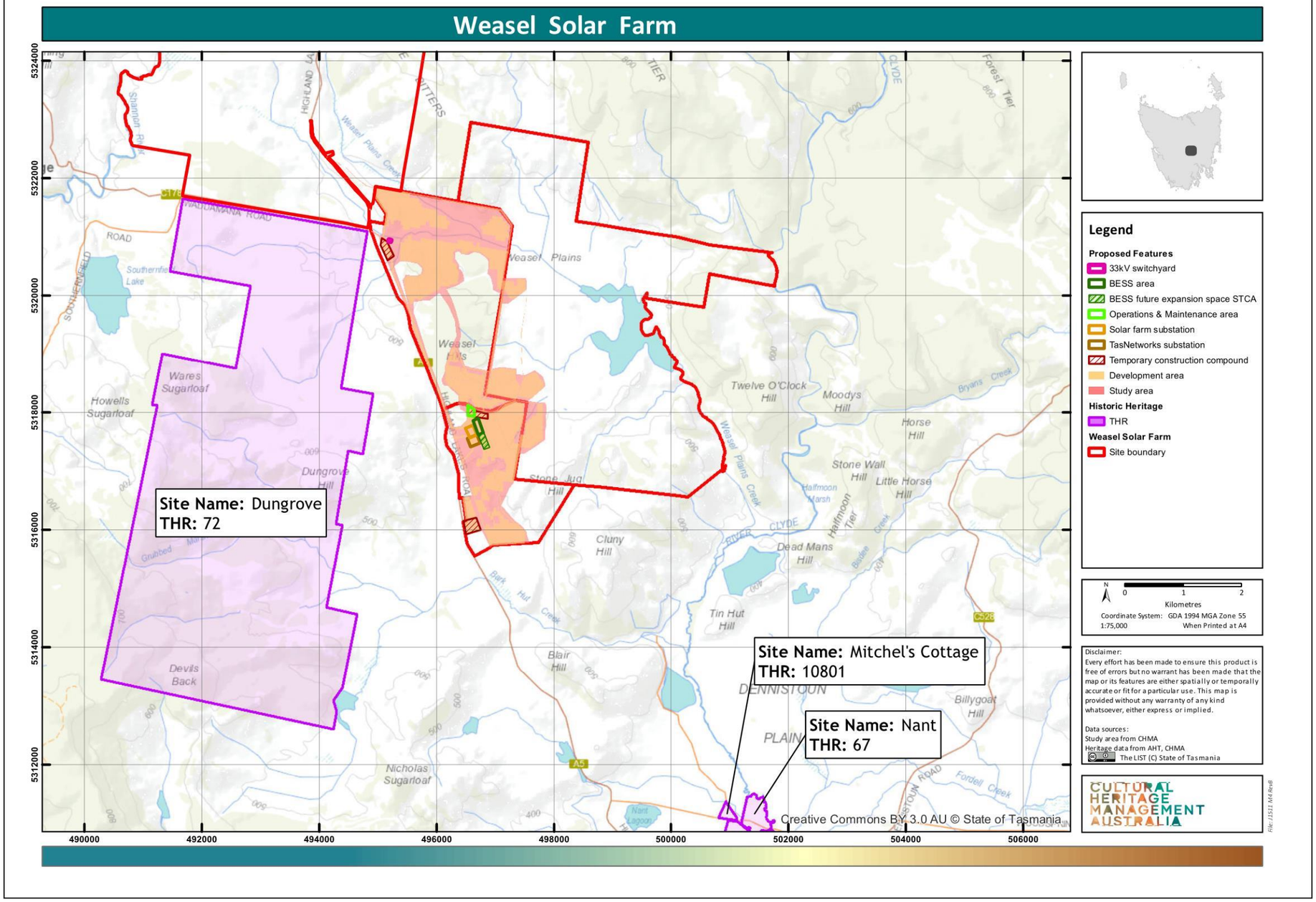

Figure 5: Registered and recorded historic sites and features that are located in the general surrounds of the Weasel Solar Farm site

4.0 Survey Coverage of the Study Area

Survey Coverage and Surface Visibility

Survey coverage refers to the estimated portion of a study area that has actually been visually inspected during a field survey. Surface Visibility refers to the extent to which the actual soils of the ground surface are available for inspection. There are a number of factors that can affect surface visibility, including vegetation cover, surface water and the presence introduced gravels or materials. Figure 6 presents a chart which is used as a general guideline for estimating surface visibility.

The field survey was undertaken by Stuart Huys and Shay Hannah) (CHMA archaeologists) and Rocky Sainty (Aboriginal Heritage Officer) and was implemented over a period of 5 days (25.4.2024, 26.4.2024, 29.4.2024, 30.4.2024, 1.5.2024). The field team walked a total of 68.45kms of survey transects across the Weasel Solar Farm site, with the average width of the transects being 10m. This equates to a total survey coverage of 684 500m². The primary focus of the field survey assessment was the proposed potential overall development area for the Weasel Solar Farm project, which encompasses approximately 435ha. Figure 7 shows the alignment of these transects.

Surface visibility was reasonably consistent across the surveyed areas, ranging between an estimated average of between 30% and 40%, which is in the low-medium range (see Figure 6). Vegetation cover was the main impediment to surface visibility. As a general rule, surface visibility was slightly better (averaging around 40%) on the hill slopes and crests (see Plates 7 and 8), compared to the lower lying valley floors, where visibility averaged 30% (see Plates 9 and 10). In the context of Tasmania, this level of average surface visibility is reasonable. Numerous erosion scalds, graded vehicle tracks and cleared areas were present within the surveyed areas, and these provided locales of improved visibility (see Plate 11). In an effort to increase effective coverage, these areas were targeted by the field team.

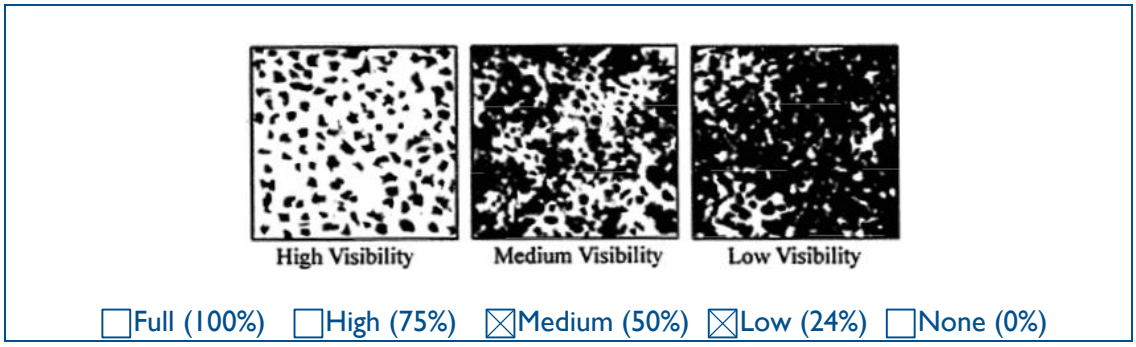

Figure 6: Guidelines for the estimation of surface visibility

Effective coverage

Variations in both survey coverage and surface visibility have a direct bearing on the ability of a field team to detect historic heritage sites. The combination of survey coverage and surface visibility is referred to as effective survey coverage. Table 2 presents the estimated effective survey coverage achieved by the field team. The

overall effective coverage is estimated to be 251 500m². Generally, the level of effective coverage is assessed as being adequate for the purposes of determining the likely presence, nature and extent of historic heritage sites that may be present within the potential overall development area for the Weasel Solar Farm project.

Table 2: Effective Survey Coverage achieved for the Weasel Solar Farm survey Assessment

Locations surveyed	Total Area Surveyed	Estimated Average Surface Visibility	Effective Survey Coverage
Grassed Agricultural Areas on Plains	22 300m x 10m = 223 000m²	30%	66 900m²
Hills and ridges fringing plains	46 150m x 10m = 461 500m²	40%	184 600m²
Total	68 450m x 10m = 684 500m²		251 500m²

Plate 7: View east showing typical levels of surface visibility (40%) in the hills areas

Plate 8: View north-west showing average visibility of 40% in the hill areas

Plate 9: View north-west across the valley floor plains with surface visibility at around 40%

Plate 10: View west across the plains area with visibility averaging 30%

Plate 11: View east at a large erosion scald within the hills providing a locale of improved visibility

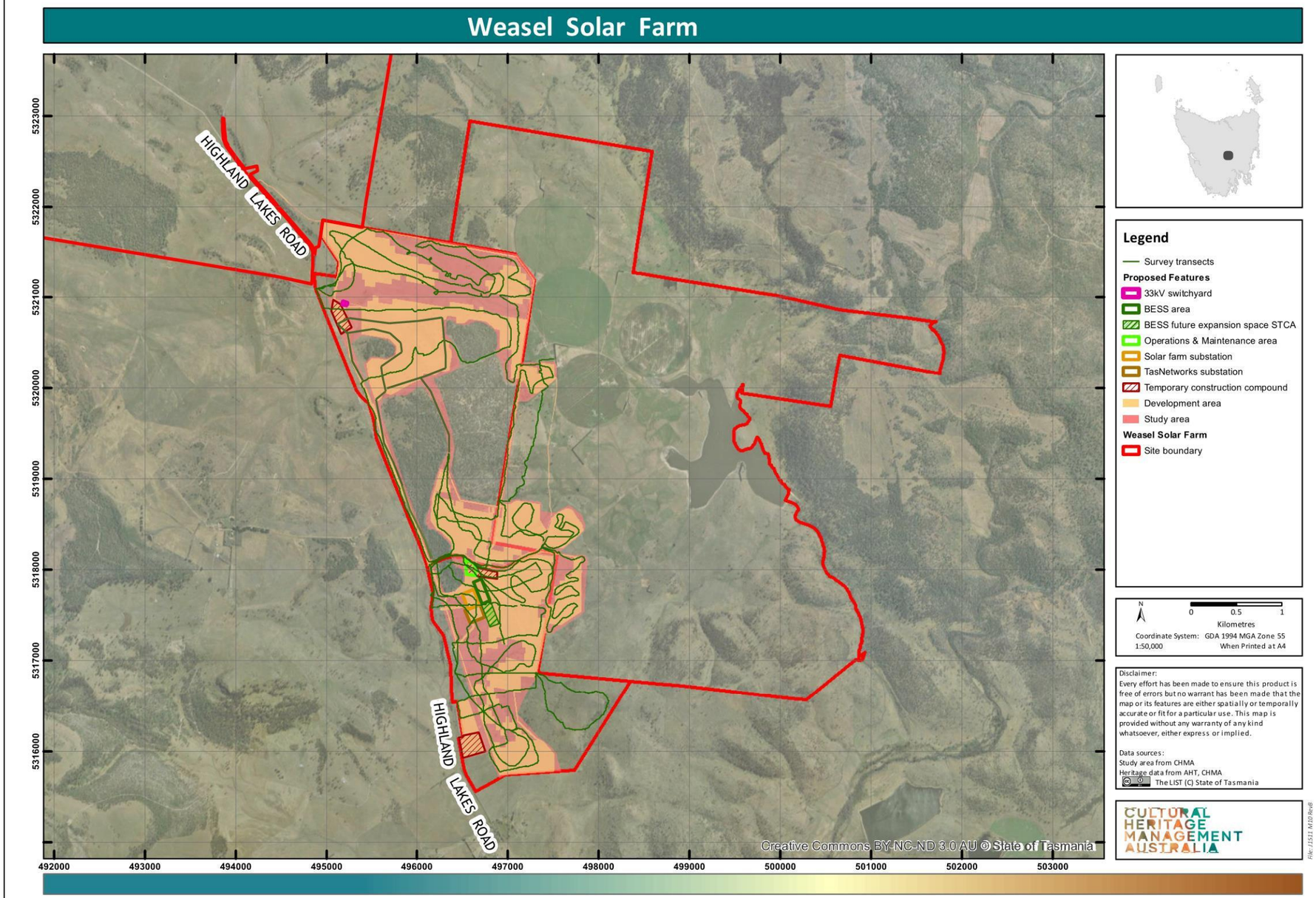

Figure 7: Aerial map showing survey transects walked across the Weasel Solar Farm site, with transects focused on the proposed potential overall development area

5.0 Survey Results, Statement of Heritage Impacts and Archaeological Potential

No historic heritage sites or suspected heritage features were identified during the field survey assessment of the Weasel Solar Farm site. As detailed in section 3.3 of this report, a search of the various historic heritage registers shows that there are no heritage listed properties of features that are situated within the boundaries of the Weasel Solar Farm site. The closest heritage listed feature is the Dungrove property which is situated just to the west of the Weasel Solar Farm site, on the west side of Highland Lakes Road. The property is a permanent registration on the Tasmanian Heritage Register (THR ID Number 72). The north-east corner of the registered boundaries of the Dungrove property approaches to within 60m of the Weasel Solar Farm site. This assessment has therefore confirmed that there are no known historic heritage features that are situated within the potential overall development area for the Weasel Solar Farm project.

As noted in section 4 of this report, there were some constraints in surface visibility experienced across the surveyed areas, with average surface visibility ranging between 30%-40%. Given these constraints, it can't be stated with absolute certainty that there are no undetected historic heritage sites present within the proposed development area for the Weasel Solar Farm project. However, the negative survey results provides a very strong indication that the archaeological potential for heritage features to be present is very low.

It is acknowledged that the survey assessment was predominantly focused on the potential overall development area for the Weasel Solar Farm project, with very few survey transects across the broader site area, where no development is proposed. Therefore, there is the potential that historic heritage sites or features may be present within the broader bounds of the Weasel Solar Farm site. Indeed, this is likely given that the properties where the Weasel Solar Farm site is located were part of early land grants in the district and were settled in the early to mid 1800s. Historic homestead(s), barns and potentially huts for labourers are likely to be present on the property, as well as other features associated with the early pastoral settlement of the Plains (for example heritage plantings around homestead). However, if present, these will be situated outside of potential overall development area for the Weasel Solar Farm project and will not be under any threat of impact.

6.0 Statutory Controls and Legislative Requirements

The following provides a summary overview of the various legislative instruments and statutory requirements relating to historic heritage in Tasmania. The review is presented in order to provide the proponent with a basic understanding of the statutory frameworks and procedures relating to heritage in Tasmania.

6.1 National Conventions

Council of Australian Governments Agreement 1997

In 1997, COAG reached an agreement on Commonwealth, State and local government roles and responsibilities for heritage management. Local government, through the Australian Local Government Association, and the Tasmanian Government were both signatories to this Agreement. The Agreement resulted in the following outcomes:

- Acceptance of a tiered model of heritage management, with the definition of places as being of either, world, national, state or of local heritage significance;
- Nominations of Australian places for the World Heritage List and management of Australia's obligations under the World Heritage Convention would be carried out by the Commonwealth Government;
- A new National Heritage System was created in January 2004, comprising the Australian Heritage Council (AHC), National Heritage List (NHL) and Commonwealth Heritage List (CHL);
- The Commonwealth Government, through the Australian Heritage Council would be responsible for listing, protecting and managing heritage places of national significance;
- State and Territory Governments would be responsible for listing, protecting and managing heritage places of state significance; and
- Local government would be responsible for listing, protecting and managing heritage places of local significance.

Environment Protection and Heritage Council of the Australian and State/Territory Governments 1998

In 1998, the National Heritage Convention proposed a set of common criteria to be used in order to better assess, understand and manage the heritage values of places.

The Environment Protection and Heritage Council of the Australian and State/Territory Governments adopted this as a national set of desirable common criteria (known as the HERCON criteria). The adoption of these criteria by Heritage Tasmania has not yet been formalised. These criteria are also based upon the Burra Charter values. The Common Criteria (HERCON Criteria) adopted in April 2008 are summarised below:

a) *Importance to the course or pattern of our cultural or natural history.*
b) *Possession of uncommon, rare or endangered aspects of our cultural or natural history.*

c) *Potential to yield information that will contribute to an understanding of our cultural or natural history.*
d) *Importance in demonstrating the principal characteristics of a class of cultural or natural places or environments.*
e) *Importance in exhibiting particular aesthetic characteristics*
f) *Importance in demonstrating a high degree of creative or technical achievement at a particular period.*
g) *Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of their continuing and developing cultural traditions.*
h) *Special association with the life or works of a person, or group of persons, of importance in our history.*

These criteria have been endorsed by the Heritage Chairs and Officials of Australia and New Zealand (HCOANZ) in the Supporting Local Government Project document, "Protecting Local Heritage Places: A National Guide for Local Government and Communities" (March 2009).

Burra Charter 2013

Australia ICOMOS (International Council on Monuments and Sites) is the peak body of professionals working in heritage conservation in Australia. The Burra Charter was adopted by Australia ICOMOS in 1979 in Burra, South Australia based on other international conventions. Further revisions were adopted in 1981, 1988, 1999 and 2013 to ensure the Charter continues to reflect best practice in heritage and conservation management. The current version of the Australia ICOMOS Burra Charter 2013 is the only version that should be used.

The Burra Charter provides guidance for the conservation and management of places of cultural significance (cultural heritage places), and is based on the knowledge and experience of Australian ICOMOS members. The Charter sets a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance, including owners, managers and custodians.

The Charter recognises the need to involve people in the decision-making process, particularly those that have strong associations with a place. It also advocates a cautious approach to changing heritage places: do as much as necessary to care for the place and to make it useable, but otherwise change it as little as possible so that its cultural significance is retained.

6.2 Commonwealth Legislation

Environment Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides for the listing of natural, historic or indigenous places that are of outstanding national heritage value to the Australian nation as well as heritage places on Commonwealth lands and waters under Australian Government control.

Once a heritage place is listed under the EPBC Act, special requirements come into force to ensure that the values of the place will be protected and conserved for future generations. The following heritage lists are established through the EPBC Act:

- *National Heritage List* - a list of places of natural, historic and indigenous places that are of outstanding national heritage value to the Australian nation
- *Commonwealth Heritage List* - a list of natural, historic and indigenous places of significance owned or controlled by the Australian Government.
- *List of Overseas Places of Historic Significance to Australia* – this list recognises symbolically sites of outstanding historic significance to Australia but not under Australian jurisdiction.

This assessment has confirmed that there are no listed or identified heritage features that occur within the boundaries of the Weasel Solar Farm site. On this basis, it is advised that there are no heritage listing requirements that apply for this project.

Australian Heritage Council Act 2003

The Australian Heritage Council is a body of heritage experts that has replaced the Australian Heritage Commission as the Australian Government's independent expert advisory body on heritage matters when the new Commonwealth Heritage System was introduced in 2004 under amendments to the Environment Protection and Biodiversity and Conservation Act 1999.

The Council plays a key role in assessment, advice and policy formulation and support of major heritage programs. Its main responsibilities are to assess and nominate places for the National Heritage List and the Commonwealth Heritage List, promote the identification, assessment, conservation and monitoring of heritage; and advise the Minister on various heritage matters.

Protection of Movable Cultural Heritage Act 1986

The PMCH Act regulates the export of cultural heritage objects from Australia. The purpose of the Act is to protect, for the benefit of the nation, objects which if exported would significantly diminish Australia's cultural heritage. Some Australian protected objects of Aboriginal, military heritage and historical significance cannot be granted a permit for export. Other Australian protected objects may be exported provided a permit or certificate has been obtained.

6.3 State Legislation

Land Use Planning and Approvals Act 1993

This Act (LUPAA) is the cornerstone of the State Resource Management and Planning System (RMPS). It establishes the legitimacy of local planning schemes

and regulates land use planning and development across Tasmania. With regard to historic heritage, LUPAA requires that planning authorities will work to conserve those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value" [Schedule 1 Part 2(g)].

Resource Planning and Development Commission Act 1997

The Resource Planning and Development Commission (now referred to as the Tasmanian Planning Commission) is responsible for overseeing Tasmania's planning system, approving planning schemes and amendments to schemes and assessing Projects of State Significance. In terms of heritage management, the TPC will consider the establishment of heritage overlays, precincts or areas as part of the creation of planning schemes.

Resource Management and Planning Appeal Tribunal Act 1993

The Resource Management and Planning Appeal Tribunal determine planning appeals and enforce the Acts within the RMPS. The Tribunal plays an important role in the management of heritage places through its determinations on proposed development on, or near to, places of heritage significance.

Historic Cultural Heritage Act 1995

The *Historic Cultural Heritage Act 1995* (HCH Act) is the key piece of Tasmanian legislation for the identification, assessment and management of historic cultural heritage places. The stated purpose of the HCH Act is to promote the identification, assessment, protection and conservation of places having historic cultural heritage significance and to establish the Tasmanian Heritage Council". The HCH Act also includes the requirements to:

- establish and maintain the Tasmanian Heritage Register (THR);
- provide for a system for a system of approvals for work on places on the Register;
- provide for Heritage Agreements and assistance to property owners;
- provide for protection of shipwrecks;
- provide for control mechanisms and penalties for breaches of the Act.

Under the HCH Act, "conservation" in relation to a place is defined as:

- the retention of the historic cultural heritage significance of the place; and
- any maintenance, preservation, restoration, reconstruction and adaption of the place.

The definition of "place" under the HCH Act includes:

- a site, precinct or parcel of land;
- any building or part of a building;
- any shipwreck;
- any item in or on, or historically or physically associated or connected with, a site precinct or parcel of land where the primary importance of the item derives in part from its association with that site, precinct or parcel of land; and

- any equipment, furniture, fittings, and articles in or on, or historically or physically associated or connected with any building or item.

The Act created the Tasmanian Heritage Council (THC), which came into existence in 1997 and operates within the State RMPS. The THC is a statutory body, separate from government, which is responsible for the administration of the HCH Act and the establishment of the Tasmanian Heritage Register (THR), which lists all places assessed as having heritage values of state significance. The THC also assesses works that may affect the heritage significance of places and provides advice to state and local government on heritage matters. The primary task of the THC is as a resource management and planning body, which is focused on heritage conservation issues. Any development on heritage-listed places requires the approval of the THC before works can commence.

Heritage Tasmania (HT) also plays a key role in fulfilling statutory responsibilities under the HCH Act. HT has three core roles:

- co-ordinating historic heritage strategy and activity for the State Government;
- supporting the Tasmanian Heritage Council to implement the HCH Act; and
- facilitating the development of the historic heritage register.

Works to places included in the THR require approval, either through a Certificate of Exemption for works which will have no or negligible impact, or through a discretionary permit for those works which may impact on the significance of the place.

Discretionary permit applications are lodged with the relevant local planning authority. On receipt, the application is sent to the Heritage Council, which will firstly decide whether they have an interest in determining the application. If the Heritage Council has no interest in the matter, the local planning authority will determine the application.

