
Hay Sun Farm

Proposed modification #2

Plains SF No1 Pty Ltd
February 2019

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20 February 2019

Approved By



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20 February 2019

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1 Introduction

1.1 Development context

Plains SF No 1 Pty Ltd (Plains SF) has been granted development consent to develop the Hay Sun Farm, which is a large-scale solar photovoltaic (PV) generation facility and associated infrastructure in the Riverina region of south-western NSW. The site is located approximately 6 km north-east of the township of Hay.

Development consent for the Hay Sun Farm (SSD 8113) was approved with conditions in December 2017 by the NSW Department of Planning and Environment (DPE) as a State significant development (SSD) under Section 89E of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The proposed modification seeks to amend Schedule 3 Condition 1 of the Conditions of Consent (CoC), which currently do not allow for battery storage on the site.

Plains SF has submitted modification number one to DPE which is currently under consideration relating to the timing of construction works on the Mid Western Hwy entrance as per Condition 5(a) & (b) of the CoC.

1.2 Site description

The site is within the Hay Shire LGA in the Riverina region of south-western NSW, approximately 6 km north-east of the township of Hay. The site is divided by a disused railway corridor in to two portions, northern and southern, and encompasses an area of approximately 684 hectares (ha).

The northern portion of the site is bounded by Sidonia Road to the west and north and the disused railway corridor to the south. The southern portion of the site is bounded by the railway corridor to the north and the Mid Western Highway to the south.

The legal property description of the site is given in Table 1.1.

Table 1.1 Legal description of approved project site

Site Portion	Area (ha)	Lot Description
Northern	405	DP 756748 (Lots 21, 22, 28, 43, 44, 99 and 100) DP 239126 (Lots 122 and 124) DP 116037 (Lot 1) DP 1161822 (Lot 2) DP1203884 (Lot 21)
Southern	266	DP 756748 (Lots 23, 35, 38, 39, 40 and 41) DP 1039519 (Lot 1) DP 116037 (Lots 1, 2 and 3)
Transmission line	13	DP 1137128 (Lot 7300) DP1203917 (Lot 3) DP627795 (Lot 1) DP756748 (Lots 28 and 29)

The site is zoned RU1 Primary Production under the Hay Local Environmental Plan 2011 (Hay LEP) (see Figure 2.2). It has been modified by past disturbances associated with land clearing, irrigation development, cropping, livestock grazing and weed invasion. It is currently used for livestock grazing.

1.3 Overview of the proposed modification

The proposed modification seeks to amend Schedule 3 Condition 1 of the Conditions of Consent (CoC), which currently do not allow for Battery Storage.

Plains SF proposes to amend the above condition in such a manner that will allow for a Battery Storage System (BSS) to be installed on site to store energy.

1.4 Approvals pathway

A development consent may be modified under Clause 4.55, Part 4 of the EP&A Act provided that a development consent is in place and that the proposed modification is substantially the same development as the development for which the consent was originally granted.

Clause 4.55 further provides for three types of modification:

- (1) modifications involving minor error, misdescription or miscalculation;
- (1A) modification involving minimal environmental impact; and
- (2) Other modifications.

This modification represents a type 1A modification.

Further information on the planning and assessment process is provided in Chapter 2.

1.5 The applicant

The applicant for the modification is Plains SF No1 Pty Ltd

Contact details are:

Mr John Zammit
Plains SF No1 Pty Ltd
23 Milton Parade, Malvern, VIC 3144

Email: john.zammit@overlandsunfarming.com.au

1.6 Report structure

This document describes the site, proposed modification and environmental assessment of the likely impacts over and above the existing impacts and is structured as follows:

- Chapter 1 – Introduction. This chapter introduces the project, the site, the applicant and the report structure.
- Chapter 2 – Legislative context. This chapter discusses the relevant planning legislation, planning instruments and planning pathway.
- Chapter 3 – Proposed modification. This chapter describes the objectives and the effect of the modification on the construction of the project.
- Chapter 4 – Environmental Impact. This chapter discusses potential environmental impacts of the proposed modification.
- Chapter 5 – Conclusion. This chapter describes the amendments to development consent SSD 8113.

2 Legislative Context

2.1 Environmental Planning and Assessment Act 1979

2.1.1 Modification of a development consent

Development consents, in general, may be modified under Section 4.55 (previously Section 96), Part 4 of the EP&A Act.

The relevant clause under 4.55 'Modification of consents – generally' of the EP&A Act states:

1A. Modifications involving minimal environmental impact

A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:

- a) it is satisfied that the proposed modification is of minimal environmental impact, and
- b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before the consent as originally granted was modified (if at all), and
- c) it has notified the application in accordance with:
 - i) the regulations, if the regulations so require, or
 - ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and
- d) it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.

The proposed modification is substantially the same development as the development for which the consent was originally granted and is of minimal environmental impact. Further information on the impact assessment is provided in Chapter 4.

2.2 Environmental Planning and Assessment Regulation 2000

The relevant Clause 115 under Division 12 Development consents – extension, completion and modification of the Environmental Planning and Assessment Regulation 2000 (the Regulation) states that an application for modification of a development consent under Section 4.55 (1), (1A) or (2) or 4.56 (1) of the EP&A Act must contain the tabulated in Table 2.1.

Table 2.1 **Information required for a modification application**

Relevant clause	Requirement	Section addressed
(1) (a)	the name and address of the applicant;	Chapter 1
(b)	a description of the development to be carried out under the consent (as previously modified);	Chapter 1
(c)	the address, and formal particulars of title, of the land on which the development is to be carried out;	Chapters 1 and 2
(d)	a description of the proposed modification to the development consent;	Chapter 3
(e)	a statement that indicates either:	
(i)	that the modification is merely intended to correct a minor error, misdescription or miscalculation, or	N/A
(ii)	that the modification is intended to have some other effect, as specified in the statement;	Chapter 3
(f)	a description of the expected impacts of the modification;	Chapter 3 & 4
(g)	an undertaking to the effect that the development (as to be modified) will remain substantially the same as the development that was originally approved;	Chapter 3
(g1)	in the case of an application that is accompanied by a biodiversity development assessment report, the reasonable steps taken to obtain the like-for-like biodiversity credits required to be retired under the report to offset the residual impacts on biodiversity values if different biodiversity credits are proposed to be used as offsets in accordance with the variation rules under the Biodiversity Conservation Act 2016;	N/A
(h)	if the applicant is not the owner of the land, a statement signed by the owner of the land to the effect that the owner consents to making of the application (except where the application for the consent the subject of the modification was made, or could have been made, without the consent of the owner);	N/A
(i)	a statement as to whether the application is being made to the Court (under Section 4.55) or to the consent authority under section 4.56), and, if the consent authority so requires, must be in the form approved by that authority.	N/A

2.3 Approvals required

As outlined above, the proposed modification requires development consent under Clause 4.55 (1A), Part 4 of the EP&A Act.

3 Proposed Modification

3.1 Effect of the Modification on the Project

The proposed modification seeks to amend the Schedule 3 Condition 1 in such a manner that will allow for a Battery Storage System (BSS) on the site.

The proposal would include a BSS to:

- manage electricity output to meet demand
- improve the reliability of electricity output
- provide frequency control and ancillary services to the electricity network.

The battery storage system would consist of modular units on pad mounted foundations, located near the proposed Hay Sun Farm on site substation. The storage system would be containerised and banded. The storage capacity of the proposed battery system is a maximum of 29 MW & 29MWh, however integration of the BSS into the grid connection and grid network operation means that the final sizing and design of the BSS will be determined in accordance with the requirements of the network service provider and energy market operator. The battery technology type, system size and location would be further refined during the detailed design process. The proposed dimensions of the BSS at the maximum capacity of 29MW & 29MWh are 235m W x 132m L x 2.3m H. The battery storage system would be located adjacent to the proposed on-site substation as show in Appendix 1, Solar Farm Layout.

The most likely battery storage system would be lithium-ion technology, specifically the Tesla Powerpack or similar.