If the Heritage Council has an interest in determining the application, a number of matters may be relevant to its decision. This includes the likely impact of the works on the significance of the place; any representations; and any regulations and works guidelines issued under the HCH Act. The Heritage Council may also consult with the planning authority when making a decision.

In making a decision, the Heritage Council will exercise one of three options: consent to the discretionary permit being granted; consent to the discretionary permit being granted subject to certain conditions; or advise the planning authority that the discretionary permit should be refused. The Heritage Council's decision is then forwarded to the planning authority, which will incorporate the decision into any planning permit

Works Guidelines for Historic Heritage Places 2015

The Tasmanian Heritage Council and Heritage Tasmania have issued Works Guidelines for Historic Heritage Places. The guidelines provide a general reference

for the types of works which may be exempt, or those where a permit will be required. They also define appropriate outcomes for a range of different works and development scenarios. Although specifically designed for places included in the THR, the guidelines provide useful advice for the management of heritage places generally.

This assessment has confirmed that there are no heritage features listed on the Tasmanian Heritage Register that occur within the boundaries of the Weasel Solar Farm site. On this basis, it is advised that there are no Certificate of Exemption or Discretionary Permits that apply for this project.

6.4 Local Planning Schemes (The Tasmanian Planning Scheme – Central Highlands)

The Weasel Solar Farm site falls within the local government area of the Central Highlands Council, which includes the towns of Bothwell, Bronte Park, Derwent Bridge, Hamilton, Liawenee, Miena, Ouse and Tarraleah.

The *Tasmanian Planning Scheme – Central Highlands* formally came into effect for the Central Highlands Local Government on 8 February 2023, and replaces the former *Central Highlands Interim Planning Scheme 2015*. The *Tasmanian Planning Scheme* provides a single planning scheme and a consistent set of rules and requirements in relation to the manner in which all land in Tasmania may be used, developed, protected and conserved. It consists of two parts:

1. **State Planning Provisions** contain the mandatory common rules that are to apply in all municipal areas. For consistency in permit and compliance requirements that must be met by a proposed use or development.
2. **Local Provision Schedule** for each municipal area setting out how the State Planning Provisions are to apply. The Clarence Local Provision Schedule (LPS) contains all of the Clarence specific local controls including the Zone and Code Maps, Code lists , Specific Area Plans (mapping & controls) and Site Specific Qualifications.

The planning scheme supports strategic land use planning for residential, business, agriculture, utilities, environmental and recreational zones. The scheme includes considerations such as natural hazards, local heritage values, natural assets, parking requirements and the protection of road, railway and electricity infrastructure.\

Section C6 of the *Tasmanian Planning Scheme* deals specifically with the Local Heritage Code. The stated purpose of the code is to recognise and protect the local historic heritage significance of local places, precincts, landscapes and areas of archaeological potential and significant trees by regulating development that may impact on their values, features and characteristics.

This code applies to:

(a) development on land within any of the following, as defined in this code:

(i) a local heritage place;

(ii) a local heritage precinct;

(iii)a local historic landscape precinct; and

(iv) for excavation only, a place or precinct of archaeological potential; and

(b) the lopping, pruning, removal or destruction of a significant tree as defined in this code.

If a site is listed as a local heritage place and also within a local heritage precinct or local historic landscape precinct, it is only necessary to demonstrate compliance with the standards for the local heritage place unless demolition, buildings and works are proposed for an area of the site outside the identified specific extent of the local heritage place.

This code does not apply to a registered place entered on the Tasmanian Heritage Register.

This assessment has confirmed that there are no heritage features listed under the *Central Highlands Interim Planning Scheme 2015* (CHIPS) that occur within the boundaries of the Weasel Solar Farm site. On this basis, there are no heritage code requirements under The *Tasmanian Planning Scheme – Central Highlands* that are applicable.

7.0 Heritage Management Plan

The heritage management options and recommendations provided in this report are made on the basis of the following criteria.

- The results of the heritage register searches and field investigation as documented in sections 3 and 5 of the report.
- The legal and procedural requirements as summarised in section 6 of this report, with specific reference to the Work Guidelines for Historic Heritage Places.

Recommendation 1 (Weasel Solar Farm)

No historic heritage sites, features or areas of elevated archaeological potential have been identified within the potential overall development area for the Weasel Solar Farm project and it has been assessed that there is a very low potential for additional undetected historic sites or features to be present. On this basis it is recommended that there are no further historic heritage requirements or constraints that apply to the overall development area for the Weasel Solar Farm project

Recommendation 2 (The Dungrove Property)

The Dungrove property is a permanent registration on the Tasmanian Heritage Register (THR #72). The north-east corner of the registered boundaries of the Dungrove property approaches to within 60m of the Weasel Solar Farm site. It is recommended that the location of the Dungrove property boundaries is plotted onto the Weasel Soar Farm development masterplan, and it noted that no development activity is to occur within the property boundaries.

If there is the risk of development activity extending to within the boundaries of the Dungrove property, then the proponent will either need to seek a Certificate of Exemption (for works which will have no or negligible impact) or a Discretionary Permit from the Heritage Council.

Recommendation 3 (Changes to the Design)

If the current potential overall development area for the Weasel Solar Farm changes, then additional survey assessments will need to be undertaken for areas not covered by the current assessment.

Recommendations 4 (Unanticipated Discovery Plan)

As per the Practice Note No 2 by the Tasmanian Heritage Council, processes must be followed should any unexpected archaeological features and/or deposits be revealed during proposed construction works. A process for dealing with Unanticipated Discoveries is presented in section 8.

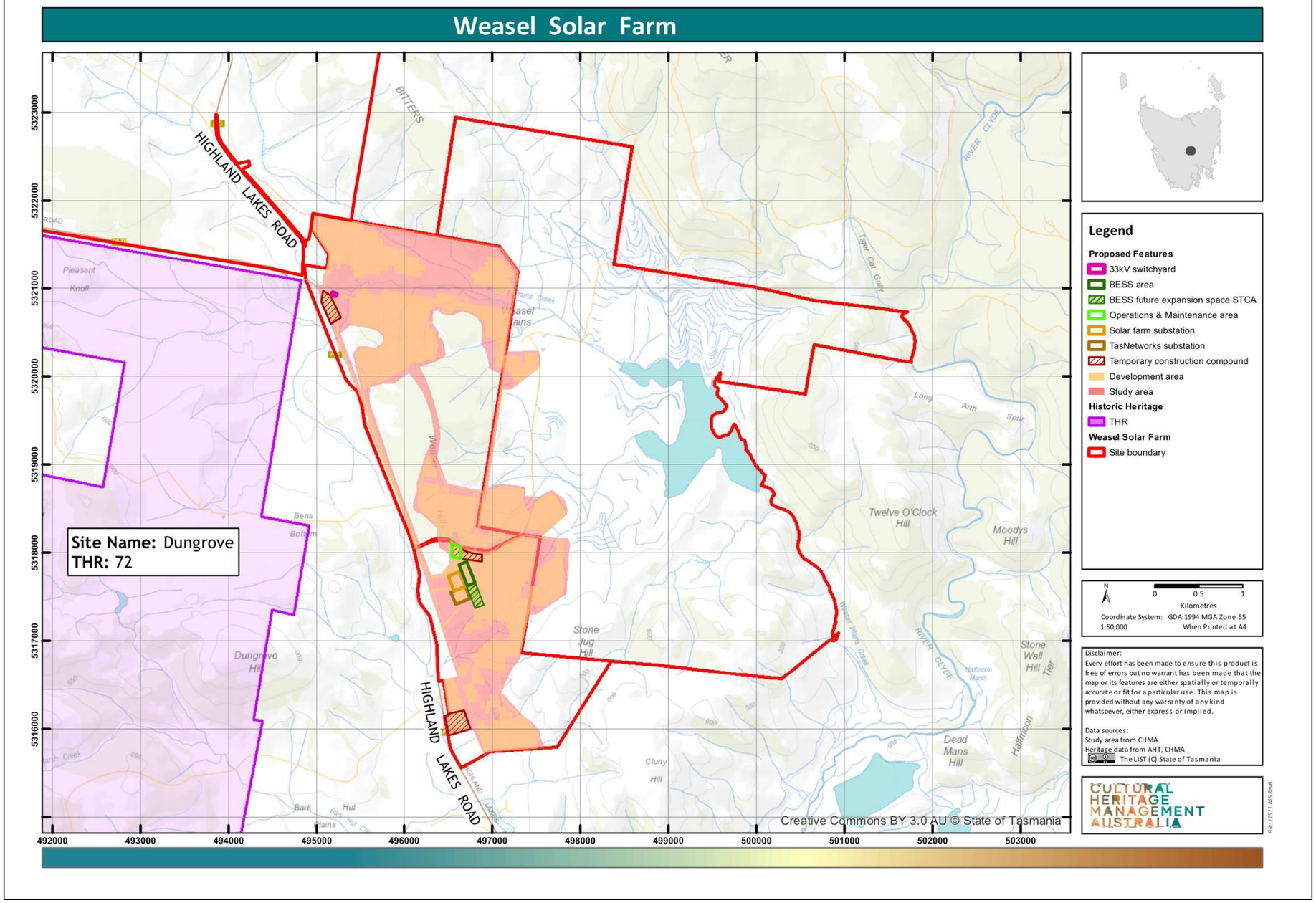

Figure 8: Topographic map showing the location of the THR listed Dungrove property in relation to the Weasel Solar Farm site

8.0 Unanticipated Discovery Plan

The following text describes the proposed method for dealing with unanticipated discoveries of heritage features or objects during the proposed Weasel Solar Farm development works. The plan provides guidance to project personnel so that they may meet their obligations with respect to heritage legislation. Please Note: There are two different processes presented for the mitigation of these unanticipated discoveries. The first process applies for the discovery of all cultural heritage objects or features, with the exception of skeletal remains (burials). The second process applies exclusively to the discovery of skeletal remains (burials).

Discovery of Heritage Objects or Features

Step 1

If any person believes that they have discovered or uncovered a heritage object or feature, the individual should notify any machinery operators that are working in the general vicinity of the area that earth disturbance works should stop immediately.

Step 2

A buffer protection zone of 5m x 5m should be established around the suspected heritage find. No unauthorised entry or earth disturbance will be allowed within this 'archaeological zone' until such time as the suspected heritage find has been assessed, and appropriate mitigation measures have been carried out.

Step 3

A qualified heritage consultant should be engaged to assess the suspected heritage find. As a first step in the process, the heritage consultant should contact Heritage Tasmania, the Heritage Council and the Local Council and notify them of the find. The heritage consultant will ensure that Heritage Tasmania, the Heritage Council and the Local Council are consulted throughout the assessment process.

Step 4

If the heritage find is a movable object, then the find should be recorded, photographed and a decision should be made as to whether the object should be re-located to a designated Keeping Place. If the find is an unmovable heritage object or feature, then the find should be recorded and photographed and a HIA and HMP developed for the feature. This should be then submitted to Heritage Tasmania, the Heritage Council and the Local Council for review and advice.

Possible outcomes may necessitate:

a. An amendment to the design of the development
b. Carrying out of archaeological excavations prior to the re-commencement of works
c. Archaeological monitoring and recording during works
d. Preparation (and implementation) of a strategy to ensure communication of the new information to the community.
e. A combination of the above.

Discovery of Skeletal Material

Step 1:
Call the Police immediately. Under no circumstances should the suspected skeletal material be touched or disturbed. The area should be managed as a crime scene. It is a criminal offence to interfere with a crime scene.

Step 2:
Any person who believes they have uncovered skeletal material should notify all employees or contractors working in the immediate area that all earth disturbance works cease immediately.

Step 3:
A temporary 'no-go' or buffer zone of at least 50m x 50m should be implemented to protect the suspected skeletal material, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected skeletal remains have been assessed by the Police and/or Coroner.

Step 4:
If it is suspected that the skeletal material is Aboriginal, Aboriginal Heritage Tasmania should be notified.

Step 5:
Should the skeletal material be determined to be Aboriginal, the Coroner will contact the Aboriginal organisation approved by the Attorney-General, as per the *Coroners Act 1995*.

References Cited

BOM 2024 Bureau of Meteorology (BOM) website. Accessed May 2024 from <http://www.bom.gov.au/>.

Ellis, S. 2001 *Bothwell revisited : a history : foundation, Federation and the Millennium*, Bothwell, Tas. Bothwell Historical Society.

Jetson, T. 1989 *The Roof of Tasmania: a history of the Central Plateau*. Launceston, Tasmania: Pelion Press.

CHMA 2009. A Cultural Heritage Assessment of a proposed Wind Farm site at Cattle Hill, Lake Echo, Tasmania. A report to NP Power Pty Ltd.

Holmes, M. 2014, *Vanishing towns : Tasmania's ghost towns and settlements* / Michael Holmes Tasmania's Ghosts Towns and Settlements and Forty South Publishing Pty Ltd Hobart, Tasmania

Kostoglou, P. 1998 An archaeological survey of historic sites in the southern central highlands of Tasmania. Unpublished report prepared for Forestry Tasmania.

TheLIST 2024 Land Information Systems Tasmania website, Department of Primary Industries and Water, Hobart, Tasmania.

Von Stieglitz, K. R. 1958 *The history of Bothwell and its early settlers at the Clyde in Van Dieman's Land* / by K. R. von Stieglitz Author [Evandale, Tas]

Online Resources

http://www.think-tasmania.com/bothwell-history-convicts-bushrangers/, sourced 1/4/2024.
http://stors.tas.gov.au/AUTAS001124074626w800n; sourced 30/2/2015
(http://www.linc.tas.gov.au/tasmaniasheritage/popular/allport/allport-family, sourced 1/4/2024

Legislation

The *Tasmanian Planning Scheme – Central Highlands*
Historic Cultural Heritage Act 1995
Council of Australian Governments Agreement 1997
Environment Protection and Heritage Council of the Australian and State/Territory Governments 1998
Land Use Planning and Approvals Act 1993
Resource Planning and Development Commission Act 1997
Resource Management and Planning Appeal Tribunal Act 1993
Environment Protection and Biodiversity Conservation Act 1999
Australian Heritage Council Act 2003
Protection of Movable Cultural Heritage Act 1986
Aboriginal Heritage Act 1975
Coroners Act 1995

Consultation Summary Report

Weasel Solar Farm

Central Highlands, TAS

For Weasel Solar Farm Pty Ltd c/o Robert Luxmoore Pty Ltd

23 September 2024

cogency

Planning | Engagement | Strategy

Document Details

Weasel Solar Farm

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1	23/09/2024	Draft Consultation Summary Report	KD, AP	BG, CH
2	30/09/2024	Consultation Summary Report	AP	BG

We celebrate the physical and spiritual connections between Indigenous people and place expressed through the Birrarung Wilam (Common Ground) art Project on the banks of Melbourne's Yarra River.

Acknowledgement of Country

Cogency acknowledges the Traditional Owners and Custodians of the land on which we meet, work and write, the Wurundjeri Woi-wurrung peoples of the Kulin nation, and their connections to land, sea, and community. We pay our respect to their Elders past and present and emerging.

Cogency also extends that respect and acknowledges the Traditional Custodians of Bothwell, the Big River Tribe, or Teen Toomie Mennenyer people. We recognise and respect their cultural heritage, beliefs and continuing connection with the land and waterways. We also recognise the resilience, strength, and pride of the Big River Tribe and First Nations communities and acknowledge that Sovereignty was never ceded.

Executive Summary

Weasel Solar Farm Pty Ltd c/o Robert Luxmoore Pty Ltd (the Proponent) appointed Cogency Australia (Cogency) to prepare a Community & Stakeholder Engagement Strategy and lead the engagement activities for the proposed development of the Weasel Solar Farm – a large-scale solar farm in Bothwell, located in the Central Highlands region of Tasmania referred to as the 'Project.'

The Proponent is committed to ensuring the community and stakeholders are proactively and meaningfully informed, consulted and involved in the planning and development of the Project, and that the benefits are genuinely felt by local people and businesses.

This Consultation Summary Report (Report) provides details of the engagement undertaken for the Weasel Solar Farm, from 2023 to 2024.

The three main phases of engagement throughout the lifecycle of the Project include:

- **Phase 1:** Early Feasibility and Design (Completed)
- **Phase 2**: Pre-Lodgement (Completed)
- **Phase 3:** Post-Lodgement & Advertisement (To start).

During all phases of the Project, the appropriate stakeholders have and will be effectively informed, consulted, and involved in the process based on the objectives, principles, best practices, and guidelines for community engagement outlined in the Project's Community and Stakeholder Engagement Strategy.

By actively listening to stakeholders and addressing their concerns, the Proponent has aimed to enhance the benefits derived from the Weasel Solar Farm and minimise the impacts on neighbours, the community, and the local environment.

Consultation with stakeholders and the Bothwell community has enabled the project team to adjust various elements of the Project's design and conduct additional technical studies to identify and resolve any issues raised.

The Engagement Action Plan continues to be periodically updated to reflect the progress of the Project, incorporate community input, and address any emerging needs and issues.

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Glossary

Abbreviation	Meaning
ABS	Australian Bureau of Statistics
AEMO	Australian Energy Market Operator
BESS	Battery Energy Storage System
CEC	Clean Energy Council
EPA	Environmental Protection Authority
EPBC	Environment Protection and Biodiversity Conservation
IAP2	International Association for Public Participation
LGA	Local Government Area
kV	Kilovolt
MER	Monitoring, Evaluation and Reporting
MW	Megawatt
NEM	National Energy Market (NEM)
O&M	Operations and Management
ReCFIT	Renewables, Climate and Future Industries Tasmania
REZ	Renewable Energy Zone
Strategy	Community and Stakeholder Engagement Strategy

1. Project Overview

1.1 Introduction

Cogency Australia Pty Ltd (Cogency), on behalf of Weasel Solar Farm Pty Ltd c/o Robert Luxmoore Pty Ltd (the Proponent), has prepared this Consultation Summary Report in relation to the proposed development of the Weasel Solar Farm – a large-scale solar farm north of Bothwell, located in the Central Highlands region of Tasmania, hereby referred to as the 'Project'.

Community and stakeholder engagement is fundamental to delivering positive and effective outcomes for both renewable energy projects and the local community. Evidence from across Australia and internationally has shown that effective engagement increases the likelihood of establishing and maintaining renewable energy facilities that bring the most mutual benefit to all stakeholders. Proactive, meaningful, inclusive, and robust engagement practices can therefore be seen as an investment in two outcomes: the future success of the renewable energy industry and strong communities.

This Report aims to provide an overview of the stakeholder and community consultation that has occurred and will continue to occur in the planning and development of the Project. To date, the Proponent with the support of Cogency has sought to ensure that the community and stakeholders are **proactively and meaningfully informed, consulted and involved** throughout the Project's lifecycle.

1.2 The Project

The Weasel Solar Farm is a significant new solar farm Project to be developed north of Bothwell, in the Central Highlands region of Tasmania. The Weasel Solar Farm is one component of the Proponent's broader 'Highlands Renewable Energy Hub' that is seeking to generate and use renewable energy alongside agricultural and forestry processing to generate significant social and economic benefits for the local community and the state of Tasmania.

The Highlands Renewable Energy Hub seeks to deliver three distinct yet interconnected components - a solar farm, a wind farm, and a renewable energy business park (battery and industry), all of which have different development approval pathways. The focus of this Summary is the solar farm component.

The Project comprises of a solar farm with a capacity of up to 250MW and a battery energy storage system (BESS). The Project area covers approximately 435 ha for the solar panels and includes a two-hectare development area for the BESS, electricity switchyard infrastructure, transmission line connection into the existing 220kV transmission line, and associated infrastructure and works such as access tracks, benching, drainage and landscaping.

Once operational, the Weasel Solar Farm will provide critical energy generation for the National Electricity Market (NEM) grid. By generating energy from renewable energy sources, the proposed Project will contribute to existing and proposed renewable energy projects within Tasmania's Central Highlands Renewable Energy Zone (T3-REZ), while helping to strengthen energy supply and price stability for households across Tasmania and support Tasmania's energy transition.

1.3 Site and Context

The site is located within the south-east of the Central Highlands Local Government Area (LGA) of Tasmania. The solar farm development area is located within the Weasel Plains, south-east of many of the great lakes that give the Central Highlands its unique natural character. Early design concepts show the solar farm development areas will be located approximately 5 km to the east of the rural locality of Hermitage, approximately 9 km to the north of Bothwell, and a 72 km north of Hobart.

While the surrounding area is quite undulating, the areas selected for the solar farm development are relatively flat. The development areas for the solar farm are generally cleared of vegetation due to historical agricultural use, with large patches of vegetation within the wider property being avoided.

Highland Lakes Road (State Route A5) runs adjacent to the western extent of the site, with sightlines largely protected by existing vegetation and topography (a ridge runs parallel between the road and the solar development areas). The A5 connects from the A1 (National Highway 1, Tasmania's most important road connection - Hobart to Launceston) approximately 25 km south at Melton Mowbray and broadly runs north/north-west to Deloraine through the Central Highlands region (including via Bothwell and Miena). It connects to at Melton Mowbray, providing connections to Hobart.

The site sits within one of the three Tasmanian Renewable Energy Zones (REZ) as identified by the Australian Energy Market Operator (AEMO), the T3 – Central highlands REZ (T3-REZ). REZ's are areas with high-quality renewable energy resources where clusters of large-scale renewable projects can be developed. The Central Highlands region holds immense potential for the development of a variety of renewable energy projects and there are several renewable energy projects that are currently under development or in operation, including the operational Cattle Hill Wind Farm.

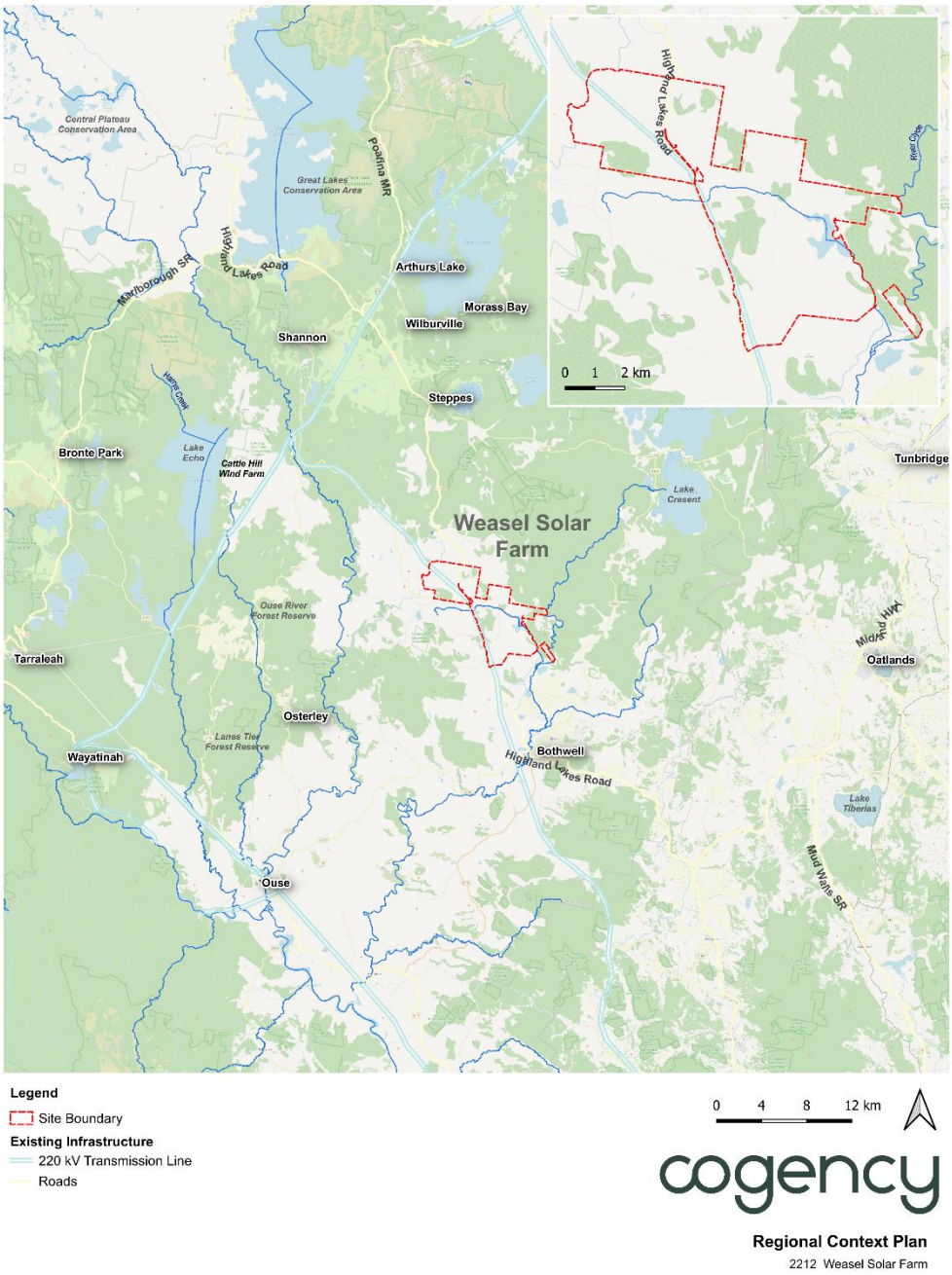


Figure 1 – Regional Context Map

2. Community Snapshot

2.1 Traditional Owners

Prior to European Settlement, the Central Highlands region was stewarded by the Big River Tribe, or Teen Toomie Mennenyer people. The Tasmanian Aboriginal Centre and the Aboriginal Land Council of Tasmania (ALCT) are the key stakeholders representing traditional owners in the region.

Within the Central Highlands Local Government Area, there are 154 people who identify as Aboriginal and/or Torres Strait Islander, representing approximately 6.1% of the population (ABS, 2021).

Teen Toomie Mennenyer people have cared for and protected this land since the dreaming. Their connections to the land, animals, seas, and waterways were and continue to be a part of their being.

2.2 Regional Context

The Proposal is located within the Central Highlands Council area. The LGA covers more than 8,000 square kilometres and makes a significant and increasing contribution to the economic wealth of Tasmania.

Known for its great lakes and scenic mountainous areas, the region is popular for tourism and recreation. The region boasts multiple thriving industries including agriculture (diverse crop and livestock production), horticulture, forestry, power generation and trout fishing. The key communities in the region of the Weasel Solar Farm are Bothwell, Osterley, Victoria Valley and Ouse. These towns and villages are relatively small and distinct rural communities. Central Highlands' major transport services are the Midland Highway and Highland Lakes Road.

2.3 Community Overview

The community with the closest relationship to the development of the Weasel Solar Farm is Bothwell. Other communities of Osterley, Victoria Valley and Ouse are further and less connected. Based on the site's geography, engagement will be tailored to the primary service town of Bothwell.

Bothwell has a population of approximately 499 residents (ABS, 2021). Bothwell sits on the river Clyde and is surrounded by rich rural land, primarily used for agriculture and is known as the southern gateway to the central highlands of Tasmania, and the gateway to some of the best trout fishing in Australia near Arthurs Lake and the Great Lake. First established by settlers of Scottish descent in 1824, the Scottish influence can still be seen in Bothwell today. Bothwell received its name from Governor George Arthur after the town in Scotland similarly located on the River Clyde. It is one of the most historically significant towns in Tasmania, with a total of 60 buildings and locations of historic interest.

The median age of Bothwell is higher than the national average and there is a higher percentage of couples without children which is indicative of an aging population. The top industries of employment are sheep / sheep-beef cattle farming and local government administration.

2.4 Stakeholder Identification

To engage appropriately and effectively with the local community and stakeholders, an important first step was to identify the full list of community and stakeholder groups who may be affected by and/or have an interest in the Project, as outlined in **Table 1**.

Table 1 – Stakeholder identification analysis for Weasel Solar Farm

Group	Sub-section	Description
Near Neighbours	Nearest (<2km)	Excluding the dwellings located within the involved Dungrove and Cluny properties, there are two non-involved dwellings located approximately 600m-1km to the southwest of the Development Area.
	Near (<5km)	10 more non-involved dwellings have been identified up to 5 kilometres north-west from the boundary of the Development Area for the solar farm.
Bothwell Community		Township of Bothwell is 9km south of the Development Area with approximately 500 residents.
Local Businesses	Near (<5km)	Businesses up to 5 kilometres from the site boundary.
	Far (>5km)	Businesses greater than 5 kilometres from the site boundary, within the local area.
Traditional Owners		Tasmanian Aboriginal Centre Aboriginal Land Council Tasmania Heritage Council – Tasmanian Heritage Register
Central Highland community		Communities beyond the immediate area, within the wider Central Highlands regional area
Print Media	Local	Local publications such as the Derwent Valley Gazette and The Highland Digest.
	State	Tasmanian publications such as The Advocate, The Examiner, The Mercury, and Tasmanian Country.
	National	National publications such as the Australian Financial Review, and The Australian.
Other Media	Local	Local TV and Radio, including 7LTN Tasman Community FM
	State	State TV and Radio, including ABC Hobart, 7News Tasmania, 9News Tasmania, Triple M Hobart, Print Radio Tasmania.
	National	National TV and Radio, including ABC National, 7News, 9News, Sky News, SBS.
Social media	Local	Local community Facebook groups i.e. Bothwell Community Forum
Federal Government	Relevant Ministers	Minister for Climate Change and Energy, Hon Chris Bowen MP. Minster for Environment and Water, Hon Tanya Plibersek MP. Minister for Infrastructure, Transport, Regional Development and Local Government, The Hon. Catherine King MP Minister for Industry and Science, Mr. Ed Husic MP Minister for Agriculture, Fisheries and Forestry Senator the Hon. Murray Watt
	Federal member for Lyons	Brian Mitchell (Labor) Senators: Liberal - Wendy Askew, Claire Chandler, Richard Colbeck, Jonathon Duniam Jacqui Lambie Network - Jacqui Lambie, Tammy Tyrell ALP - Catryna Bilyk, Anne Urquhart, Carol Brown, Helen Polley Greens - Peter Whish - Wilson
	Dept Officers	Staff in government agencies such as ReCFIT
	Federal Agencies	Department of Climate Change, Energy, Water and the Environment (DCCEEW) Australian Renewable Energy Agency (ARENA)
State Government	Relevant Ministers	Minister for Planning, Minister for Skills and Training, Felix Ellis Minister for Parks and Environment, Minister for Energy and Renewables, Nick Duigan
	Local members	Legislative Council – Craig Farrell, Member for Derwent (Labor) House of Assembly:

		Guy Barnett (Liberal) Jen Butler (Labor) John Tucker (Liberal) Mark Shelton (Liberal) Rebecca White (Labor)
	State Agencies	Renewables, Climate and Future Industries Tasmania (RECFIT) Skills Tasmania (Energising Tasmania) Advisory Board on Skills Tasmania Parks and Wildlife Service Tasmanian Planning Commission
Local Government	Relevant Councillors	Mayor - Loueen Triffitt Deputy Mayor - Jim Allwright Councillors - Tony Bailey, Robert Cassidy, Anthony Archer, John Hall, Julie Honner, Yvonne Miller and David Meacheam
	Relevant Authorities	Central Highlands Council General Manager - Stephen Mackey
Emergency Services		SES and Tasmania Fire services Bothwell Fire station (Volunteer), Bothwell – West Bothwell Fire Station
Water Authority		Tas Water
NGOs / Not for Profits		Farmers for Climate Action *E.g. Landcare, skills training organisations*
Transport Agencies		Tasmanian Department of State Growth – Transport Tasmania
Utilities / Grid Providers		TasNetworks - Tasmania's main grid operator and transmission line developer

3. Community and Stakeholder Engagement Plan

3.1 Engagement Objectives

The Proponent acknowledges that active and early engagement with the community and other relevant stakeholders is crucial to the planning process. The exchange of knowledge and information helps foster a greater understanding of and support for the Project and further helps improve the design and development outcomes.

The Proponent is committed to delivering best practice engagement, with the overarching objective of ensuring that the identified community and stakeholder groups are proactively and meaningfully informed, consulted and involved and that the benefits of the Project are genuinely felt by the local community.

The communication and stakeholder engagement objectives are:

- Deliver an inclusive and robust engagement process that informs, consults, or involves stakeholders (as appropriate) throughout the Project's lifecycle.
- Engage early and proactively during the preliminary planning and pre-application phases to improve the Project.
- Develop relationships with targeted stakeholders by raising early awareness and actively engaging with these groups.
- Develop a thorough understanding of the local aspirations and concerns which relate to the Project and work with them to achieve mutually beneficial outcomes.
- Ensure stakeholders understand how to access information about the Project, provide feedback, stay informed and lodge complaints.
- Promote the Project's benefits by establishing clear and consistent messaging to manage misinformation.
- Encourage stakeholder and community input into the key aspects of the Project and the community benefit-sharing initiatives.
- Increase support for the Project from the local community and other key stakeholders.
- Establish a comprehensive database of stakeholders for the life of the Project and an up-to-date record providing evidence of all engagement activities undertaken throughout the process.
- To meet government planning expectations.

The objectives above are being met through the implementation of the Weasel Solar Farm Engagement Strategy and Engagement Action Plan, defined by the Project's engagement principles.

3.2 Engagement Principles

Mutual Benefit and Respect

Deliver shared outcomes of mutual benefit in an equitable way for the local host community, landowners, and developer. Provide a space for genuine dialogue for respectful discussions that identify mutually agreeable solutions.

Authenticity

Have a strong, authentic, and local presence in the community by providing dedicated staff who are reliably and readily available as the community's trusted 'translator' of technical knowledge, to explain information to the community and stakeholders in a simple yet effective way to address

Transparency, Trust, and Accountability

Provide diverse and ongoing opportunities for engagement throughout the Project's lifecycle. Monitor and evaluate the community engagement, benefit sharing and social impact management programs to identify areas for improvement and/or modification.

Fairness

Ensure that consultation is two-way and that opportunities exist for local community members and other stakeholders to participate, with access to balanced information, and having their ideas justly considered, responded to, and incorporated where possible.

Ongoing Engagement

Listen and respond to community needs and concerns in a comprehensive and timely manner. Maintain a record of the key issues raised and/or complaints received to date and how they were resolved.

Responsiveness

Listen and respond to community needs and concerns in a comprehensive and timely manner. Maintain a record of the key issues raised and/or complaints received to date and how they were resolved.

Social Feasibility

Understand, minimise, and offset the risk of negative social impacts across the Project's lifecycle by taking into consideration the many social factors through the use of appropriate social analysis tools and integrating them, alongside the technical and economic factors, into the Project.

Inclusiveness

Identify a wide range of different stakeholders across the local and regional communities and ensure that the channels and methods of engagement are tailored to the needs of each stakeholder group so that they are engaged with appropriately and effectively.

Relationship Building

Build genuine local relationships, networks and links to key local leaders or organisations. Allow key stakeholders to become advocates and create feedback loops. Help the local community to identify positively with the Project and integrate it into their sense of community and place.

3.3 Community Benefit Sharing

As a landowner and active member of the local community, the Proponent has engaged in early consultations with fellow community members to explore opportunities for a potential community investment program. The Proponent is committed to ensuring that the Project's success directly contributes to the long-term prosperity and well-being of the local community.

For each project within the Energy Hub, the proponent is considering different options. For the Weasel Solar Farm, the project team is currently investigating the potential of providing funding to the local Tasmania Fire Service (TFS). The Weasel Solar Farm Project will support the local fire brigade by allocating a portion of its revenue to fund essential equipment, training, and facilities. This community benefits sharing initiative ensures enhanced emergency response capabilities, promoting safety and resilience within the local community.

3.3.1 Local Employment Benefits

The Proponent is committed to sustainably contributing to local employment and training while ensuring high labour standards. During the construction of the Weasel Solar Farm, employment opportunities naturally peak at these times, and the approach is to maximise local direct employment and training opportunities.

The Proponent will seek to prioritise hiring from within the local community to support regional economic development and growth. In addition, once approved, the Proponent will implement a local procurement business register, to engage and support local and regional businesses to source materials for the Project locally.

4. Consultation Phases

An Engagement Action Plan for the Project was developed to encompass engagement activities for the entire Project lifecycle. The Plan was specifically tailored to the local and regional context of Bothwell, and its surrounds, to ensure the approach was relevant and effective. Each engagement stage was designed to facilitate information sharing and provide opportunities for diverse stakeholder participation to influence the design of the concept plan.

Three engagement stages were identified, with the primary objective being **to ensure early, proactive, and meaningful engagement** with key stakeholders and the local community.

The Engagement Action Plan was structured to give ample time for interested parties to be informed and involved before the Development Application (DA) is lodged, and with additional opportunities during the DA assessment.

4.1 Feasibility and Early Engagement

This phase comprised engaging with authorities to help with preliminary investigations and to garner support for and input to the Project at local, regional, and state levels.

A Community & Stakeholder Engagement Strategy was developed at this stage to help establish key engagement and approval objectives for the initial stages of the Project. Within this document, the Engagement Action Plan was established, outlining the key phases and activities for the Project.

This phase also comprised engagement with adjacent landholders and nearby neighbours. Despite the limited number of dwellings within 5km of the Site, near-neighbour engagement has been a critical component of the Project to help increase understanding of the proposal and utilise their local knowledge to inform the design of the Project.

4.2 Pre-Lodgement Engagement

This phase focused on ensuring that all stakeholders remained well-informed about the progress of the Project. Periodic updates were provided to key stakeholders, including nearby neighbours and landholders, as well as stakeholders at the local and State Government level to maintain transparency and encourage ongoing engagement. These updates covered critical milestones, project developments, and any changes that may affect the community.

During this phase, specialist consultants were engaged to conduct comprehensive technical assessments, addressing environmental, social, and logistical considerations of the Proposal. These assessments inform and support the DA.

4.3 Post-Lodgement & Advertisement Engagement

This phase will aim to introduce the Project to the broader local community, assist them in understanding the issues, listen to their concerns and address those through final design iterations.

This phase aims to keep all stakeholders informed of the Project after the DA is lodged with the Council for assessment.

The project team will continue to involve the community and stakeholders in the planning and decision-making process, and further consultation will be conducted to ensure the Project is widely understood by the community and stakeholders.

Feedback on the Development Application will be sought via:

- Verbally at the first community drop-in session (to be held in October), meeting or telephone
- Written feedback via email, letter or formal submission
- Project update newsletter
- Feedback forms (hard copies received at the community sessions or e-forms online).

5. Consultation Activities

An Engagement Action Plan was developed to cover the entire Project lifecycle. The implementation of the Engagement Action Plan has provided channels of information sharing and opportunities for a wide range of stakeholders to influence the development of the concept plan.

The three main phases of engagement throughout the lifecycle of the Project include:

- **Phase 1:** Feasibility and Early Engagement (completed)
- **Phase 2**: Pre-lodgement Engagement (completed)
- **Phase 3:** Post-lodgement & Advertisement (to start).

During all phases of the Project, the Proponent is committed to informing, consulting, and involving the appropriate stakeholders through an effective engagement process based on the objectives and principles of community engagement best practices and guidelines.

Throughout all stages to date, the Proponent and project team have ensured that clear information was communicated regarding the Project, its potential impacts, and the mitigation measures proposed to manage them. By actively listening to stakeholders and addressing their concerns, the proponent has aimed to enhance the benefits and minimise the impacts on neighbours, the community, and the local environment. This has involved making design changes to various elements of the Project and conducting additional technical studies to identify and resolve any issues raised. The Engagement Action Plan continues to be periodically updated to reflect the progress of the Project, incorporate community input, and address any emerging engagement needs and issues.

5.1 Feasibility and Early Engagement

Engagement for the feasibility stage was undertaken from the end of 2023 and the beginning of 2024. This phase of engagement was critical to garnering support in the early stages of the Project, identifying potential opportunities and constraints and receiving initial feedback.

The key objectives of this phase were to engage with local and State authorities to seek initial feedback and garner support during the Project's early stages. During this phase, Cogency prepared a Community Engagement and Stakeholder Strategy tailored to Bothwell's local and regional context. The local stakeholders and community groups were identified, along with the appropriate engagement activities to be undertaken as part of the Engagement Action Plan.

Given the limited number of sensitive receptors within 5km of the Project, adjacent nearby landholders and neighbours are crucial to the success of Weasel Solar Farm. Community engagement has initially been targeted towards near-neighbour engagement to help increase understanding of the proposal and utilise their local knowledge to inform the design of the Project.

Table 2 – Early Feasibility Engagement Overview

Stakeholders Engaged	Communication and consultation undertaken
▪ State Government – Energy Minister ▪ Central Highlands Council ▪ ReCFIT ▪ Adjacent neighbours	▪ Face-to-face meetings ▪ Online meetings ▪ Formal briefings/presentations

Initial Stakeholder Briefings

The initial briefings with key state and local stakeholders sought to provide an overview of the Project and discuss potential opportunities and constraints at a high level. The meetings provided insights into the current state of the renewable energy transition in Tasmania, along with the requirements and approval process of an application for a large-scale solar farm. Stakeholders were generally supportive of the Project.

Near Neighbours

Within 5 km of the proposed development area, there are a limited number of non-involved dwellings (i.e., dwellings not owned by landowners of the Weasel Solar Farm). Early engagement efforts were prioritised with immediate neighbours to ensure clear communication and transparency from the outset. These discussions primarily focused on providing an overview of the Project, including key components such as the location of solar panels, the BESS and the general layout of the site. Neighbours were also informed about the anticipated Project timeline and the various stages of the planning approvals process.

In addition to outlining the technical aspects of the solar farm, the conversations addressed the broader benefits the Project will bring to the local community, such as contributions to renewable energy goals, potential job creation during construction, and long-term economic opportunities. Any potential amenity impacts, such as visual changes, noise during construction, and traffic management, were also discussed to ensure neighbours had a full understanding of how the Project might affect their surroundings.

To maintain open lines of communication and build positive relationships, the project team will continue to provide regular updates to nearby residents throughout the life of the Project. This will include sharing key milestones, upcoming construction activities, and any changes in the Project's design or timeline. Neighbour feedback will remain an important part of this engagement process, allowing concerns to be addressed promptly and ensuring that community perspectives are considered as the Project progresses.

5.2 Pre-lodgement Engagement

The pre-application engagement commenced in Early to Mid-2024. This phase aimed at reintroducing the Project with more technical information, providing periodic updates to the key process stakeholders previously engaged and continuing discussions with neighbouring properties.

Where needed, the Project was introduced to new stakeholders and any other interested parties. This stage was designed to ensure that any questions or concerns regarding the refined design of the Project could be considered with ample time before the lodgement of the Development Application.

Table 3 – Pre-lodgement Engagement Overview

Stakeholders engaged			Activities undertaken
▪ EPA ▪ Central Highlands Council ▪ State Government – State Premier and Energy Minister ▪ Traditional owners ▪ Federal members for Lyons - Senator Askew			▪ Face-to-face meetings ▪ Online meetings ▪ Formal briefings/presentations ▪ Letter of introduction ▪ Phone calls
Summary of Design Engagement Activities			
Date	**Stakeholder**	**Activity**	**Consultation notes**
April 2024	**EPA**	Online Briefing	▪ Introduced project, providing an overview of the proposal, construction impacts etc. ▪ Determine appropriate approval pathways – preparation of proposal will be based on NOI guidelines
May 2024	**Central Highlands Council**	Face-to-face meeting	▪ Held at Council office in Bothwell ▪ Overall positive and supportive reaction to project and broader Highlands Renewable Energy Hub ▪ Discussed boundary misalignment of Weasel Plains and determined steps to investigate further ▪ General questions regarding environmental, hydrology, and fire risks and potential impacts ▪ Discussed jobs and economic benefits to Bothwell and the broader community ▪ Discussed opportunities to add value to the local economy

			▪ Mixed views on how solar would be received by the community, but noted that the site is appropriate for the distance and lack of visibility
May 2024	**State Government**	Face-to-face meeting	▪ Meeting with the Premier and newly appointed Energy Minister ▪ Briefing to discuss updates to Highlands Renewable Energy Hub and introduce concept to new energy Minister
July 2024	**Central Highlands Councillor briefing**	Face-to-face meeting	▪ Briefing presentation introducing the project and seeking feedback ▪ Appreciative of community focus so far ▪ Discussed the current condition of Highland Lakes Road and the need for upgrades ▪ Potential for a benefit-sharing option for CFA ▪ Concerns about previous RE projects were discussed
July 2024	**Near neighbour meeting**	Face-to-face meeting	▪ Present plans and introduce projects, seek feedback. ▪ Discussed distance from solar arrays ▪ Not concerned about the concept of the project and generally supportive of renewables in general
September 2024	**Federal Member for Lyons**	Online meeting	▪ Briefing to discuss the Highlands Renewable Energy Hub and introduce concept of Weasel Solar Farm.

Stakeholder Briefings

Pre-lodgement briefings consisted of face-to-face and online meetings with key process stakeholders including the EPA, Central Highlands Council and Councillors, and key State Government bodies. These Project briefings sought to introduce the Project and the Proponent to new stakeholders to provide opportunities for initial feedback and input. Timely Project updates were also provided to stakeholders already familiar with the Project, whereby project designs and community benefit-sharing opportunities and initiatives were discussed.