Figure 1. Tesla Powerpack System – California

3.2 State Environmental Planning Policy No 33 (SEPP 33)

State Environmental Planning Policy No 33 – Hazardous and Offensive Development (SEPP 33) applies to any proposal which falls under the policy’s definition of ‘potentially hazardous industry’ or ‘potentially offensive

industry'. If not controlled appropriately some activities within these industries may create an off-site risk or offence to people, property or the environment thereby making them potentially hazardous or potentially offensive.

A Preliminary Hazard Analysis has been deemed not to be required by the Department of Planning & Environment due to the size of the proposed BSS being under 30MW.

The proposed modification is considered minor in the opinion of DPE as a result of the consultation, and will not alter the following:

- project's development footprint;
- total traffic generation associated with construction of Hay Sun Farm;
- car parking requirements; and
- main transport routes associated with construction of Hay Sun Farm;

3.3 Consultation

The proposed modification has been prepared in consultation with relevant government agencies including DP&E and Hay Shire Council (HSC). Comments and recommendations from these consultations were summarised as follow:

- **DPE:** consultation with DPE conducted in early 2019 to discuss the size of the BSS to understand the type of assessments required.
- **HSC:** consultation with HSC was conducted in early 2019, HSC has no objection to the proposed modification and was generally supportive of proposed addition of a battery.

The proposed modification is minor and will meet the comments and recommendations of DPE and HSC.

4 Environmental Assessment

4.1 Assessment of Impacts

An assessment of the other environmental, social and economic aspects as a consequence of the proposed modification is provided in Table 1. This assessment is commensurate with the negligible levels of projected impacts on each aspect arising from the proposed modification.

Table 4.1 Environmental, Social and Economic Aspects

Environmental aspect	Assessment	Impact
Biodiversity	A biodiversity assessment report was prepared as part of the EIS. There will be no changes to the development footprint or additional surface disturbance associated with the proposed amendment and, therefore, no additional impact on native vegetation, fauna and fauna habitat.	No Additional Impact
Aboriginal heritage	An Aboriginal cultural heritage assessment report was prepared as part of the EIS. There will be no changes to the development footprint or additional surface disturbance associated with the proposed amendment and, accordingly, no additional impact on any item or feature of Aboriginal cultural heritage.	No Additional Impact
Historic heritage	An assessment of the potential impact of the project on historic heritage was completed as part of the EIS. There will be no changes to the development footprint or additional surface disturbance associated with the proposed amendment and, accordingly, no impact on any items of local, State, National or World heritage significance.	No Additional Impact
Land	An assessment of the potential impact of the project on agricultural land and flood prone land was prepared as part of the EIS. There will be no changes to the development footprint or additional surface disturbance associated with the proposed amendment and, accordingly, no additional impact on agricultural land or existing land uses on adjacent land.	No Additional Impact
Noise and vibration	A noise and vibration impact assessment prepared as part of the EIS predicted that potential construction and operation noise levels will be below relevant criteria at all assessment locations. The proposed BSS will not increase assessed levels of noise and therefor there will be no additional impact.	No Additional Impact
Water	An assessment of the potential impacts of the project on flooding, groundwater and surface water resources were completed as part of the EIS. There will be no changes to the development footprint or additional surface disturbance associated with the proposed amendment and, therefore, no additional impact on flooding, groundwater or surface water resources.	No Additional Impact
Hazards	The BSS will be designed & operated in accordance with relevant industry standards. The BSS design safeguards have been taken into account in relation to the chosen location of the proposed system & the BSS will be modular & containerized in smaller units where each container is fire rated and sealed preventing further spread of damage in the case of failure. The level of hazards and risks will not increase as a result of the proposed amendment.	No Additional Impact
Air quality	Given there will be no change to any aspect of the project's construction or operation which have the potential to generate emissions to the atmosphere, increases in emissions are not predicted as part of the proposed amendment.	No Additional Impact
Socio-economic	The modification to the CoC will not result to any change in the effects as predicted in the assessment presented in the EIS.	No Additional Impact