These discussions found stakeholders to be supportive of the Project and they generously provided insights from past energy Projects in the Central Highlands region. These meetings provided further insights that helped to understand the key opportunities and issues that could arise for the Project and how to manage these considerately. Important feedback was also provided on how best to support the community through a Community Benefit Fund.

Discussions with EPA

The online briefing with the EPA marked the initial stage in determining that the Weasel Solar Farm proposal would not require referral to the EPA Board for assessment under Section 24(1) of the *Environmental Management and Pollution Control Act 1994* (EMPC Act). The briefing introduced the Project and provided an initial overview of potential environmental and social impacts.

Following the meeting, the EPA requested additional information to help determine the appropriate approval pathways. In response, a proposal letter was submitted, including a Project summary and key supporting documentation, such as the Ecological Assessment for the Weasel Solar Farm.

Subsequently, the EPA acknowledged via formal correspondence that the proposal is unlikely to result in significant environmental or social impacts, and therefore would not require referral to the EPA Board.

Traditional Owners

An introductory email was sent by Aboriginal Heritage Consultancy Services on 7 July 2024 introducing the Project and asking for comments on the findings of the field study to the following organisations:

- Tasmanian Aboriginal Centre (TAC)
- Parrdarrama Pungenna Aboriginal Corporation
- Southeast Tasmanian Aboriginal Corporation (SETAC)
- Weetapoona
- Karadi Aboriginal Corporation

No responses were received as of 2 August 2024.

5.3 Post-lodgement & Advertising

This phase of engagement will commence in late 2024 following the lodgement of the DA. While the Project is undergoing assessment for statutory approval, the Proponent and the project team will continue to engage the local community, neighbouring residents and other key stakeholders. The Proponent, with the support of Cogency, **remains committed to proactive, and meaningful engagement** with the local community and stakeholders, which has started from the preliminary concept design phase.

Table 4 – Post Lodgement Engagement Overview

Stakeholders to engage	Activities to undertake
▪ Bothwell community ▪ Central Highlands Council ▪ Premier of Tasmania ▪ TasNetworks ▪ Neighbouring property owners ▪ ReCFIT ▪ Skills Tasmania ▪ EPA ▪ Aboriginal community groups	▪ Community Drop-in session ▪ Publish Project Website ▪ Meetings as requested from the interested or concerned local community and stakeholder groups

Community Drop-In Session

As part of the post-lodgement engagement, the Proponent will host a Community Drop-in Session for the Weasel Solar Farm project to engage with local Bothwell residents, landholders, and other community members. The session will provide an informal and open setting where attendees can drop by at their convenience to learn more about the Project, ask questions, and share their thoughts. The primary aim of the drop-in session will be to ensure that the community feel informed and involved in the planning and development of the solar farm. Before the session, the Project website will be published to make information about the Project publicly available

Visual displays and take-home materials, including maps, diagrams, and project timelines, will be used to help attendees better understand the scale and scope of the Project. Project team members will be there to explain the technical aspects and answer any questions. Throughout the session, attendees will be encouraged to leave feedback and share any concerns they might have. This feedback will be used to inform future project planning and community engagement efforts. The project team plans to host additional drop-in sessions and community engagement activities as the project progresses, ensuring that the community remains informed and involved every step of the way.

Stakeholder briefings

The project team is committed to maintaining ongoing communication with key stakeholders throughout the post-lodgement period of the Weasel Solar Farm. During this time, the team will re-engage with key stakeholders, including state government, regulatory agencies, and community representatives, offering

dedicated meetings to provide detailed project updates. These meetings will cover any changes to the Project's design, the status of planning approvals, and upcoming construction timelines, ensuring that stakeholders remain well-informed and involved in the Project's progression. These briefings will also be a good opportunity to personally welcome neighbours to the community drop-in session.

Neighbours

The project team will re-engage with each neighbour throughout the post-lodgement period to offer meetings to discuss project updates and mitigate any concerns regarding the Project. These meetings will serve as an opportunity to offer clarity on any changes in the project's timeline, layout, or construction schedule, ensuring that neighbours are fully informed about the next steps. The project team will aim to address any potential concerns related to amenity impacts, such as construction noise, increased traffic, or visual changes to the landscape.

6. Conclusion and Next Steps

The Weasel Solar Farm presents an opportunity to increase renewable energy generation in Tasmania, thereby strengthening energy and price stability for Tasmanian households and supporting the state's net-zero transition.

From the outset of planning and development, the Proponent, Weasel Solar Farm Pty Ltd c/o Robert Luxmoore Pty Ltd, has been dedicated to fostering and sustaining respectful relationships with the local community, businesses, all levels of government, Traditional Owners of the land, and other stakeholders. This has been made evident through the proponent's commitment to preliminary and ongoing engagement with key stakeholders (such as nearby neighbours, Central Highlands Council and Tasmanian Aboriginal Centre).

As demonstrated within this report, the Proponent has remained committed to proactive and meaningful engagement at every critical stage of the Project. This approach has helped facilitate open and honest dialogue with key stakeholders and the broader community.

While aiming to minimise the potential impacts of the Project, the Proponent has also strived to maximise the benefits for the local community. Through the comprehensive engagement process, the Proponent has developed a deep understanding of the key opportunities and challenges associated with the Project, and how to manage these thoughtfully. These insights have also helped to identify initiatives related to the creation of a Community Benefit Fund which will continue to evolve as the Project progresses through its approval stages.

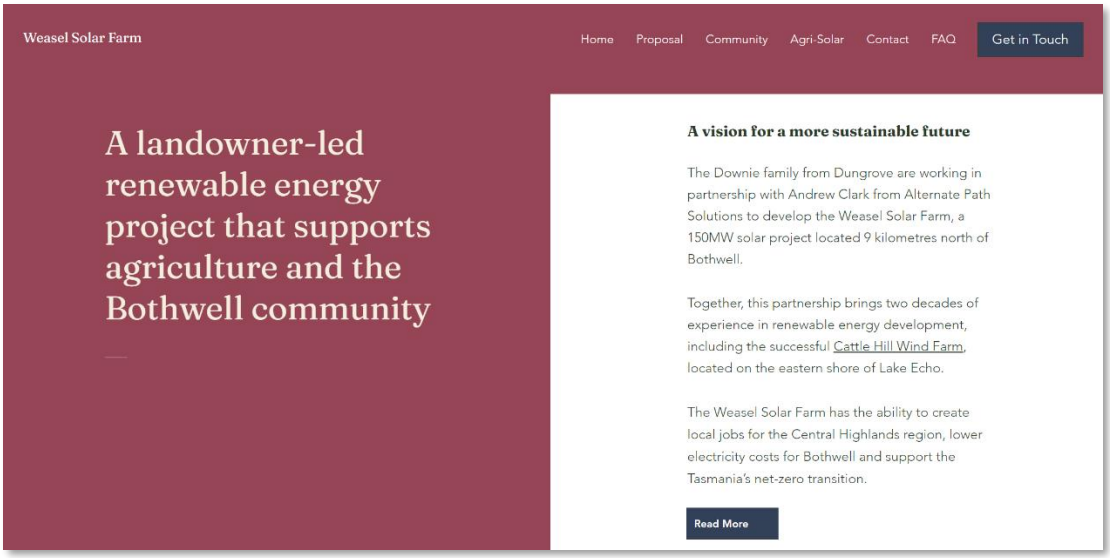
Looking ahead, the Proponent, with the support of Cogency, remains committed to fostering strong relationships with key stakeholders and the local Bothwell community. The Proponent plans to maintain open lines of communication by actively engaging with local community members through a Community Drop-In Session and establishing the local Community Benefit Fund.

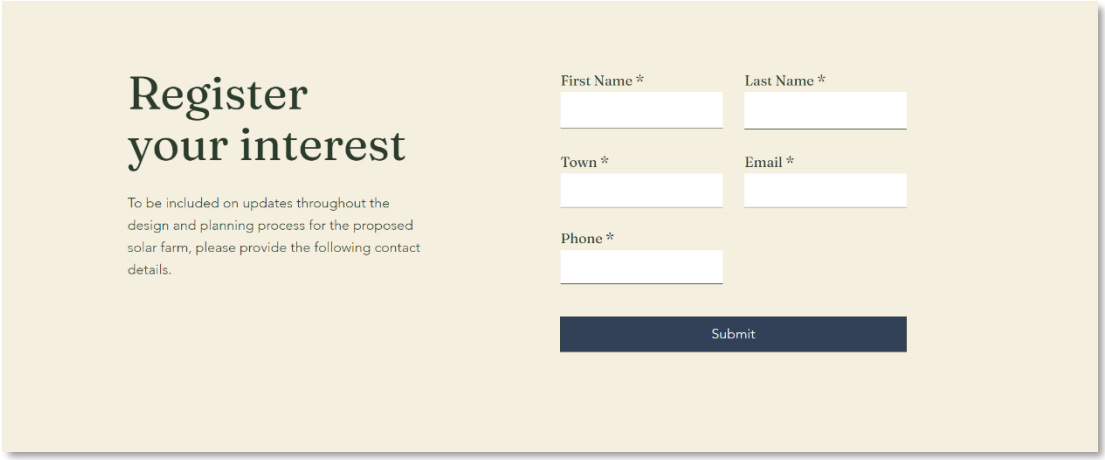
This continued engagement highlights the Proponent's dedication to maintaining respectful relationships, ensuring that the community's voices are heard, and their needs are addressed throughout the Project's lifecycle.

Appendices

Appendix A	**Weasel Solar Farm website**
Appendix B	**Community drop-in session advertisement**

Appendix A Weasel Solar Farm website





Appendix B Community drop-in session advertisement

YOU'RE INVITED

COMMUNITY DROP-IN INFORMATION SESSION

WEASEL SOLAR FARM PROPOSAL

The Weasel Solar Farm is a landowner-led renewable energy project with the ability to create local jobs for the Central Highlands region and support Tasmania's net-zero transition. The electricity generated will be used to produce green fuel, fertiliser and building materials for local use.

Come along to talk to the team and learn more about the project.

Date: Thursday 31 October
Time: 4:00pm-7:00pm
Venue: Bothwell Town Hall

CONTACT US

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Planning | Engagement | Strategy

Cogency provides planning, environmental assessment and stakeholder engagement services for the renewable energy, property, clean tech, and circular economy sectors.

Our collaborative teams bring a uniquely nuanced understanding of planning processes and the technical aspects of renewable energy property, infrastructure, and circular economy projects, which helps to build a strong rapport and trust with local community members and stakeholders.

Unlike many in-house engagement and planning teams that are managed separately, our planners work in collaboration with our engagement practitioners to ensure that stakeholder and community consultation is at the heart of the planning process and a critical tool for delivering positive outcomes for our clients.

www.cogencyaustralia.com.au

Weasel Solar Farm

Socioeconomic Impact Assessment

September 2024

Prepared by Urban Enterprise for TasFlo Pty Ltd

Authors:

Tayler Neale, Senior Consultant

Ned Barry, Analyst

Reviewed by:

Kurt Ainsaar, Director

Version:

Final Report: Version 1

Urban Enterprise is located on Wurundjeri Woi-Wurrung Country. We pay our respects to elders past, present and emerging and also acknowledge all Traditional Owners of Country on which we work.

Contents

1.
Executive Summary

Executive Summary

TasFlo Pty Ltd engaged Urban Enterprise to prepare a Socioeconomic Impact Assessment (SEIA) for the Weasel Solar Farm (WSF); a proposed large-scale agrisolar farm situated near Bothwell, in Central Highlands municipality in Tasmania.

The purpose of the SEIA is to identify and assess the suite of socioeconomic impacts that could be generated by the project.

Project Overview

The proposed agrisolar facility includes the following key components:

- 250MW of electricity generation;
- 144MW battery energy storage system (BESS); and
- Livestock grazing can continue alongside the solar farm (i.e. agrisolar).

The project is proposed to be constructed within a 3,840 ha site.

Policy Context

- The project aligns and satisfies key environmental, economic and social objectives at a local, regional, state and federal level.
- Federal and state policy is accelerating the need to transition to renewables, including more ambitious targets for renewable energy generation and reduction in greenhouse emissions.
- Renewable energy targets, incentives and investments underpin new ways that energy is produced, stored and transported throughout Tasmania. Solar power is considered a critical part of the energy transition and is recognised as a key growth area to support future energy needs.
- Local policy encourages investment and economic development in the municipality, particularly in industries that serve to diversify the local economy and facilitate population growth.

Economic Context

- The project will draw on direct and indirect supply chains during the planning/design, construction and operation phases.
- Activities associated with the planning and design phase is likely to occur in Tasmania and mainland Australia.
- The project will primarily draw on a regional and state catchment to support construction and operational activities.
- The project is also expected to draw from a national and international catchment for specialised design and manufacturing activities.
- There will be indirect economic opportunities for population service industries such as accommodation, retail and hospitality on the back of these goods and services.

Socioeconomic Profile

- Higher socioeconomic disadvantage, low population base and below average participation rates in the primary catchment suggests that the project may have challenges in sourcing workers from the local area during the construction phase.
- The economy in the primary catchment is likely to benefit from demand generated by the transient workforce during the planning/design and construction phases, particularly across retail, hospitality and accommodation.
- The primary and secondary catchment unemployment rates are higher compared with Australia, indicating that the economy has some capacity within the labour market.
- The regional catchment has relevant employment specialisations in electricity, gas, water and waste services and manufacturing, presenting opportunities for the regional catchment to participate in projects needs during the construction and ongoing phases of the project.
- Accommodation and food services also presents as a potential secondary industry to benefit during the construction phase for Tasmania.
- The primary and secondary catchment occupation profiles generally align with some supply chain needs of the project , particularly during the construction phase. Examples include a higher proportion of labourers, machinery operator and technicians and trades workers.

Executive Summary

Socioeconomic Impact Summary

Impact	Impact	Key stakeholders
Short Term		
Economic stimulus: construction phase	The estimated construction investment of $188 million in Tasmania is estimated to generate $428 million in total economic output and support 926 (FTE) jobs during the construction phase, including 348 direct jobs.	Regional, state and national construction industry: civil trades, labourers, machinery operators, technicians.
Amenity disruptions from construction activities	Amenity impacts such as noise and traffic may arise from associated construction activities. However, relevant technical studies conclude that impacts will be minimal, and will be appropriately managed through construction and environmental management plans	Local residents (proximate), passing travellers.
Community attitudes	Development of the project may lead to community concerns around property rights and potential impacts to the natural environment and agricultural land. Conversely, the project could galvanise the local community through the provision of positive economic development outcomes.	Local community
Competition for labour force	There are a small number of renewable energy projects planned in proximity to the development area, and a diverse range of other renewable energy projects across the State. Some of the jobs and skills required to deliver these projects, and anticipated timing of construction may overlap with WSF. The overlap has the potential to increase competition for local labour, and may lead to tensions and delays across projects.	Local and regional labour force, major projects.
Cumulative demand for housing, accommodation and services	Some of the construction workers required to service the project will be sourced from outside of Centra Highlands, and will require a mix of rental housing and commercial accommodation. Central Highlands also some capacity within its commercial accommodation sector to support the project. However, servicing the cumulative housing needs of other projects concurrent to the local rental market and tourism sector could place temporary upward pressure on rents and commercial room rates. Hobart has moderate capacity to meet overflow accommodation demand generated by workers.	Local businesses and local residents (housing only)
Long Term		
Economic stimulus: Operational phase	The ongoing operation of the solar farm is estimated to generate $12 million in total economic output and support 14 (FTE) jobs per annum, which includes 6 direct jobs (FTE).	Local and regional economy
Agricultural value of grazing	Overall the proposal will not constrain, prejudice or limit the agricultural land use activities currently undertaken or potential future expansion of the activities.	Local and regional agriculture industry
Amenity impacts	Once built and operational, the physical infrastructure of the solar farm could create long term amenity impacts such as visual, noise and traffic. Relevant technical studies conclude that there are unlikely to be any substantial amenity impacts during the operational phase of the project.	Local residents (proximate), passing travellers.
Grid reliability & energy access	The project will enhance the reliability of the local energy grid, reducing the frequency and duration of power outages. This will benefit the local community by mitigating disruptions of power outages to residents, businesses, healthcare facilities, and the broader community.	Local residents and businesses
Government revenue	Council will receive an uplift in revenue in the form of rate revenue due to a change in land use on site. The estimated revenue uplift delivered to Council is in the order of $25k per annum.	Central Highlands Council, local economy and community.
Community fund	The proponent proposes to establish a community fund associated with the operational phase of the facility. This will take the form of an annual payment that can be used to support local projects and programs that deliver positive community outcomes.	Local community

Executive Summary

Impact Evaluation

Construction Phase

Impact	Magnitude	Likelihood	Management measures	Recommendations
Economic stimulus: construction phase	Moderate	Likely	None identified	Advocate for use of local suppliers (where possible).
Amenity disruptions from construction activities	Low	Unlikely	Installation of advisory signage, minor road repairs and the provision of sufficient parking for staff and delivery vehicles. Scheduling construction activities in accordance with relevant regulations, regular maintenance and broadband reversing alarms	Construction and environmental management plans will be prepared as part of a condition on the planning permit.
Community attitudes	Low	Possible	Public community consultation sessions held in region	Ensure community are regularly engaged, and project updates are communicated as they arise.
Competition for labour force	Moderate	Possible	None identified	Liaise with other renewable energy project proponents to discuss synergies with jobs and skills and potential for resource sharing.
Cumulative demand for housing, accommodation and services	Moderate	Possible	None identified	Engage with Central Highlands Council, Greater Hobart Councils and relevant Chamber of Commerce/Business Associations to notify of accommodation requirements and impending periods of high demand during the construction period.

Operational Phase

Impact	Magnitude	Likelihood	Management measures	Recommendations
Economic stimulus: Operational phase	Low	Highly unlikely	None identified	Advocate for the use of local suppliers (where possible).
Agricultural value of grazing	Low	Highly likely	None identified	None
Amenity impacts	Low	Unlikely	Technical studies prepared to assess potential amenity impacts and recommend management measures	Refer to other technical studies for planned and recommended management measures relating to ongoing amenity impacts.
Grid reliability & energy access	Low	Highly likely	None identified	None
Government revenue	Low	Highly likely	None identified	None
Community fund	Low	Likely	The proponent proposes to establish a community fund to support local projects and programs that deliver community benefits.	Seek to contribute funds towards community projects, initiatives and programs that improve liveability and socioeconomic outcomes for the community.

2. Background

Background

Introduction

The Weasel Solar Farm (WSF) project is a proposed 435 hectare agrisolar farm, situated near Bothwell, in Central Highlands municipality in central Tasmania. The project is estimated to generate 250MW of electricity and will also include a 144MW BESS. The project will also allow large areas of agricultural uses on the site to continue.

Engagement

TasFlo Pty Ltd engaged Urban Enterprise to prepare a socioeconomic impact assessment (SEIA) for the proposed WSF. The purpose of the SEIA is to identify and assess the suite of socioeconomic impacts that could be generated by the project.

Economic impacts primarily relate to the direct and indirect economic activities that are generated through the construction and operational phase of the project.

Social impacts primarily relate to changes (both positive and negative) that may occur to the way people live and the environment during the project's lifecycle.

Information Sources

The following sources of information have been used to inform this project:

- Census of Population & Housing and Place of Work, Australian Bureau of Statistics, 2011-2021;
- Census of Employment, ABS, 2011-2021;
- Unemployment rate, National Skills Commission, 2024;
- Renewable Power Generation Costs in 2022, International Renewable Energy Agency, 2023;
- General project information, TasFlo / Robert Luxmoore, 2024;
- Agricultural Assessment, Pinion Advisory, September 2024;
- Ecological Assessment, Van Diemen Consulting, September 2024;
- Landscape and Visual Assessment, Human Habitats, September 2024;
- Traffic Impact Assessment, pitt & sherry, September 2024;
- Glint and Glare Assessment, SLR Consulting, September 2024;
- Noise Impact Assessment, SLR Consulting, September 2024; and
- Historic Heritage Assessment, Cultural Heritage Management Australia, September 2024.

Scope

The scope of this report includes the following:

1. Project Context - Provide an overview of the proposal, including location, description of key project phases, construction investment, development timeline and supply-chain needs.
2. Strategic and Policy Drivers - Assess the strategic rationale and policy drivers that underpin the need for the project.
3. Impact Area – Define a primary and secondary impact area to understand the socioeconomic capability and capacity, and also establish catchments in which impacts associated with the project are likely to flow and accrue.
4. Baseline Socioeconomic Conditions – profile the socioeconomic characteristics and employment capabilities in the impact areas to understand the potential for local supply-chain integration and assess the extent to which the economy and community within the impact areas could be affected.
5. Literature Review - Complete a literature review, case study analysis and review other relevant technical studies to identify potential socioeconomic impacts generated by solar and other renewable energy projects.
6. Socioeconomic Impact Framework - Prepare an impact framework that identifies and describes the expected socioeconomic impacts that may arise during the construction and operational phase of the project.
7. Economic Impact Assessment - Estimate the economic impact of the project during the short term construction phase and ongoing operational phase using the Input-Output (I-O) method of analysis.
8. Management Measures - Assess the magnitude and likelihood of impacts, and recommend management measures (where relevant) to optimise benefits and minimise negative impacts.

3.
Project Context

Proposed Project

Proposal

The proposed Solar Farm project includes the following key features:

- Energy generation capacity of 250MW;
- Battery storage facility (144MW) and ancillary infrastructure including inverters and electrical substation; and
- Livestock grazing can continue alongside the proposed solar farm (i.e. agrisolar).

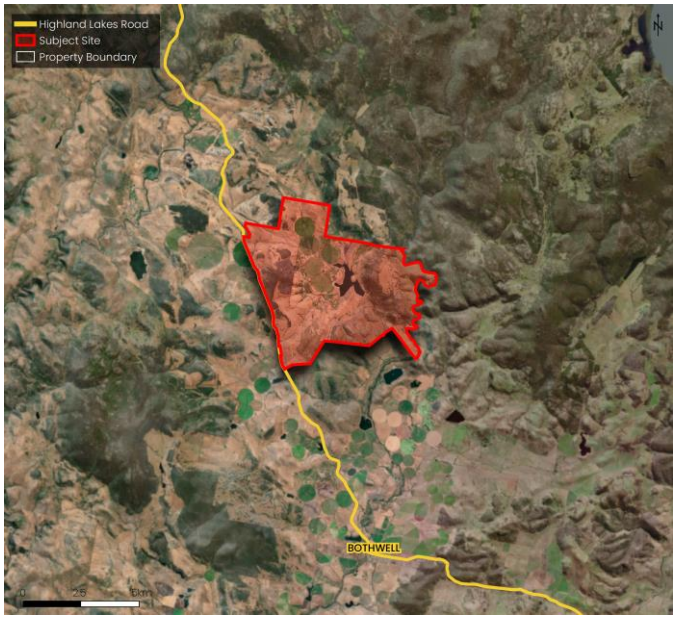
The 435 ha project area is proposed to be constructed within a broader 3,840 ha site (across two land parcels) on Highland Lakes Road in Bothwell.