Water Usage	It is anticipated that the construction and operation of the BSS will use a minimal amount of water <1ML and therefor the currently nominated amount of water from the EIS will be sufficient.	No Additional Impact
Visual	The proposed dimensions of the BSS are 235m W x 132m L x 2.3m H. At 2.3m in height the BSS will be comparable in height to the trackers and panels assessed in the EIS under the Visual impact studies. The BSS is nominated to be placed next to the project substation which the closest non-project related receptor is over 2,500m away. This will make the BSS indistinguishable from the assessed project infrastructure and no additional impact is expected.	No Additional Impact
Transport	It is anticipated that the BESS at 29MW & 29MWh will generate in the order of 30 heavy vehicle movements from approximately 30, 40ft containers of roughly 25 tonnes per container. With up to 66 heavy vehicle movements per day under existing approvals it is anticipated that 30 movement across the construction span of the project will not impact on this projection given an amount of flexibility in the delivery schedule.	No Additional Impact

5 Summary and conclusions

The proposed modification has been assessed and the key findings are as follows:

The location of the proposed BSS will be adjacent to the on site, Hay substation as shown in Appendix 1 – Solar Farm Layout. The BSS will be modular units on pad mounted foundations, located near the proposed Hay Sun Farm on site substation. The storage system would be containerised and bunded. The output and storage of the proposed battery system is in the order of 29 MW & 29MWh.

A lithium-ion battery storage technology (specifically the Tesla Powerpack or similar) has been identified as the preferred battery storage option for the following reasons:

- the technology is commercially proven and robust, and provides fast response abilities
- the environmental assessment has shown that there a no proposed additional impacts of the BSS and that including a BSS will be accommodated under the existing approvals of the EIS including Water Usage, Traffic Movement, Visual Impact & others listed in the Environmental Assessment section.
- the technology has been shown to meet individual fatality and injury risk criteria specified in NSW Department of Planning (DoP) publication HIPAP No. 4 'Risk Criteria for Land Use Safety Planning' (DoP 2011a) (see section 6.5)
- the technology has rapid development potential in comparison to other storage technologies
- ease of decommissioning at the end of project life, and ability to reinstate storage footprint area to current agricultural purposes.

The proposed modification to amend Schedule 3, Condition 1 of the CoC, in such a manner that will allow for a Battery Storage System on the site.

The proposed modification is of negligible environmental impact and the development, undertaken under the conditions of consent as modified, would be substantially the same development as the development for which the consent was originally granted.

Abbreviations

CoC	Conditions of Consent
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
BSS	Battery Storage System
SSD	State significant development
HSC	Hay Shire Council

References

<https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/large-scale-solar-energy-guideline-2018-12-11.ashx>

<https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/assessment-guideline-multi-level-risk-assessment-2011-05.ashx?la=en>

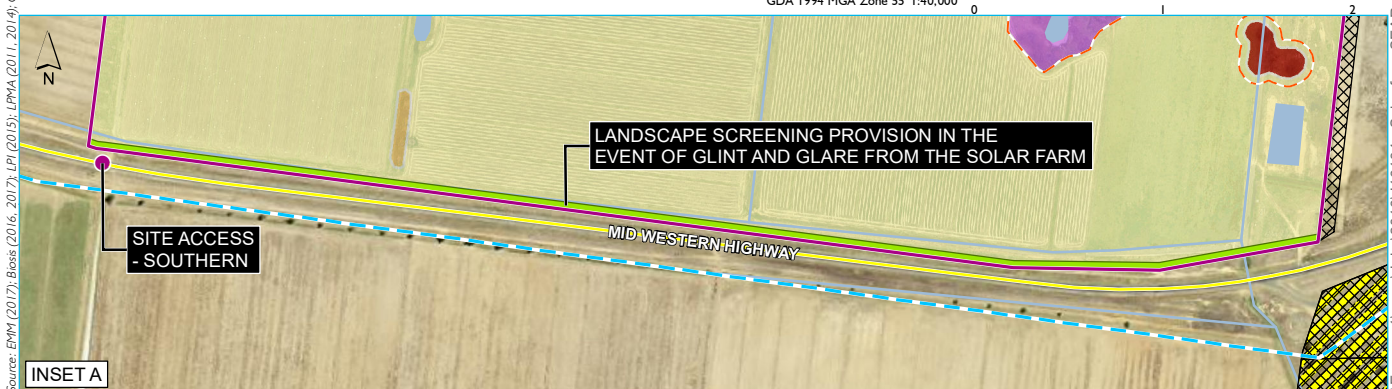
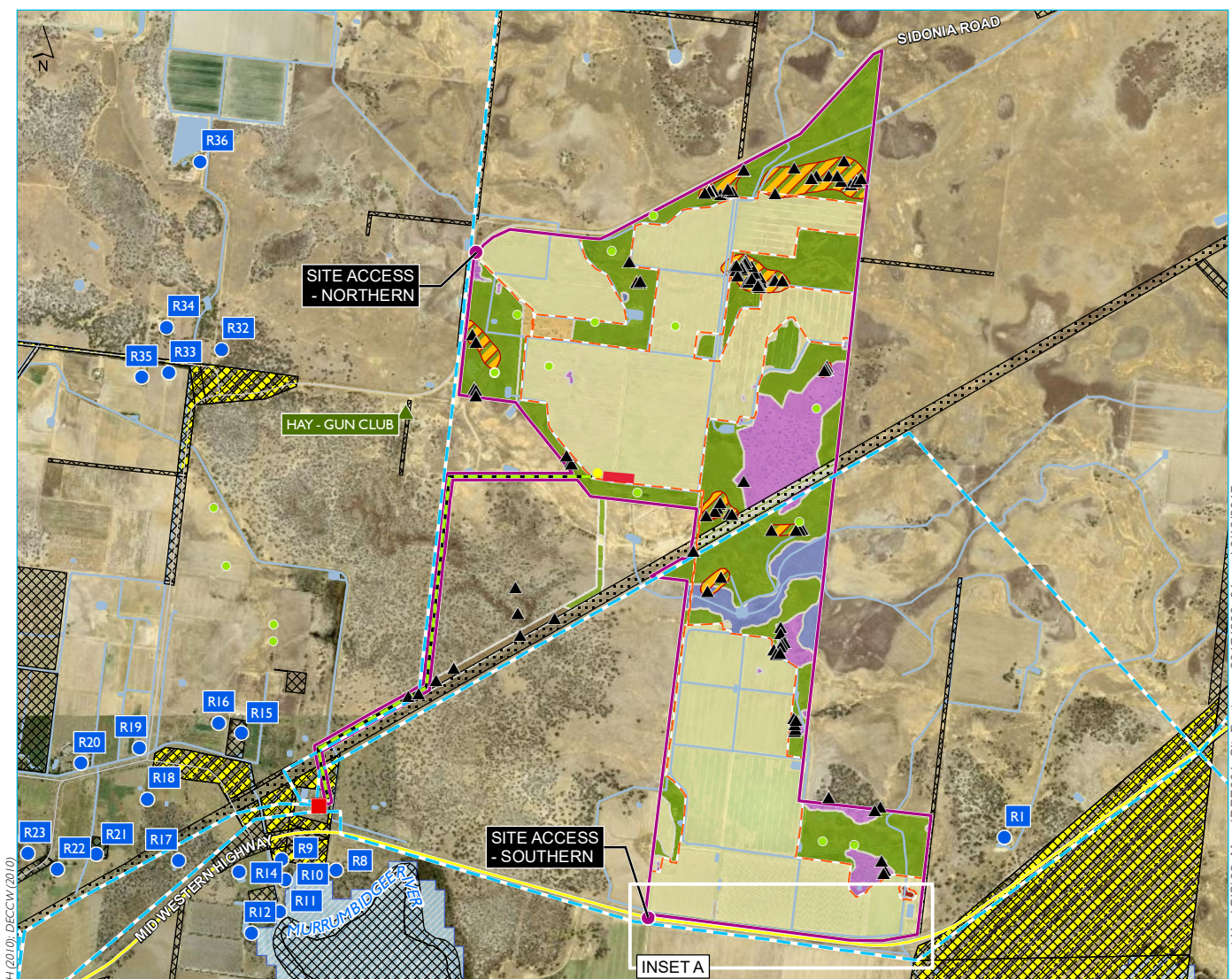
<https://www.planning.nsw.gov.au/-/media/Files/DPE/Other/hazardous-industry-planning-advisory-paper-no-6-hazard-analysis-2011-01.ashx?la=en>

https://www.planning.nsw.gov.au/Policy-and-Legislation/~/_media/3609822D91344221BA542D764921CFC6.ashx

https://www.planning.nsw.gov.au/~/_media/Files/DPE/Other/approved-hazard-specialists-under-sepp-three-ports-2018-07.ashx