The site is approximately 1.25 hours' drive from Hobart, 1.5 hours' drive to Launceston and 2.25 hours to Devonport.

Launceston Airport is a key gateway to Tasmania from mainland Australia while the Port of Bell Bay facilitates a large share of Tasmania's domestic and international sea freight.

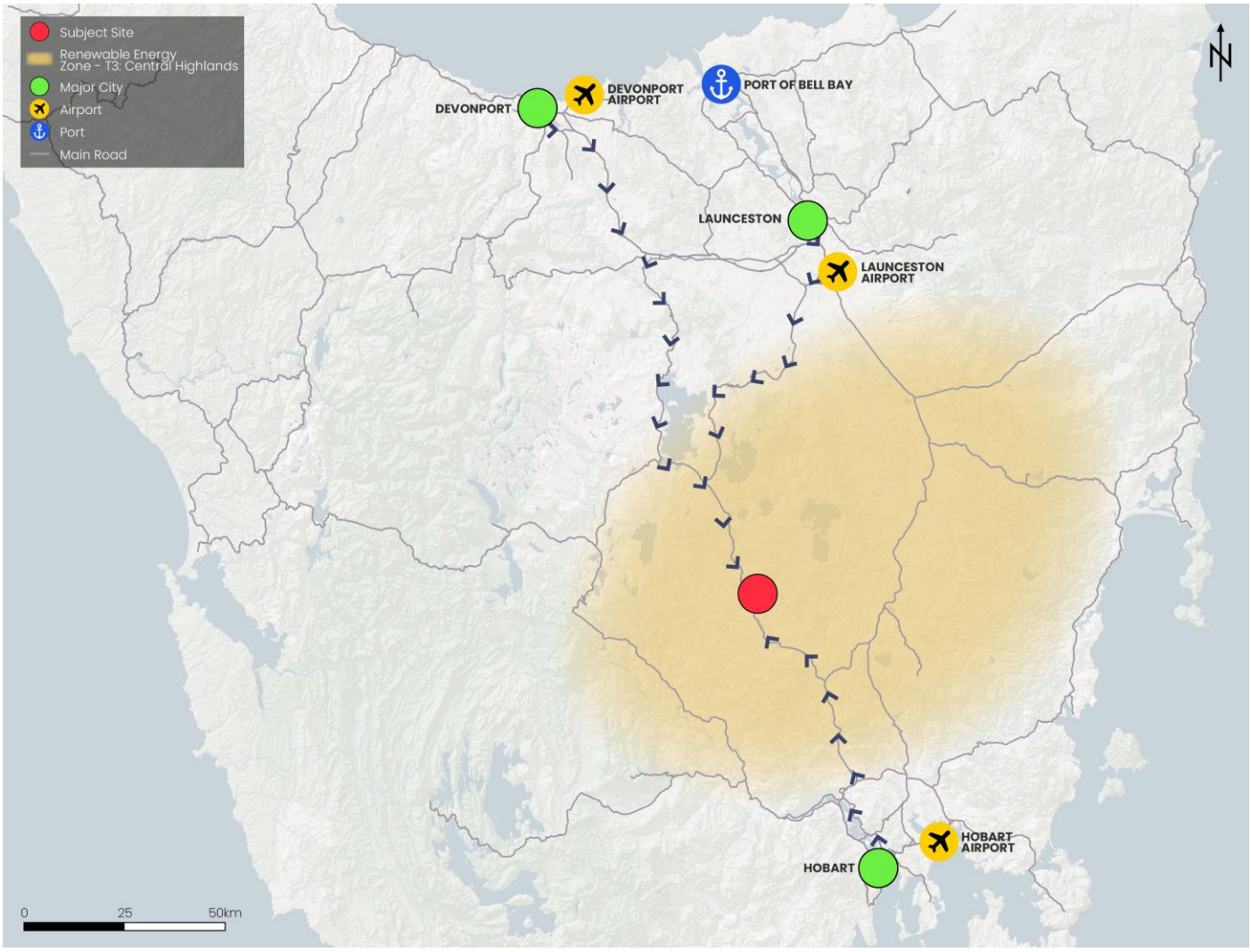
The proposal is also situated within the Central Highlands Renewable Energy Zone (REZ).

Figure 1. Subject Site



Source: Urban Enterprise, 2024

Figure 2. Regional Context



Source: Urban Enterprise, 2024

Strategic & Policy Context

Overview

This section summarises the federal, state and regional policy that is relevant to the proposal, the current state of play for the solar industry, and the strategic rationale for Weasel Solar Farm.

Strategic Alignment

Government policy is accelerating the transition to renewables, including more ambitious targets for renewable energy generation and greenhouse gas emissions reduction.

Having achieved 100 per cent renewable energy generation in 2020, Tasmania is now aiming to achieve a target of 200 per cent renewable energy by 2040, as well as net zero greenhouse gas emissions by 2030. The Tasmanian Government has identified renewable energy investment as a key economic driver for the future, and supports an increase in renewable energy generation, with a vision to becoming a renewable energy powerhouse.

Renewable Energy Zones (REZs) were introduced by the Australian Energy Market Operator (AEMO) to help identify regions that are highly suited to renewable energy development. The development of REZs seek to maximise benefits from existing energy resources and established grid infrastructure to unlock new energy at lower cost. Weasel Solar Farm is situated within Tasmania's Central Highlands candidate REZ (see Figure 3)

Table 1 (overleaf) outlines the federal, state, regional and local policies and strategies that support the proposal, including alignment with environmental, economic, social and community objectives. In summary:

- The project aligns and satisfies key environmental, economic and social objectives at a local, regional, state and federal level.
- Federal and state policy supports the transition to renewables, including more ambitious targets for renewable energy generation and reduction in greenhouse emissions.
- Renewable energy targets, incentives and investments are driving major shifts in the way energy is produced, stored and transported throughout Tasmania. New sources of energy and forms of production are complementing and replacing traditional equivalents. Solar energy, while not a current strength in Tasmania, is considered a critical part of the energy transition and is recognised as a key growth area to support future energy needs.
- The project will support further growth in Tasmania's renewable energy industry, and diversify the state's new energy mix, which is primarily wind and hydro power.
- Local policy identifies a desire to encourage investment and economic development in the municipality, particularly in industries that serve to diversify the local economy and facilitate population growth.

Figure 3. Tasmanian Renewable Energy Zones

Source: Draft Integrated System Plan for the National Electricity Market, AEMO, 2024

Strategic & Policy Context

Table 1. Strategic & Policy Summary

	Relevant objectives and actions	Project alignment
Federal		
Climate Change Act (2022)	• Reducing Australia's net greenhouse gas emissions by 43% on 2005 levels by 2030 • Reducing Australia's net greenhouse gas emissions to zero by 2050	The project will support the uptake of new renewable energy capacity to assist in achieving the federal government's renewable energy and emissions reductions targets.
State		
Tasmania's Climate Change Act (2008)*	• Aim to achieve net zero greenhouse gas emissions by 2030 and support measures to help Tasmania adapt to climate change .	The project will assist the state in achieving its emissions target through the generation and storage of additional renewable energy.
Tasmanian Renewable Energy Action Plan (2020)	• Transforming Tasmania into a global renewable energy powerhouse • Growing the economy and providing jobs	The project will assist in further developing the state's renewable industry project mix. The project will also provide substantial economic benefits to the state during the construction and ongoing phases.
Renewable Energy Coordination Framework (2022)	• Stimulate job creation and business growth through renewable energy investment to build a skilled workforce. • Engage communities to ensure benefits are tangible and valued and make positive contributions to shaping their future	The project will generate substantial direct and indirect economic benefits for the Tasmanian economy. The project will also involve meaningful community engagement.
Tasmanian Trade Strategy 2019-2025	• Build trade in key sectors, including renewable energy	The project will provide additional renewable energy capacity in Tasmania that has the potential to be exported.
Strategic Regional Plan for Tasmania (2023)	• Delivering renewable energy projects and leveraging the benefits for Tasmania's industries, community and people • Diversifying off-island opportunities in new sectors, with a focus on the new economy	The project will deliver a new renewable energy project in Tasmania and support industry diversification.
Regional		
Southern Tasmania Regional Land Use Strategy (2020)	• Manage and protect the value of non-significant agricultural land in a manner that recognises sub-regional diversity in land and production characteristics.	The project will allow for grazing to continue in the project area, which will minimise the loss of agricultural production.
Local		
Central Highlands Strategic Plan 2015-2024	• Encourage expansion in the business sector and opening of new market opportunities • Encourage the establishment of alternative industries to support job creation and increase permanent residents	The project is expected to create opportunities for local business involvement during the construction phase and will encourage development of new industries to support local economic development.

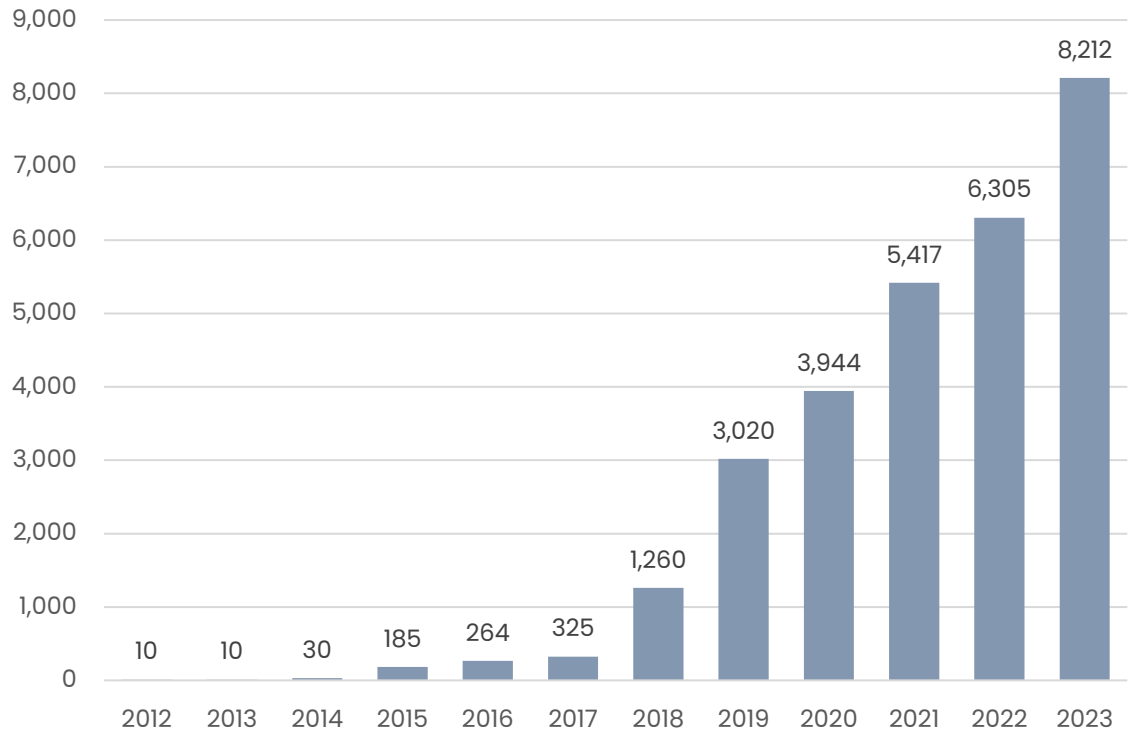
Australian Large-Scale Solar

State of the Industry: large-scale solar

A summary of the key trends in the large-scale solar industry in Australia and internationally are provided below:

- Fourteen large-scale solar projects were commissioned in 2023, amounting to 1.9 GW of new capacity. Those figures are both up from 2022 (when 12 large-scale projects added 841 MW to the power system) and arrest the three-year trend of large-scale solar projects falling in number and total capacity.
- 38 of the 56 renewable energy projects under construction in Australia in 2023 were large scale solar projects, down from 48 at the same stage in 2022.
- To date there have been no large-scale solar projects developed in Tasmania, however a 288MW agrisolar project has recently been approved for development in Northern Midlands municipality.
- The federal government recently announced the establishment of the Solar Sunshot program to grow solar PV manufacturing in Australia. The $1 billion funding program is intended to provide support across the solar PV supply chain, including the scaling up of module manufacturing capabilities and exploration of other areas of the supply chain where grant funding can help catalyse the industry.
- In 2023 the International Energy Agency lowered its forecast growth for renewable energy in Australia due to policy uncertainty "following early achievement of its Large-Scale Renewable Energy Target".
- New policies and proposed reforms will continue to play a part in shaping the trajectory of the local solar industry in the market, including the Australian government's Capacity Investment Scheme and proposed transmission access reforms.

Figure 4. Cumulative installed large-scale solar capacity, Australia (MW)



Source: Clean Energy Council, 2024

Strategic Rationale

Strategic rationale

Table 2 provides a summary of the strategic rationale for the project.

Table 2. Strategic Rationale

		Rationale
	**Renewable energy generation**	Tasmania is considered a renewable energy powerhouse in Australia due to its specialisations in hydro and wind energy. This project will provide additional renewable energy generation capacity within the State and will also serve to diversify the clean energy mix.
	**Local benefits**	The Central Highlands region is a small economy that is primarily driven by agriculture and tourism. This project has the potential to provide an uplift in localised economic activity and investment for the region whilst also diversifying the industry base and encouraging local economic resilience.
	**Grid stability & reliability**	A solar project that includes a BESS in the Central Highlands region has the potential to provide grid stability by addressing fluctuations in energy supply. Tasmania's existing renewable energy mix is primarily comprised of wind and hydro power, thus new solar energy projects have the potential to deliver energy supply to the grid at different times (i.e. when there is no wind blowing) and store that energy as required, thus improving stability and reliability of the network.
	**Market signal**	With the exception of the Northern Midlands Solar Farm in Cressy (approved), there has been no large-scale solar projects developed in Tasmania. The successful development of the proposal can demonstrate the market potential of solar energy in the region (and Tasmania) and has the potential to catalyse further solar energy investment in the region.
	**Policy support**	The project has strong policy support across all levels of government. The proposal will make an important contribution to achieving the state government's renewable energy targets and will encourage industry diversification in line with local economic development policy objectives.

Supply-Chain Needs

Large-scale solar: supply-chain needs

In order to assess the anticipated location and timing of supply-chain needs, an overview of the key phases of the project's lifecycle is required to establish baseline economic activities, skills and services that will be drawn on.

The key phases of a large-scale solar farm project is summarised in Table 3, and includes the indicative supply chain needs, timing and anticipated supplier/source locations.

This has been informed by the following:

- Identify and profile of existing industrial precincts that could service the project in Tasmania based on supply chain alignment (see following page);
- Analyse the completed Cattle Hill Wind Farm located in Central Highlands;
- Review other renewable energy project proposals in Tasmania and mainland Australia;
- Discussions with the proponent regarding the potential utilisation of local and regional suppliers.

The following observations and implications are noted:

- The project will draw on direct and indirect supply chains during the planning/design, construction and operation phases.
- Planning and design is likely to occur in Tasmania and mainland Australia.
- The project will primarily draw on a regional and state catchment to support construction and operational activities.
- Given the specialised nature of particular activities associated with large-scale solar projects, the project is expected to draw from a national and international catchment for key design and manufacturing activities.
- There will be indirect economic opportunities for population service industries such as accommodation, retail and hospitality on the back of these goods and services.

Table 3. Large-scale solar supply chain needs

Phase	Overview	Supply-chain needs	Indicative time frame	Anticipated location
Planning/ Design	Feasibility analysis, site investigations and concept design: • Due diligence. • Route to market analysis. • Concept designs and technical studies. • Planning approvals.	Professional and technical services: ▪ Engineering and surveying ▪ Planning, legal and financial services ▪ Environmental services ▪ Project management and administration	2-3 years	Tasmania/ Mainland Australia
Construction	Engineering, procurement, construction and installation: • Modules & inverter manufacturing • Grid connection • Mechanical & electrical installation • BESS • Sub-stations	Specialised manufacturing, installation services, general construction, trade and labourers, transport and logistics: ▪ Solar panel manufacturing ▪ Steel manufacturers ▪ Electricians and technicians ▪ Engineering (electrical, civil, structural) ▪ Site preparatory and civil construction ▪ Labourers ▪ Machinery operators ▪ Truck drivers ▪ Machine and equipment servicing and hire	18 months	Tasmania/ Mainland Australia/ International
Operation	Operation, maintenance and servicing: • Modules & inverters • Sub-stations • Plant & equipment • Site	Construction and trades ▪ Landscaping and maintenance ▪ Operators ▪ Technicians ▪ Facilities management	25-30 years	Tasmania

Source: Urban Enterprise, 2024

Key Precincts

This section provides a profile of existing industrial precincts that could support the proposal's supply-chain needs. Key criteria for the selection of these precincts include:

- Located within a 2.5-hour (drive) catchment;
- Located on key transport routes; and
- Supply chain alignment to WSF project needs.

Information has been collected via research into major industrial precincts across Tasmania, as well as existing and planned renewable energy projects in the region.

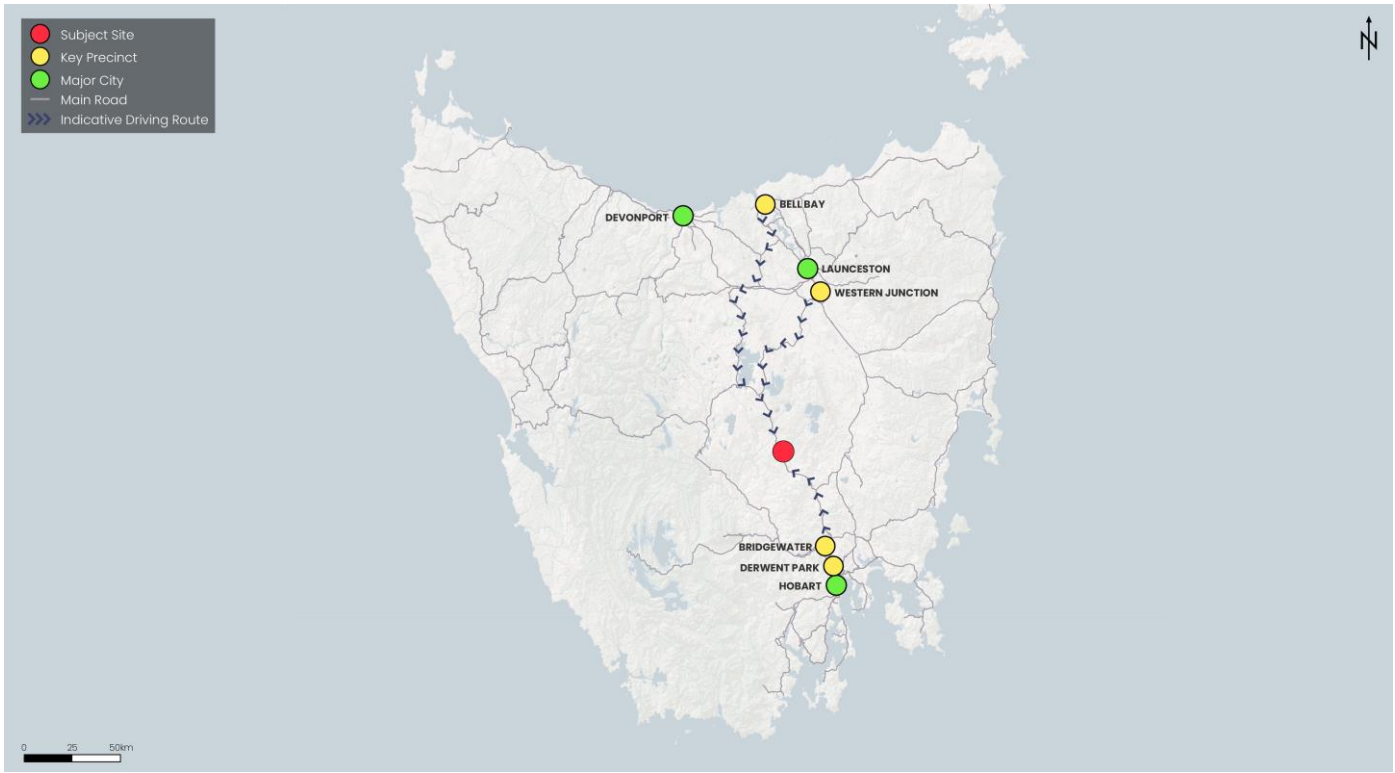
There are no industrial precincts in Central Highlands, however, there are several precincts clustered in the north and south of the State that have the potential to service WSF, including Bridgewater and Derwent Park in the south, and Western Junction and Bell Bay in northern Tasmania.

Table 4. Key Precincts

	Bridgewater	Derwent Park	Western Junction	Bell Bay
Distance to subject site	50 mins	1 hour	1 hour 30 mins	2 hours 15 mins
Business/ employment mix	• Logistics • Building materials • Equipment supplier • Earthmoving • Concrete • Construction	• Concrete • Logistics • Steel distributer • Construction	• Logistics • Concrete • Steel fabricator • Manufacturing • Construction	• Logistics • Construction • Concrete • Engineering • Manufacturing
Examples of businesses	• Onetrak (construction) • CJD Equipment (construction equipment)	• Hazell Bros (construction)* • Statewide Cranes	• Haywards (manufacturing)* • McElligotts (construction)	• Librety Steel Group* • Monson Logistics
Economic role & project alignment	The closest major industrial precinct to the subject site which comprises several relevant businesses that could service the proposal.	Central Hobart industrial precinct that played a role in servicing the Cattle Hill wind farm project in Central Highlands.	Industrial precinct south of Launceston that supported the development of the Cattle Hill wind farm project in Central Highlands.	Major port that is likely to support the project supply chain due to its role as a key transport route to the mainland.

* Businesses that serviced the Cattle Hill Wind Farm project

Figure 5. Key Precincts



Source: Urban Enterprise, 2024

Impact Areas

Research and analysis presented in this report suggests that WSF is likely to generate economic activity throughout Tasmania, with no one region/area (outside Central Highlands) expected to be the primary beneficiary.

Northern Tasmania is expected to play an important role in the project given it is the primary port gateway into the state from mainland Australia. Key precincts in southern Tasmania such as Bridgewater and Derwent Park accommodate key contractors that could support discrete project needs.

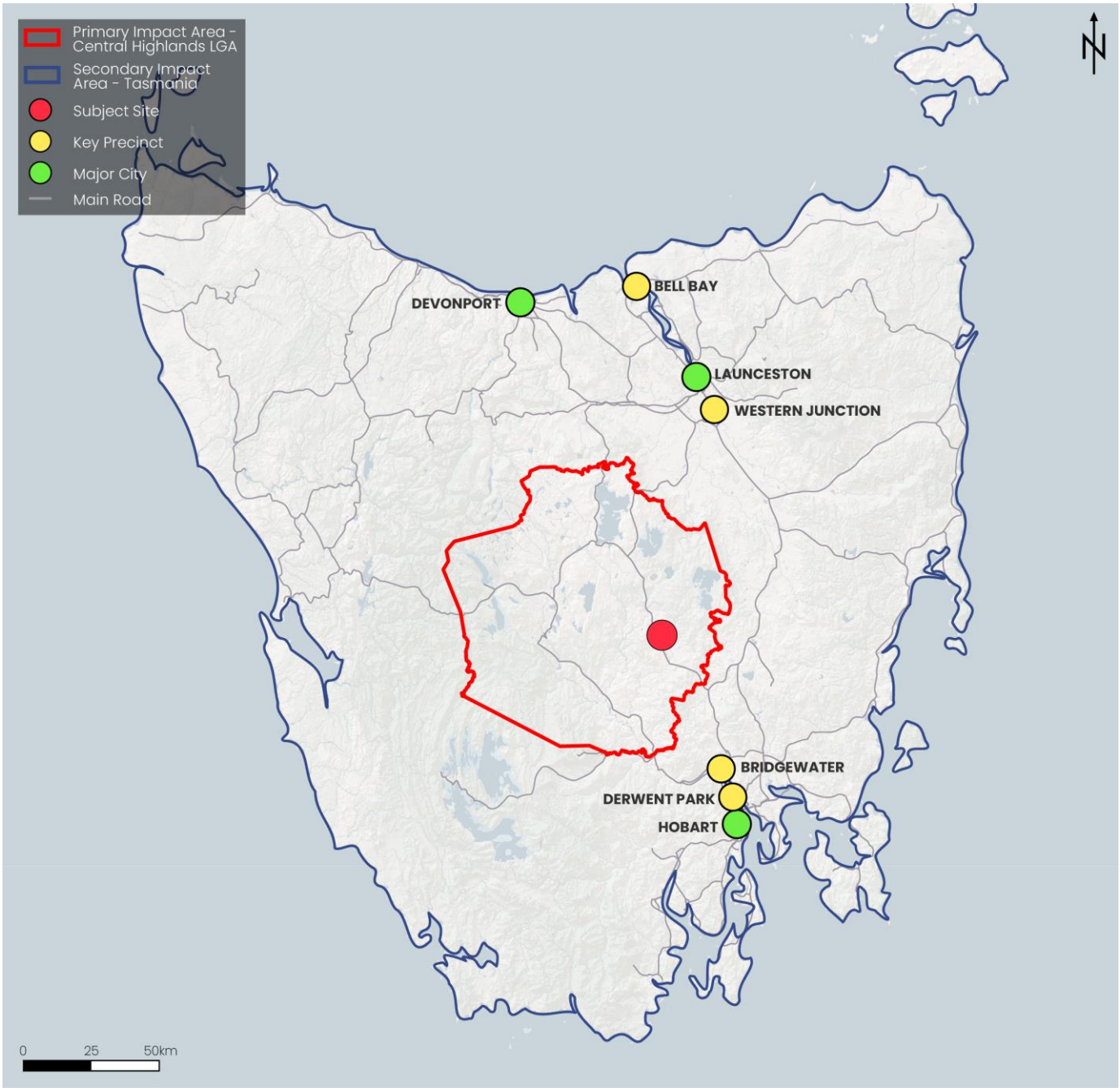
Having regard to the above, two catchment areas have been established to guide the SEIA for WSF.

A primary and secondary impact area has been established to understand the socioeconomic capability and capacity within the region, and the extent to which supply-chain participation and integration is possible. The impact areas also provides defined catchments in which socioeconomic impacts from the project are likely to flow.

The primary impact area includes the Central Highlands municipal area. The secondary impact area is the state of Tasmania.

The impact areas have regard to the proximity to the project, location attributes, the population and employment base, and economic capabilities.

Figure 6. Impact Areas



Source: Urban Enterprise, 2024

4.
Socioeconomic Profile

Socioeconomic Profile

Socioeconomic Snapshot

This section summarises the socioeconomic profile and employment capability in the primary and secondary catchments to identify gaps and opportunities to serve different stages of the project supply-chain across its lifecycle.

The following observations are relevant:

- The regional catchment is home to approximately 573,000 residents and 281,000 jobs.
- The primary catchment has an estimated resident population of 2,500 (2023) and 830 jobs.
- The secondary catchment unemployment rate (4.2%) is higher compared with Australia (3.6%).
- The primary and secondary catchments have a higher level of socioeconomic disadvantage when compared to the national average.
- The primary catchment has a higher proportion of older cohorts, with a higher median age (50 years) compared with Tasmania (42 years) and Australia (38 years).
- The primary catchment has a relatively low employment participation rate, which reflects the older age profile.
- The Central Highlands economy has a high share of employment in indirect/flow-on industries of accommodation and food and retail trade.

A low population base and below average employment participation rate in the primary catchment suggests that the project may have challenges in sourcing workers from the local area. The project is likely to draw from the state workforce to support planning/design and construction.

The Central Highlands economy can benefit in other ways, particularly through demand generated by the transient workforce during the planning/design and construction phases for goods and services such as retail, hospitality and accommodation.

Table 5. Central Highlands & Tasmania at a glance

Central Highlands	**Output** $236.9 million	**Jobs** 829 **(10-year AAGR)** +1%	**Top industry sectors of employment** (2021): • Agriculture (45%) • Accommodation & Food Services (14%) • Retail Trade (7%)
	Businesses 280	**Participation Rate** 55% (South East SA4)	**Unemployment** (Sep 2023) 4.1%
	Population (ERP 2023): 2,595 **(10-year AAGR)** 1.1%	**Median age** 50	**SEIFA** 911
Tasmania	**Output** $60.29 Billion	**Jobs** 281,000 **(10-year AAGR)** +2%	**Top industry sectors of employment** (2021): • Healthcare (16%) • Education & Training (10%) • Retail Trade (10%)
	Businesses 42,000	**Participation Rate** 61.6%	**Unemployment** (Sep 2023) 4.2%
	Population (ERP 2023): 573,000 **(10-year AAGR)** 1.2%	**Median age** 42	**SEIFA** 966

Source/s: State Growth Tasmania, Community Profile & economic profile, Profile Id; Skills and Jobs Atlas, Jobs & Skills Australia.

Socioeconomic Profile

Employment & Business Mix

The regional catchment employment mix is relatively well-matched to some of the general construction, manufacturing and transport activities required to deliver and maintain solar projects.

There are approximately 23,600 construction jobs and 20,500 manufacturing jobs within the regional catchment. This includes a small number of manufacturing and construction jobs in the primary catchment. A proportion of these jobs with transferable skills present opportunities to service the construction phase of Weasel Solar Farm.

From a transport and logistics perspective, the regional catchment includes more than 12,200 transport, postal and warehousing jobs, suggesting there may be scope for local employment opportunities in this sector during the construction phase of the project.

Currently, solar manufacturing capabilities do not exist in the region and will likely have to be sourced from overseas. However, employment in the electricity, gas, water and waste services industry is prominent within Tasmania (5,200) and may provide employment opportunities during construction and ongoing phases of the project.

The primary catchment has employment in key indirect industries (e.g. retail, accommodation) suggesting benefits could flow through these sectors locally during the construction phase.

There are more than 42,000 businesses operating in the region, of which around 17,000 are operating in industries aligned to renewable energy supply chains.

There are potential advantages in the construction, transport, postal and warehousing manufacturing, and professional services sectors, accounting for 40% of the region's business base.

Table 6. Employment & Business Mix, 2021

Industry	Employment		Businesses	
	Central Highlands	Tasmania	Central Highlands	Tasmania
Agriculture, Forestry and Fishing	373 (45%)	15,436 (5%)	123 (44%)	5,441 (13%)
Accommodation and Food Services	119 (14%)	21,023 (7%)	18 (6%)	2,316 (6%)
Retail Trade	55 (7%)	27,104 (10%)	14 (5%)	2,602 (6%)
Public Administration and Safety	38 (5%)	20,278 (7%)	0 (0%)	101 (0%)
Arts and Recreation Services	31 (4%)	5,594 (2%)	3 (1%)	590 (1%)
Electricity, Gas, Water and Waste Services	**30 (4%)**	**5,220 (2%)**	**3 (1%)**	**127 (0%)**
Manufacturing	**25 (3%)**	**20,676 (7%)**	**12 (4%)**	**1,720 (4%)**
Education and Training	23 (3%)	27,161 (10%)	0 (0%)	518 (1%)
Construction	**22 (3%)**	**23,612 (8%)**	**18 (6%)**	**7,485 (18%)**
Health Care and Social Assistance	22 (3%)	45,886 (16%)	4 (1%)	3,030 (7%)
Transport, Postal and Warehousing	**22 (3%)**	**12,205 (4%)**	**13 (5%)**	**3,289 (8%)**
Other Services	18 (2%)	10,848 (4%)	6 (2%)	2,191 (5%)
Mining	14 (2%)	3,604 (1%)	0 (0%)	110 (0%)
Administrative and Support Services	11 (1%)	7,632 (3%)	3 (1%)	1,657 (4%)
Wholesale Trade	11 (1%)	6,762 (2%)	5 (2%)	947 (2%)
Professional, Scientific and Technical Services	**8 (1%)**	**16,034 (6%)**	**19 (7%)**	**4,241 (10%)**
Rental, Hiring and Real Estate Services	4 (0%)	3,295 (1%)	34 (12%)	4,214 (10%)
Information Media and Telecommunications	3 (0%)	3,602 (1%)	0 (0%)	298 (1%)
Financial and Insurance Services	0 (0%)	5,790 (2%)	5 (2%)	1,187 (3%)
Total	**829**	**281,762**	**280**	**42,064**

Source: ABS Census of Population & Housing, Place of Employment, 2021

Socioeconomic Profile

Employment Specialisations

Employment specialisations in the region are evident through the Location Quotient (LQ) technique, which measures the proportion of employment in Central Highlands compared with Tasmania and Australia.

An industry value of less than 1 indicates a low proportion of employment within that industry compared with benchmarked areas. A value greater than 1 represents a higher proportion of employment and indicates a competitive advantage in that industry sector compared with benchmarked regions.

The LQ analysis for Central Highlands shows that agriculture is a highly specialised industry sector and is critical to the productivity of the regional economy.

Other industry sectors of relevance include electricity, gas and waste services, and accommodation and food services. Electricity and gas services aligns to the ongoing operational needs of the project; however, this represents only a very small number of jobs in Central Highlands.

Specialisation in accommodation and food services provides alignment to indirect or secondary industries associated with the construction phase due to the influx of construction workers and the demand for accommodation and hospitality.

The regional catchment has relevant employment specialisations in electricity, gas, water and waste services and manufacturing, presenting opportunities for the regional catchment to participate in projects needs during the construction and ongoing phases of the project.

Figure 7. Employment specialisations (LQ>1), Central Highlands, 2021

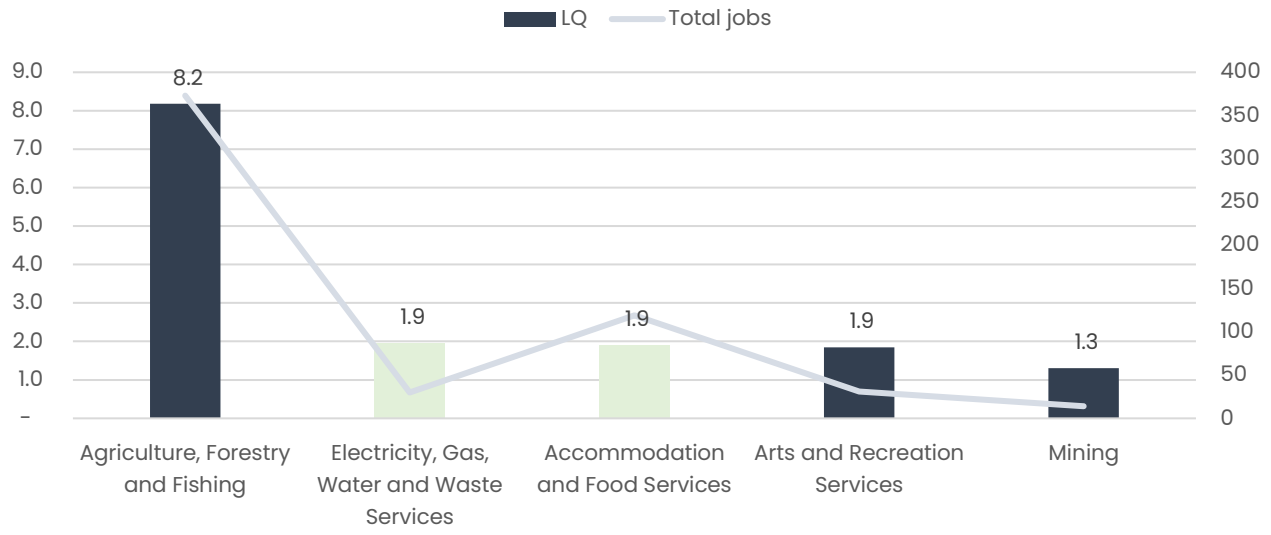
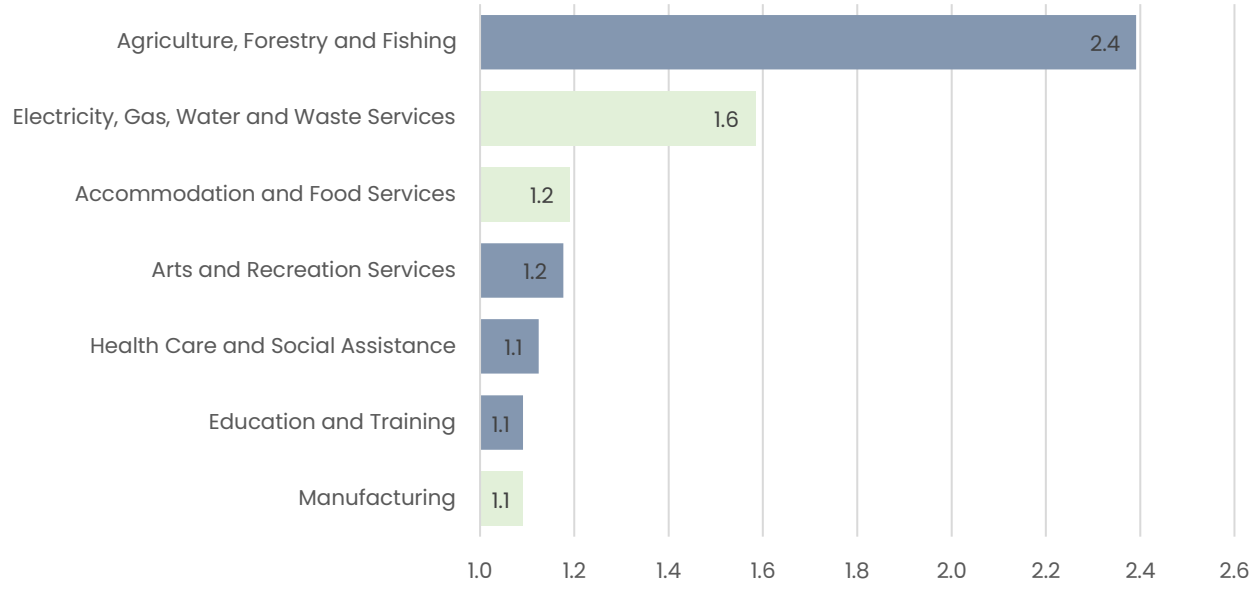


Figure 8. Employment specialisations (LQ>1), Tasmania, 2021



Source: ABS Census of Population & Housing, Place of Employment, 2021

Socioeconomic Profile

Employment Specialisations

Sub-sector LQ analysis of Tasmania's relevant economic specialisations has been undertaken to understand the potential alignment and benefit opportunities for the regional economy at a more granular level.

The LQ analysis of sub-sectors indicates that:

- Electricity generation and distribution are specialised sectors in Tasmania, with existing and potentially transferable economic capabilities and labour force.
- Primary metal and metal product manufacturing presents opportunities for the supply of discrete project components.
- Accommodation and hospitality can serve demand from transient and seasonal construction phase workers.

Table 7. Employment specialisations (LQ>1), Tasmania, 2021

Industry	LQ
Electricity, Gas, Water and Waste Services	
Electricity Generation	2.3
Electricity Distribution	1.6
Waste Treatment, Disposal and Remediation Services	1.1
Manufacturing	
Wood Product Manufacturing	1.7
Beverage and Tobacco Product Manufacturing	1.6
Primary Metal and Metal Product Manufacturing	1.5
Food Product Manufacturing	1.4
Pulp, Paper and Converted Paper Product Manufacturing	1.2
Accommodation and Food Services	
Accommodation	1.6
Pubs, Taverns and Bars	1.2

Source: ABS Census of Population & Housing, Place of Employment, 2021

Socioeconomic Profile

Occupations

Analysis of occupations held by employed residents in the primary and secondary catchments indicates an alignment of jobs and skills with some supply chain needs of the project , particularly during the construction phase.

Examples include a higher proportion of Labourers, machinery operator and technicians and trades workers in the primary and secondary catchments than Australia.

White collar occupations (administrative and professional workers) are underrepresented when compared with Australia, indicating that these roles are more likely to be sourced from outside of the catchments.

Figure 9. Occupations, Central Highlands, Tasmania, Australia, 2021

Source: ABS Census of Population & Housing, Place of Usual Residence, 2021

Socioeconomic Profile

Unemployment & Participation

Unemployment in Central Highlands is moderate (4.1%) and has remained below 5% since the end of 2021.

The rate of unemployment in Tasmania is slightly higher at 4.2% and has trended down across the past three years; indicating a tightening of the labour market.

Importantly, the labour force participation rate in Central Highlands (56%) sits well below Tasmania (62%) and is markedly lower than Australia (66.5%).

Low unemployment and participation rates are likely to present challenges in the recruitment and retention of labour to support renewable energy projects concurrent to existing business demand.

Figure 10. Unemployment rate, Central Highlands & Tasmania, 2019-2023

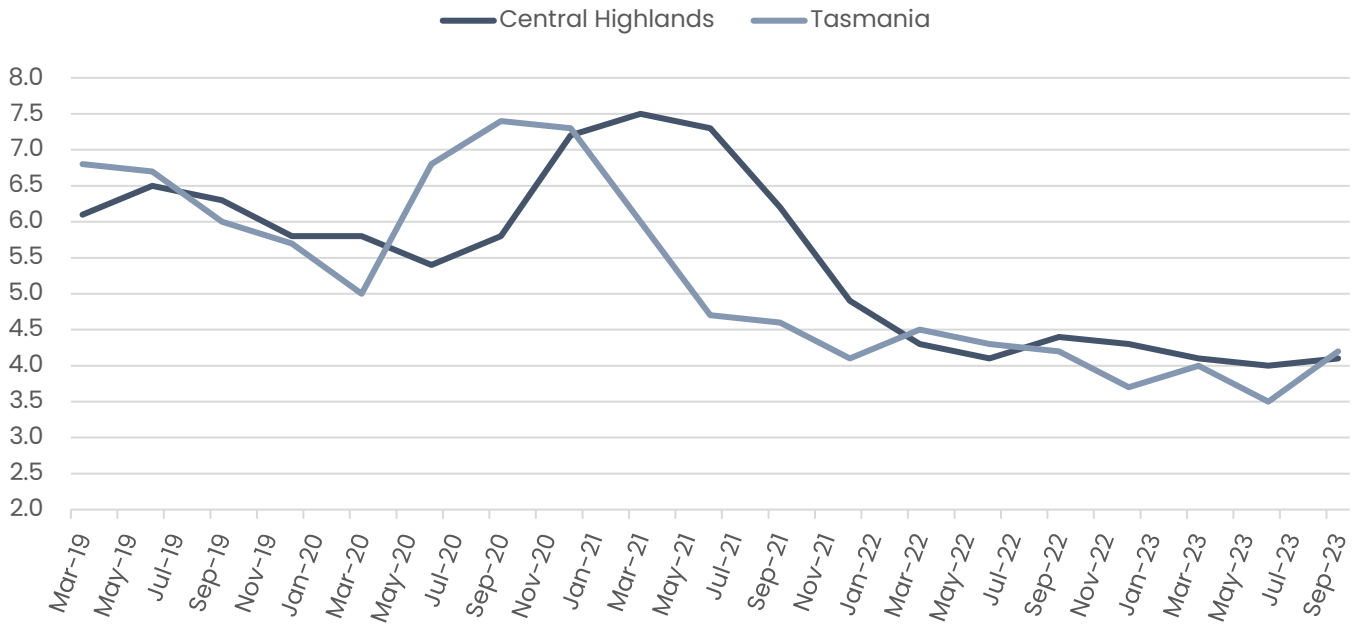
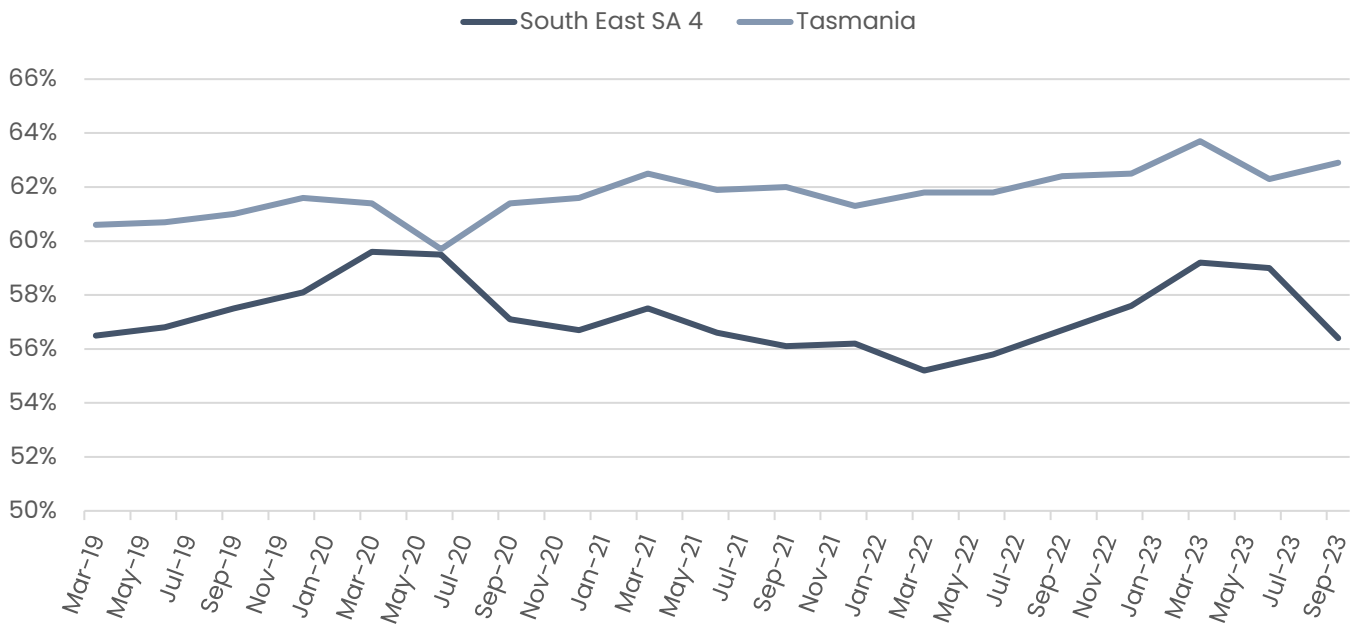


Figure 11. Participation Rate, South East SA4 & Tasmania, 2019-2023



Source: Skills and Jobs Atlas, Jobs & Skills Australia, 2024

Socioeconomic Profile

Key Findings

- The project will draw on a primary regional catchment (Central Highlands), as state secondary catchment (Tasmania), as well as a national catchment during the development, construction and operation phases of the project.
    - Solar panel manufacturing and specialised technician (design, engineering) capabilities are likely to be imported from outside of Tasmania.
    - Primary and secondary catchment opportunities will present for regional businesses in general construction and civil works, electrical and engineering, parts manufacturing, transport, machinery operating and servicing.
- A low population base and below average employment participation rate in the primary catchment suggests that the project may have challenges in sourcing workers from the local area during the construction phase.
- The primary catchment economy can benefit in other ways, particularly through demand generated by the transient workforce during the planning/design and construction phases for goods and services such as retail, hospitality and accommodation given existing specialisations.
- The Central Highlands economy also specialises in the electricity sector which could present opportunities during the operational phase of the project.
- The primary and secondary catchment unemployment rates are higher compared with Australia, indicating that the economy has some capacity within the labour market.
- The regional catchment has relevant employment specialisations in electricity, gas, water and waste services and manufacturing, presenting opportunities for the regional catchment to participate in projects needs during the construction and ongoing phases of the project.
- Accommodation and food services also presents as a potential secondary industry to benefit during the construction phase for Tasmania.
- The primary and secondary catchment occupation profiles have alignment with some supply chain needs of the project , particularly during the construction phase. Examples include a higher proportion of labourers, machinery operator and technicians and trades workers.