<https://www.planning.nsw.gov.au/-/media/Files/DPE/Other/hazardous-industry-planning-advisory-paper-no-4-risk-criteria-for-land-use-safety-planning-2011-01.pdf?la=en>

Appendix 1 – Solar Farm Layout



KEY

- | | | | |
|---|---|---|---|
| Site boundary | Travelling stock reserve | Vegetation communities (Biosis, 2016) | PCT 15 - Black Box open woodland wetland with chenopod understorey mainly on the outer floodplains in south-western NSW (mainly Riverina Bioregion and Murray Darling Depression Bioregion) |
| Development footprint | Crown land | Cropped/modified | PCT 16 - Black Box grassy open woodland wetland of rarely flooded depressions in south western NSW (mainly Riverina Bioregion and Murray Darling Depression Bioregion) |
| Proposed site access location | Waterway / canal / irrigation | Planted vegetation | PCT 44 - Forb-rich Speargrass - Windmill Grass - White Top grassland of the Riverina Bioregion |
| Hay substation | Waterbody | PCT 10 - River Red Gum - Black Box woodland wetland of the semi-arid (warm) climatic zone (mainly Riverina Bioregion and Murray Darling Depression Bioregion) | |
| Proposed transmission line | Wetland (OEH, 2009) | PCT 12 - Shallow marsh wetland of regularly flooded depressions on floodplains mainly in the semi-arid (warm) climatic zone (mainly Riverina Bioregion and Murray Darling Depression Bioregion) | |
| Existing transmission lines | Landscape screening provision in the event of glint and glare from the solar farm | | |
| Main road | Scattered paddock trees (hollow bearing) | | |
| Local road | Battery Energy Storage System | | |
| Sensitive receptor | Hay Solar Farm Substation & Switchroom | | |
| Aboriginal heritage site (Biosis, 2017) | | | |
| Potential archaeological deposit (PAD) (Biosis, 2017) | | | |
| Disused rail corridor | | | |

Appendix 2 – Consultation

Subject: RE: Hay Solar Farm - Additional of a Battery Storage System

Date: Monday, 4 February 2019 at 4:38:41 pm Australian Eastern Daylight Time

From: Jack Terblanche

To: John Zammit

Hi John,

Council has no concerns or objections regarding Battery Storage on the site.

Please let us know if you would require any further assistance in this matter.

Kind Regards,

Jack Terblanche

Director Planning and Development

Hay Shire Council

(02) 6990 1100

0428 931 837

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www.hay.nsw.gov.au

From: John Zammit [mailto:john.zammit@overlandsunfarming.com.au]

Sent: Thursday, 24 January 2019 3:46 PM

To: Jack Terblanche

Subject: Hay Solar Farm - Additional of a Battery Storage System

Hi Jack

Plains SF No1. Pty Ltd on behalf of Hay Sun Farm is looking into the additional of a Battery Storage System (BSS) on the site of the approved development footprint.

The addition of a BSS requires the project obtain a modification to the conditions of consent through the Department of Planning & Environment NSW. (DP&E)

The batteries if installed, will be contained in the already approved development footprint and will be of a similar vein to the batteries installed in Jamestown at the Hornsdale power reserve (<https://hornsdalespowerreserve.com.au/>) albeit at a smaller scale. I've attached an updated layout drawing to show the proposed location.

I am providing this information to see if Council has any questions or concerns over the proposed addition of a BSS and will include this correspondence within the modification request to DP&E.

Please don't hesitate to give me a call if you have any questions

Regards

John

John Zammit | Senior Development Manager | **OVERLAND Sun Farming**