5.
Socioeconomic Impact Assessment

Socioeconomic Impact Assessment

Overview

This section identifies and assesses the potential socioeconomic impacts that could arise during the construction and operational phase of the WSF project.

Potential socioeconomic impacts of solar farms

To assist with identifying potential impacts, the following approach has been adopted:

- Review existing literature and case study examples of comparable solar farm projects across Australia; and
- Review relevant technical studies prepared for the WSF to identify potential social impacts.

Literature review & case study analysis

The following renewable energy literature and research has been reviewed and referenced as part of the analysis:

- Agrivoltaics provide mutual benefits across the food energy water nexus in drylands. Nature Sustainability, Barron-Gafford et al, Vol 2, Sep 2019, 851.
- Host Landowner Negotiations, Australian Energy Infrastructure Commission, 2020
- Review of the Impact of Wind Farms on Property Prices, Urbis, 2016 for the NSW Government
- Exploring community acceptance of rural wind farms in Australia: a snapshot, CSIRO, 2012

See Appendix A for a summary of the case study analysis. The findings from the literature review and case study analysis are as follows (and summarised in Appendix B):

- Social impacts typically relate to:
    - Amenity impacts such as noise, visual and traffic during construction;
    - Community concerns around property rights and potential impacts to the natural environment, agricultural land , visual amenity and perceived health and wellbeing impacts.
    - Increased pressure on local infrastructure and services due to cumulative demand from seasonal labour and major projects undertaken concurrently.
- The most substantial economic impacts such as direct and indirect job creation and business supply-chain generally occur during the short-term construction phase.
- Economic impacts during the operational phase are modest due to lesser demand for on-site employment to service and maintain the infrastructure.
- The state-wide benefits primarily relate to long term cost savings associated with renewable energy sources of generation and environmental benefits of renewable energy production.
- Energy storage projects typically create substantial benefits for local residents and businesses due to improvements to the reliability of the energy grid.
- Isolated local and private beneficiaries include landowners who provide the right to use their land, and an increase in municipal rate revenue collected by Council, which is ultimately re-directed for community benefit.

Review of technical studies

Several technical studies have been prepared for the Weasel Solar Farm that are relevant to the SEIA. Appendix D provides a summary of relevant findings relating to impacts during the project's lifecycle.

Key findings include:

- The proposal will not constrain, prejudice and/or limit the agricultural land use activities currently undertaken and/or potential future expansion of the activities.
- The ecological assessment found a very small number of threatened flora and fauna. Some declared weeds were identified, and areas covered by the waterway and coastal protection overlay consist mostly of agricultural land, which can be avoided with careful planning.
- The project will have a limited, localised impact on the landscape while visual impacts are expected to range from negligible to moderate.
- Mitigation methods to address the minor traffic issues include the installation of advisory signage, minor road repairs and the provision of sufficient parking for staff and delivery vehicles.
- Limited noise impacts during both construction and operation of the project were identified.
- There are no heritage listed properties of features or suspected heritage features at the subject site.
- There are no potential glare conditions for the project and limited night time illumination glare.

Socioeconomic Impact Assessment

Impact Framework

A socioeconomic impact framework has been prepared to outline and justify the suite of expected impacts that could arise from the project. For each impact, the main stakeholder groups and industries affected are identified.

For short term impacts, the economic impacts are expected over a finite period, and will not endure beyond the 18-month construction phase of the project.

For ongoing impacts, the economic impacts are expected to be delivered once the proposal is delivered and operational and will occur either on an ongoing basis or over a long-term horizon.

Table 8. Impact framework

Impact	Rationale	Key stakeholders
Short Term		
Economic stimulus: construction phase	The direct investment to construct the solar farm and associated infrastructure will stimulate the construction industry through additional output and jobs created during the construction phase.	Regional, state and national construction industry: civil trades, labourers, machinery operators, technicians.
Amenity disruptions from construction activities	Amenity impacts such as noise and traffic may arise from associated construction activities.	Local residents (proximate), passing travellers.
Community attitudes	Development of the project may lead to community concerns around property rights and potential impacts to the natural environment and agricultural land. Conversely, the project could generate civic pride in the local community through the provision of positive economic development outcomes.	Local community
Competition for labour force	If other major projects with high construction phase employment needs are delivered concurrent with the proposal, competition for labour force may increase and create tensions between major projects. Conversely, if there is adequate capacity, the local labour force will benefit from an increase in participation.	Local and regional labour force, major projects.
Cumulative demand for housing, accommodation and services	The attraction of workers during the construction phase will create additional demand for local infrastructure and services such as commercial accommodation, rental housing, retail and hospitality.	Local businesses and local residents (housing only)
Long Term		
Economic stimulus: Operational phase	The operation and maintenance of the project will require direct expenditure and jobs, which will create direct and flow-on indirect benefits to the economy	Local and regional economy
Agricultural value of grazing	Currently, the development area is primarily used for sheep grazing. Under the agrisolar proposal, sheep grazing will continue but the land will experience a reduction in productivity to accommodate the change in land use.	Local and regional agriculture industry
Amenity impacts	Once built and operational, the physical infrastructure of the solar farm may create long term amenity impacts such as visual and noise. The scale of the impact typically depends on the significance of the environment affected, the potential to enact permanent change, and the extent of stakeholder groups that are impacted.	Local residents (proximate), passing travellers.
Grid reliability & energy access	The project will enhance the reliability of the local energy grid, reducing the frequency and duration of power outages. This will have significant socioeconomic benefits by preventing disruptions to residents, businesses, healthcare facilities, and the broader community.	Local residents and businesses
Government revenue	The change in land use at the development area will alter the rates liability for the landowner. There is expected to be an uplift in Council revenue in the form of higher rates and charges.	Central Highlands Council, local economy and community.
Community fund	The proponent will establish a community fund associated the operational phase of the facility. This will take the form of an annual payment that can be used to support local projects and programs that achieve positive community outcomes.	Local community

Socioeconomic Impact Assessment

Socioeconomic impacts

This section assesses and quantifies (where possible) economic impacts expected to be created by the Weasel Solar Farm. Impacts are assessed for the short-term construction phase, and the ongoing phase (i.e. once the project is complete and operational).

This assessment adopts the input-output method of analysis (I-O). The I-O method is based on the interdependencies and relationship between industry sectors and is widely used across the public and private sector to estimate the direct and flow on economic impacts of a project or activity to an economy.

The Productivity Commission of Australia states that "input-output tables can be used to compute output, employment and income multipliers. These multipliers take account of one form of interdependence between industries — that relating to the supply and use of products. The numbers add up the direct and indirect impacts of a change in final output of a designated industry on economic activity and employment across all industries in an economy."

Definitions of economic terms can be found in the glossary of terms.

The impact area for quantitative impacts is the regional impact area defined in Section 2 (Tasmania), with additional analysis provided for local impacts (i.e. Central Highlands LGA) where appropriate.

Construction phase (short term)

During the construction phase, the following socioeconomic impacts are expected:

1. Economic stimulus generated from construction investment;
2. Amenity disruptions from construction activities;
3. Community attitudes;
4. Competition for labour force; and
5. Cumulative demand for housing and accommodation.

Economic stimulus generated from construction investment

To derive the scale and location of economic impacts (jobs and investment) during the construction phase of the project the following sources of information have been referenced:

- Analysis of the International Renewable Energy Agency's Renewable Power Generation Costs in 2022 report (See Appendix E);
- Findings from case study analysis of large-scale renewable energy projects across Australia, including Tasmania (Appendix A). In total, 14 solar farm projects and one wind farm project were reviewed. The case study analysis included one solar farm project in Victoria that undertook a retrospective assessment of impacts; and
- Discussions with the client regarding construction activities.

The total project cost is estimated to be in the order of $543 million[1]. Further analysis on the location of this investment is provided in Table 9, with approximately $188 million of the project cost expected to be spent in Tasmania.

A summary of key assumptions used to derive the economic impacts are summarised in Appendix C.

Table 9. Construction investment breakdown

	Value
Tasmania	$188.2M
Mainland Australia	$75.2M
International	$279.3M
Total	$542.7M

Source: Urban Enterprise, 2024

Inputting the Tasmanian construction investment estimate into the Input-Output model yields the following impact results:

- $428 million in total economic output, including:
  - $188 million direct output; and
  - $240 million indirect output
- 927 jobs, including
  - 348 direct jobs; and
  - 579 indirect jobs

Table 10. Construction economic impacts, Tasmania

	Direct	Indirect	Total
Output	$188.2M	$239.7M	$428.0M
Employment	348	579	927

Source: Urban Enterprise, 2024

1. Project cost is a preliminary estimate only and is subject to finalisation through detailed design and scoping. This cost estimates aggregates the solar and BESS facility.

Local economic impacts from construction investment

The economic impacts outlined in the previous section are estimated to endure over the 18-month construction period. Indirect impacts also account for flow-on expenditure from wage stimulus associated with labour, particularly jobs sourced from outside of the primary catchment.

It is important to note that not all of the direct jobs generated by the project will flow to the primary impact area (i.e. Central Highlands). A substantial proportion of jobs will be required to be imported from outside of the local area, given the requirement for specialised jobs and skills (e.g. solar technicians). Central Highlands has a small employment and population base to draw on for a major renewable energy project. The local economy is also small and lacks diversity, making it difficult for the project to create substantial economic activity during construction.

The greatest opportunity for local businesses and workers to support the construction phase is through more general construction activities such as civil construction and site works, trade workers and labourers, machinery operators, transport and logistics. Given the local specialisation in accommodation and food services there are also opportunities for Central Highlands' accommodation and hospitality industries to benefit during this phase of the project.

Based on the above information as well as Urban Enterprise's experience with other renewable energy projects, it is estimated that between 2-5% of the economic impacts could accrue in the primary impact area. This analysis has regard to the scale and profile of the Central Highlands economy and its ability to support WSF.

WSF is estimated to generate economic output in **the order of $6-$16 million during the construction phase, and support between 14-34 direct jobs (FTE)**.

Amenity disruptions from construction activities

Amenity impacts such as noise and traffic may arise from associated construction activities. The findings from the technical studies indicate the following:

- There were only minor traffic issues identified as part of the construction phase in the traffic assessment. Mitigation methods to address these issues include the installation of advisory signage, minor road repairs and the provision of sufficient parking for staff and delivery vehicles.
- Due to the distance between the proposed site and non-project involved receivers, construction noise impacts are expected to be relatively minimal. However, scheduling construction activities in accordance with relevant regulations, regular maintenance and broadband reversing alarms will further minimise residual risk of harm to nearby receptors

Community attitudes

Development of major renewable energy projects can create community concerns around property rights and potential impacts to the natural environment, agricultural land, perceived health and wellbeing and visual amenity. This has the potential to disrupt social cohesion within a local community and create ongoing tension between residents and project proponents.

At this stage it is difficult to determine whether there will be community concerns with the project given the preliminary nature of the proposal. Meaningful community consultation is considered critical to minimising the potential for this to become a negative impact in the future. Ensuring that the local community understands the potential benefits will also be important to gain social license for the project.

Competition for labour force

There are several renewable energy projects planned in proximity to the development area and within the broader region. Examples of nearby projects that may overlap with the construction phase of Weasel Solar Farm include:

- **St Patricks Plains Wind Farm** (300 MW) – situated in the Central Highlands LGA 26km north-west of the subject site. Designs completed, seeking approvals.
- **Northern Midlands Solar Farm** (288 MW) – located in the Northern Midlands LGA. Approved, construction expected to commence in 2025.
- **Palmerston BESS** (100MW) – located adjacent to the Palmerston substation in the Northern Midlands LGA. Approved, construction expected to commence in 2025.

In addition, there are several other renewable energy projects proposed across Tasmania, including onshore wind, battery storage and hydrogen, as well as the planned installation of new transmission infrastructure.

Other key projects in Tasmania are summarised below:

- **Marinus Link** is a proposed 1,500MW capacity undersea electricity connection to link Tasmania and Victoria. It is a two-staged project, with construction expected to commence in late 2025 and run for 4-7 years
- **Battery of the Nation** is a project that seeks to expand renewable energy storage and generation in Tasmania and is considered complementary to Marinus Link. Construction is expected to last for approximately six years with a workforce of 300 workers. This includes the $123 million Tarraleah reinvestment project that is located within Central Highlands.
- **Robbins Island** is a wind project comprises that up to 1,000MW output with a total of $1.2 billion investment, plus transmission lines. Total peak employment is expected to be around 700 FTE at stage 1 construction.
- **Jim's Plains** is a wind and solar project comprising 200MW of wind and 40MW solar which is forecast to have a peak employment of 518 FTE jobs during the construction phase.

If all of these renewable energy projects were to be delivered as planned and overlap with the construction phase of WSF, the cumulative job impacts would be notable. Any potential overlap could increase competition for local labour, and might lead to conflicts and delays across projects.

Cumulative demand for housing and accommodation

The project is estimated to require 186 direct jobs during the construction phase. Not all of these workers will originate from the impact area. Given the specialised nature of certain jobs and skill requirements (e.g. solar technicians), a proportion of jobs are anticipated to be imported from other parts of Tasmania and Australia.

For imported labour, an uplift in demand for local infrastructure and services can be expected during the construction phase such as rental housing, commercial accommodation, retail and hospitality.

At this stage it is too difficult to determine the distribution of local, regional and imported labour. However, temporary workers will likely use a mix of commercial accommodation and rental housing when staying in-region.

Commercial Accommodation

To determine whether there is adequate commercial accommodation room capacity to serve worker demand, an assessment of room supply relative to average room demand has been undertaken for Central Highlands and surrounds.

Analysis shows that the current occupancy rate for commercial accommodation in Central Highlands is estimated at 51%[2], indicating there is capacity to support additional overnight visitation.

The level of regional, state and national employment needs is uncertain at this stage. Three scenarios for the proportion of imported labour during the construction phase of the project have been assessed to understand the impact on accommodation demand (see Table 12). The results show that the project will generate demand for between 11-22% of the catchment's accommodation room supply.

This is a significant share of room capacity, however, given Central Highlands' relatively low occupancy rate, the accommodation demand generated by the project is considered an economic benefit. This is particularly the case given that workers will generate weekday demand, which is typically an off-peak period.

Table 11. Existing commercial accommodation supply & demand

	Description	2023
Total room demand	Total commercial accommodation room nights required to accommodate existing visitors	89,080
Total room supply	Total commercial accommodation room nights available.	173,740
Occupancy rate	Existing commercial accommodation occupancy rate.	51%
Vacancy rate	Existing commercial accommodation vacancy rate.	49%
Current available capacity	Additional commercial accommodation room nights available	84,660

Source: Urban Enterprise, 2024

Table 12. Accommodation impact, imported labour scenarios

	Low	Base	High
Total construction workers (peak demand)		186	
Proportion of workforce requiring commercial accommodation	20%	30%	40%
No. of workers requiring commercial accommodation	37	56	74
Working days in the year		260	
Worker commercial accommodation demand (i.e. room nights)	9,664	14,495	19,327
Worker demand (room capacity)	11%	17%	22%

Source: Urban Enterprise, 2024

2. Note this estimate aligns to AirDNA occupancy data for Central Highlands (53%)

Rental Market

The project's development area is approximately 1.25 hours (drive) from Greater Hobart. The proponent anticipates that a notable share of construction phase workers will be house and accommodated in northwest Hobart.

Preliminary discussions also suggest the northern areas of Greater Hobart such as Brighton, Pontville and Bridgewater would be considered desirable due to the reduced travel time to the subject site.

The rental market in Hobart is experiencing declining capacity, with fewer rental properties available alongside increasing rents.

Current active listings show moderate availability of rental properties compared to recent trends; indicating some capacity to absorb rental demand. As of April 2024, there were approximately 600 available rentals in the Hobart region. Over the past four years, median rents have increased from $422 per week in 2020 to $505 in 2024.

As previously mentioned, there are a diverse range of renewable energy projects proposed across Tasmania. If all projects were to be delivered as planned, the cumulative demand for housing and accommodation could present potential challenges for the region to service demand for rental housing and accommodation.

Figure 12. Hobart rental listings, 2011-2024

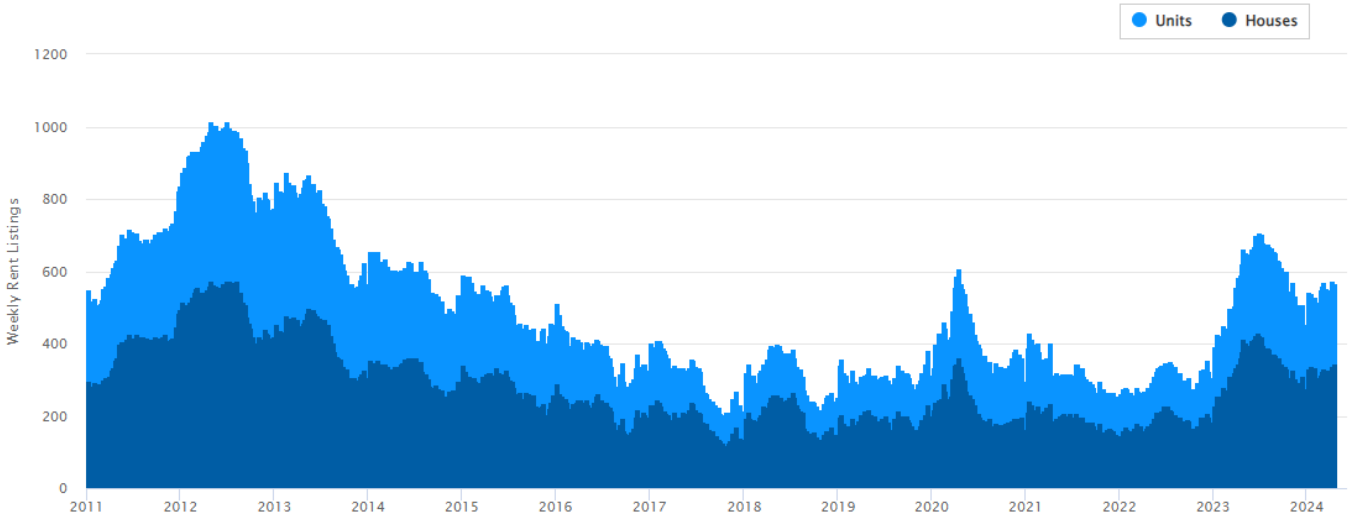
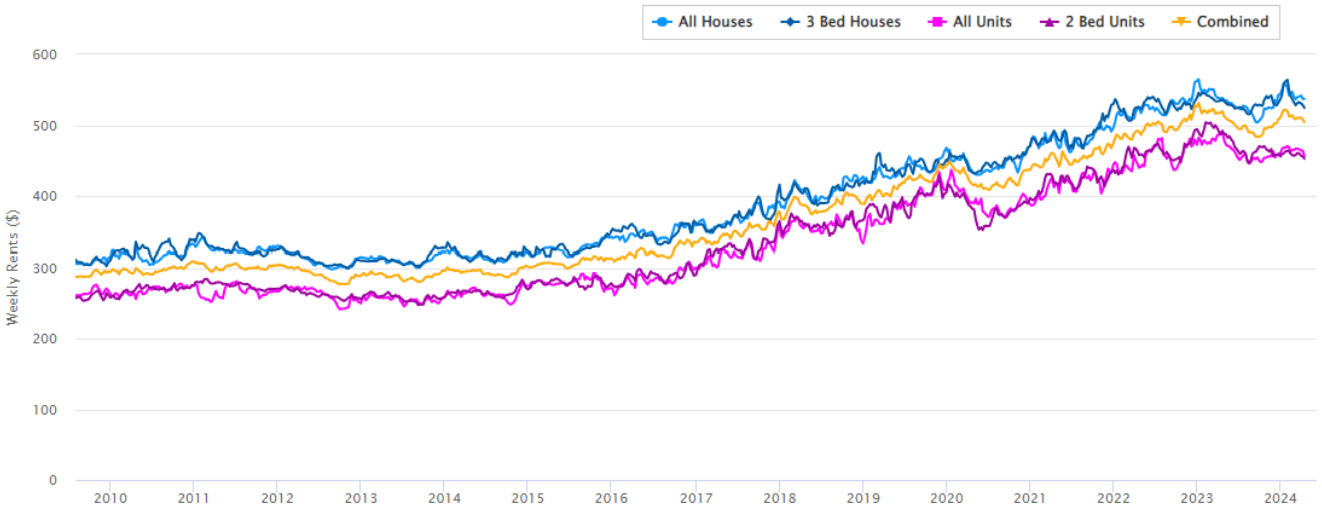


Figure 13. Hobart rental prices, 2010-2024



Source: SQM rental listing & prices data, 2024

Long term (ongoing)

Once the project is complete and operational, the project could result in the following socioeconomic impacts:

1. Economic impacts generated during the operational phase.
2. Agricultural value of grazing
3. Amenity impacts
4. Grid reliability & energy access
5. Municipal revenue from land use changes.
6. Community funds

Economic impacts

To estimate the economic impacts during the operational phase of the project the following sources of information have been referenced:

- Analysis of the International Renewable Energy Agency's Renewable Power Generation Costs in 2022 report (See Appendix E);
- Findings from case study analysis of large-scale renewable energy projects across Australia, including Tasmania (Appendix A); and
- Discussions with the client regarding operational activities.

The estimated economic impacts during the operational phase of the project include:

- $11 million in total economic output, including:
    - $4.7 million direct output; and
    - $6.3 million indirect output
- 20 jobs, including
    - 8 direct jobs; and
    - 12 indirect jobs

It should be noted that most of these benefits are expected to accrue within the local economy due to the requirement for these jobs to be undertaken on-site.

Table 13. Operational economic impacts, Tasmania

	Direct	Indirect	Total
Output	$4.7M	$6.6M	$11.3M
Employment	8	12	20

Source: Urban Enterprise, 2024

Grid reliability & energy access

The project will enhance the reliability of the local energy grid and the broader network through peak demand management and frequency regulation due to the BESS component of the development.

BESS projects can store excess electricity during periods of low demand and discharge it during peak demand periods. This helps to stabilise the grid by reducing strain during high-demand periods, preventing blackouts, and reducing the need for costly peaker plants. BESS projects can also respond rapidly to disturbances, helping to stabilise the grid after events like sudden load changes, equipment failures, or even natural disasters.

Grid frequency needs to be maintained within a narrow range for the system to operate reliably. BESS projects can respond quickly to frequency fluctuations, injecting or absorbing power to help keep the frequency stable. This ultimately reduces the frequency and duration of power outages.

This will have a significant socioeconomic impact for the local economy and community by reducing energy disruptions to residents, businesses, healthcare facilities, and the broader community.

Municipal funds from land use changes

The landowner of the subject site currently pays annual rates and charges associated with agricultural activities. Council charges rates based on a property's Assessed Annual Value (AAV), which is a rental value determined by the Valuer General and applied to the designated land use.

The project will deliver an uplift in Council revenue as a result of the change in land use at the development area; renewable energy generation activities will generate a higher rating liability. At this stage the extent of the uplift is unclear, however, examples in neighbouring municipalities suggest it could be in the order of $25,000 per annum.

Community funds

The proponent proposes to establish a community fund to support local projects and programs that deliver community benefits. Typically, the amount paid to a community fund is based on the project's size (i.e. MW capacity) and the community's needs.

The Clean Energy Council suggests that for large-scale solar projects, the community contribution range in the order of $130-$800 per MW per year over 10 to 25 years. Based on this range, it is expected that the community fund will receive between $26k to $160k per annum over the life of the project. The proponent will engage with community stakeholders in the future to determine the scale of the fund.

Socioeconomic Impact Assessment

Agricultural value of grazing

The 435-hectare development area is currently used to graze sheep, cattle and periodic seasonal broadacre cropping. The Agricultural Assessment[3] noted that the productivity of this land is constrained due to the prevailing lower land capability and low rainfall climate.

The assessment stated that the subject site is not considered to possess a high level of local or regional agricultural prominence beyond the recognition that the two properties are large land holdings.

The pastureland under the project's solar array will continue to be grazed by sheep, and therefore on the land subject to the WSF there will be a continuation of the existing agricultural land use activity.

The WSF would result in the permanent loss of 8.22 hectares of pastureland, which is considered negligible for both the property and the region.

The assessment concluded that the proposal will not constrain, prejudice or limit the agricultural land use activities currently undertaken or potential future expansion of the activities.

Amenity impacts

Once built and operational, the physical infrastructure of the solar farm may create long term amenity impacts such as visual, ecology and traffic. The key findings from the technical studies are summarised below. Please refer to technical studies for detailed analysis and findings:

- The only potential issues identified from the glint and glare assessment related to night time illumination glare associated with the substations and BESS components of the project. Management measures to mitigate this include directing light downwards as much as possible, use of luminaries designed minimise light spill, minimise over-lighting and use asymmetric beams
- No traffic issues were identified for the operational phase of the project
- Overall the Project will result in a 'Low to Moderate' modification to the existing visual landscape character. With the implementation of the recommended mitigation measures, the proposed development could be undertaken whilst maintaining the core landscape character of the area, and have a minimal visual impact on the surrounding visual landscape
- During the operational phase there are no material noise impacts that require management measures

3. Weasel Solar Farm Agricultural Assessment, Pinion Advisory, September 2024

Summary of socioeconomic impacts

The socioeconomic impacts of the proposal during the construction and operational phase are summarised in Table 14.

Table 14. Summary of impacts

Impact	Impact	Key stakeholders
Short Term		
Economic stimulus: construction phase	The estimated construction investment of $188 million in Tasmania is estimated to generate $428 million in total economic output and support 926 (FTE) jobs during the construction phase, including 348 direct jobs.	Regional, state and national construction industry: civil trades, labourers, machinery operators, technicians.
Amenity disruptions from construction activities	Amenity impacts such as noise and traffic may arise from associated construction activities. However, technical studies prepared as part of the development application suggest these impacts will be minimal, and will be appropriately managed through construction and environmental management plans	Local residents (proximate), passing travellers.
Community attitudes	Development of the project could create community concerns around property rights and potential impacts to the natural environment and agricultural land. Conversely, the project could galvanise the local community through the provision of positive economic development outcomes.	Local community
Competition for labour force	There are a small number of renewable energy projects planned in proximity to the development area, and a diverse range of other renewable energy projects across the State. Some of the jobs and skills required to deliver these projects, and anticipated timing of construction may overlap with WSF. The overlap has the potential to increase competition for local labour, and could lead to tensions and delays across projects.	Local and regional labour force, major projects.
Cumulative demand for housing, accommodation and services	Some of the 186 construction workers will be imported from outside of the region, and will require a mix of rental housing and commercial accommodation. Hobart has moderate rental property capacity to meet some accommodation demand generated by the project's construction phase. Central Highlands also some capacity within its commercial accommodation sector to support the project given its relatively low occupancy rate. However, if all renewable projects are delivered across Tasmania (as planned), servicing the cumulative housing needs could place temporary upward pressure on rents and commercial room rates.	Local businesses and local residents (housing only)
Long Term		
Economic stimulus: Operational phase	The ongoing operation of the solar farm is estimated to generate $12 million in total economic output and support 14 (FTE) jobs per annum, which includes 6 direct jobs (FTE).	Local and regional economy
Agricultural value of grazing	Overall the proposal will not constrain, prejudice or limit the agricultural land use activities currently undertaken or potential future expansion of the activities.	Local and regional agriculture industry
Amenity impacts	Once built and operational, the physical infrastructure of the solar farm could create long term amenity impacts such as visual, noise and traffic. Technical studies prepared as part of the development application indicate that there are unlikely to be any substantial amenity impacts during the operational phase of the project.	Local residents (proximate), passing travellers.
Grid reliability & energy access	The project will enhance the reliability of the local energy grid, reducing the frequency and duration of power outages. This will have significant socioeconomic benefits by preventing disruptions to residents, businesses, healthcare facilities, and the broader community.	Local residents and businesses
Government revenue	Council will receive an uplift in revenue in the form of additional rates and charges due to a change in land use on-site. The estimated revenue uplift delivered to Council is in the order of $25k per annum.	Central Highlands Council, local economy and community.
Community fund	The proponent proposes to establish a community fund associated with the operational phase of the facility. This will take the form of an annual payment that can be used to support local projects and programs that deliver positive community outcomes.	Local community

Impact Evaluation

The significance of impacts are evaluated by considering the expected magnitude (low, moderate and high) and the likelihood of the impact occurring during the lifecycle of the project.

The following criteria has been used to assess the magnitude of impacts:

- Duration – The timeframe over which the impact occurs or the frequency of potential impacts.
- Extent – The geographical area or the range and number of stakeholders affected.
- Magnitude – Scale or degree of change from the existing condition as a result of the impact.
- Sensitivity – The extent to which people or an environment can adapt to or mitigate the impact.

The following categories have been used to assess the likelihood of impacts taking place:

- Highly Unlikely – High improbability that the impact will occur.
- Unlikely – An improbability that the impact will occur.
- Possible – moderate probability that the impact will occur.
- Likely – A good probability that the impact will occur.
- Highly Likely – A very high probability that the impact will occur.

Planned and recommended management measures have been included (where relevant) to optimise benefits and minimise negative impacts.

Table 15. Impact evaluation – construction phase

Impact	Magnitude	Likelihood	Management measures	Recommendations
Economic stimulus: construction phase	Moderate	Likely	None identified	Advocate for use of local suppliers (where possible).
Amenity disruptions from construction activities	Low	Unlikely	Installation of advisory signage, minor road repairs and the provision of sufficient parking for staff and delivery vehicles. Scheduling construction activities in accordance with relevant regulations, regular maintenance and broadband reversing alarms	Construction and environmental management plans will be prepared as part of a condition on the planning permit.
Community attitudes	Low	Possible	Public community consultation sessions held in region	Ensure community are regularly engaged, and project updates are communicated as they arise.
Competition for labour force	Moderate	Possible	None identified	Liaise with other renewable energy project proponents to discuss synergies with jobs and skills and potential for resource sharing.
Cumulative demand for housing, accommodation and services	Moderate	Possible	None identified	Engage with Central Highlands Council, Greater Hobart Councils and relevant Chamber of Commerce/Business Associations to notify of accommodation requirements and impending periods of high demand during the construction period.

Table 16. Impact evaluation – operational phase

Impact	Magnitude	Likelihood	Management measures	Recommendations
Economic stimulus: Operational phase	Low	Highly unlikely	None identified	Advocate for the use of local suppliers (where possible).
Agricultural value of grazing	Low	Highly likely	None identified	None
Amenity impacts	Low	Unlikely	Technical studies prepared to assess potential amenity impacts and recommend management measures	Refer to other technical studies for planned and recommended management measures relating to ongoing amenity impacts.
Grid reliability & energy access	Low	Highly likely	None identified	None
Government revenue	Low	Highly likely	None identified	None
Community fund	Low	Likely	The proponent proposes to establish a community fund to support local projects and programs that deliver community benefits.	Contribute funds towards community projects, initiatives and programs that improve liveability and socioeconomic outcomes for the community.

6.
Appendices

Appendix A: Case Study Analysis
Appendix B: Literature Review Findings
Appendix C: Economic Impact Assessment Assumptions
Appendix D: Technical Studies Summary
Appendix E: IRENA Solar Costs

Appendix A – Case Study Analysis

Table 17. Case study analysis

Project	Location	Energy Capacity	Status	Construction impacts	Ongoing impacts
Robbins Island Renewable Energy Park	North-west Tasmania	900MW	Planning Approval 2020	2,766 jobs, including 1,038 direct jobs. Gross value-added of $384m, including direct GVA of $153m	101 direct ongoing FTE jobs, including 40 direct jobs
Numurkah Solar Farm	Numurkah - 200km north of Melbourne	128MW	Operational (retrospective)	203 direct jobs in Hume region 87 in rest of Victoria = 290 direct jobs $122.4m expenditure in Victoria Economic activity of $317.4m in Hume region	6 direct jobs in Hume region $4.2m expenditure in Victoria Economic activity of $12.5m in Hume region
Culcairn Solar Farm	Culcairn - 45km north of Albury	350MW	Planning Approval 2021	350 direct jobs in NSW $177m direct expenditure 60% spent in Riverina Murray region	6 direct jobs $15.1m direct expenditure 90% spent in Riverina Murray region
Bookaar Solar Farm	Bookaar - 8km north west of Camperdown	200MW	Planning Approval 2022	150 direct jobs, 105 locally $280m capital investment - $28m spent locally	8-12 ongoing jobs nationally, 6 locally Economic stimulus to the Study Area of $29.5 million over 30 years
Frasers Solar Farm	Toongabbie - 180km east of Melbourne	75MW	Planning Approval, 2020	250 jobs (direct & indirect) $110m investment	4 direct ongoing jobs
Fulham Solar Farm	Fulham - 220km east of Melbourne	80MW	Planning Approval, 2022	90 direct jobs	10 direct jobs
Maffra Solar Farm	Maffra - 230km east of Melbourne	30MW	Planning Approval, 2018	100 jobs (assuming direct and indirect) $50m investment	*
Perry Bridge Solar Farm	Perry Bridge - 250km east of Melbourne	44MW	Planning Approval, 2021	88 direct jobs	2-3 direct jobs
Tragowel Solar Farm	Tragowel - 270km north of Melbourne	510MW	Planning Approval, 2019	$500m investment	*
New England Solar Farm	Uralla, NSW	720MW (includes 400 MWh battery storage facility)	Under construction	700 direct jobs	15 direct jobs
Western Downs Green Power Hub	Chinchilla, QLD	460MW (includes 150 MWh battery storage facility)	Under construction	400 direct jobs	10 direct jobs
Cultana Solar Farm	Whyalla, SA	280MW	Under construction	700 direct jobs	10 direct jobs
Limondale Solar Farm	Balranald, NSW	249MW	Operational	300-400 direct jobs	7 direct jobs
Darlington Point Solar Farm	Darlington Point, NSW	330MW	Operational	500 direct jobs (25% locals) $450m investment	*

Source: Various sources online
*Information not available

Appendix B – Literature Review Findings

Table 18. Literature review summary

Impact	Description
Social	
Amenity	Construction activities, including heavy machinery and transportation of materials, will result in amenity impacts for the local community such as noise and traffic. Large solar arrays can alter the visual landscape, especially in rural or natural areas, which may be considered unsightly by some residents. This visual impact can vary depending on the design and location of the solar farm.
Community attitudes	Development of major renewable energy projects can create community concerns around property rights and potential impacts to the natural environment, agricultural land and visual amenity. This has the potential to disrupt social cohesion within a local community and create ongoing tension between residents and project proponents. Meaningful community consultation is considered critical to addressing this impact.
Local infrastructure & services	The construction and operation of large-scale renewable energy projects has the potential to increase pressure on local infrastructure and services due to the cumulative demand from seasonal labour and major projects undertaken concurrently. This can create poor social outcomes for local residents through the provision of housing, utilities and community services.
Economic	
Construction	Economic output and employment (FTE jobs) associated with the construction phase of a project. These are typically substantial and there is scope for local benefits if there is alignment with the local business and employment profile. Other economic impacts associated with the construction phase include: • Cumulative uplift in demand for worker housing, accommodation, retail and services; and • Competition for skills and labour between other major projects.
Operation	Economic output and employment (FTE jobs) during the life of the project. These are often substantially lower than the construction phase impacts, albeit over a much longer period. Agrisolar projects also include special solar panels that allow for existing agricultural grazing to continue on-site.
Remuneration for landowners	Landowners are typically remunerated for the right to use their land for the construction and operation of a renewable energy project, in-turn delivering financial benefits to the private landowner(s)
Property values*	To date, there have been minimal domestic studies measuring the impact that proximity to solar farms has on surrounding property values. This includes the effect that visual amenity impacts caused by solar farm development has on surrounding residential property prices
Energy consumption	The capacity to generate renewable energy for state and national consumers. The power that is generated from renewable energy projects typically gets exported into the national energy market, and therefore benefits all consumers of electricity.
Community fund	Some examples of renewable energy projects seek to contribute funds towards local communities in which the project is located or proximate to. This typically takes the form of an annual payment that can be used to support local projects and programs.
Government revenue	Local government receives annual payments from renewable energy generators under state government legislation. The payment combines a fixed charge with a variable charge based on a power station's capacity
Grid reliability & energy	BESS projects can enhance the reliability of the local energy grid, reducing the frequency and duration of power outages. This can have significant socioeconomic benefits by preventing disruptions to businesses, healthcare facilities, and the broader community. In regions with unreliable or limited energy access, BESS projects can help ensure a more consistent power supply, benefiting households, schools, healthcare facilities, and local businesses.

Source: Refer to reference list in text and Appendix A

*Given the lack of research that is available, an assessment of this impact has been excluded.

Appendix C – Economic Impact Assessment Assumptions

Table 19. Economic Impact Assessment Assumptions

Phase	Assumption	Source
Construction	Capex: $542 million	Urban Enterprise/IRENA
	Capex location breakdown: Tasmania = 35% Mainland Australia = 13% International = 52%	Urban Enterprise
	Multipliers derived from case study analysis	Urban Enterprise
Operational	Opex: $4.7 million p.a.	Urban Enterprise/IRENA
	Multipliers derived from case study analysis	Urban Enterprise

Appendix D – Technical Studies Summary

Table 20. Technical Studies Summary

Technical Study	Purpose	Findings
Agricultural Assessment, Pinion Advisory, September 2024	Assess the potential impacts on existing agricultural land use	• Currently the subject site is used to graze sheep, cattle and periodic seasonal broadacre cropping • The subject site is not considered to possess a high level of local or regional agricultural prominence beyond the recognition that the two properties are large land holdings • The pastureland under the project's solar array will continue to be grazed by sheep, and therefore on the land subject to the WSF there will be a continuation of the existing agricultural land use activity • The WSF would result in the permanent loss of 8.22 hectares of pastureland, which is considered negligible for both the property and the region • The proposal will not constrain, prejudice and/or limit the agricultural land use activities currently undertaken and/or potential future expansion of the activities
Ecological Assessment, Van Diemen Consulting, September 2024	Provide preliminary information on the extent and quality of native vegetation and fauna habitat within the study area	• There are no threatened ecological communities present in the study area • There is one small area with the threatened native vegetation of Eucalyptus tenuiramis which should be avoided • Three species listed on the Threatened Species Protection Act 1995 were observed in or adjacent to the Study Area. None of these proposed to be taken or distributed by the development • No fauna species listed on the Threatened Species Protection Act 1995 or Environment Protection and Biodiversity Conservation Act 1999 were observed in the Study Area during the surveys • Declared Weed species listed on the Biosecurity Act 2019 were observed in the Study Area • The study area intersects the waterway and coastal protection area overlay. On balance, the areas intersected by the Overlay are primarily agricultural land or areas where there has been the regeneration of some native species such as rushes, grasses and sedges. These areas can be avoided through careful planning and design
Landscape and Visual Assessment (DRAFT), Human Habitats, September 2024	Assess the potential landscape and visual amenity impact of the proposed solar farm.	• The project will have a limited, localised impact on the landscape character of the broader landscape setting. The landscape impacts are projected to be low to negligible in nature • The visual impacts in terms of magnitude are expected to range from negligible to moderate, the initial impacts are estimated as low to moderate while the residual impacts are expected to be low • Minor, localised impacts with regard to lighting can be expected. These will be restricted to areas with intensive infrastructure such BESS, switchyard and substation. • Landscape plantings to perimeter in specific locations are recommended as the key management measure
Traffic Impact Assessment, pitt & sherry, September 2024	Assess the potential traffic impacts of the construction and operational phase of the development	• The crash history for Highland Lakes Road in the vicinity of the site did not identify any safety issues at the proposed site access points • The sight distances at the proposed site accesses meet the Austroads guidelines for safe intersection sight distances • The proposed transport route is expected to have sufficient capacity to accommodate the additional traffic generated during construction of the proposed development; and • Operations traffic volumes of the proposal are estimated to be minimal and are not expected to have any noticeable impact on the safety and function of the surrounding road network after construction • Mitigation methods to address the traffic issues are outlined in detail in the assessment and include the installation of advisory signage, minor road repairs and the provision of sufficient parking for staff and delivery vehicles.

Table 20. Technical Studies Summary (continued)

Technical Study	Purpose	Findings
Noise Impact Assessment, SLR Consulting, September 2024	Assess the noise impacts associated with the development	• Due to the distance between the proposed site and non-project involved receivers, construction noise impacts are relatively minimal. However, scheduling construction activities in accordance with relevant regulations, regular maintenance and broadband reversing alarms will further minimise residual risk of harm to nearby receptors. • During the operational phase there are no material noise impacts that require management measures
Historic Heritage Assessment, Cultural Heritage Management Australia, September 2024	To undertake an historic heritage assessment for the proposal	• There are no heritage listed properties of features that are situated within the boundaries of the subject site • No historic heritage sites or suspected heritage features were identified during the field survey assessment • There were no substantial management measures recommended for the subject site. • An adjacent property is registered on the Tasmanian Heritage Register and it is recommended that this property is plotted onto the development masterplan and note that no development activity is to occur within the property boundaries
Glint and Glare Assessment, SLR Consulting, September 2024	Undertake a reflective glare assessment of the proposal	• There are no potential glare conditions for the project • An examination of the topography and existing vegetation shows that the shielding would be enhanced by the large areas of natural bushland between the project arrays and many of the surrounding roads and residential dwellings • The only potential for night time illumination glare would be associated with the substations and BESS components of the project. Management measures to mitigate this include directing light downwards as much as possible, use of luminaries designed minimise light spill, minimise over-lighting and use asymmetric beams

Source: Refer to reference list in text and Appendix A

*Given the lack of research that is available, an assessment of this impact has been excluded.

Appendix E – IRENA solar costs

Table 21. Solar project costs per KW in Australia, 2022

Project	Location	Australia (USD)
Hardware	Modules	339.2
	Inverters	38
	Racking and mounting	89.3
	Grid connection	44
	Cabling/ wiring	42.1
	Safety and security	11.5
	Monitoring and control	5.1
Installation	Mechanical installation	87.4
	Electrical installation	78.3
	Inspection	29.6
Soft costs	Margin	55.1
	Financing costs	29.4
	System design	10.7
	Permitting	37.5
	Incentive application	11.6
	Customer acquisition	13.7
	Total	922.5

Source: Renewable Power Generation Costs in 2022, IRENA 2023

Table 22. Solar operational & maintenance costs per KW OECD, 2022

	Oceania (USD)
All-in O&M costs for utility-scale solar PV	7.5

Source: Renewable Power Generation Costs in 2022, IRENA 2023

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