

Memorandum



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10 December 2019

To: Elle Donnelly
From: David Richards
Subject: J17300 - New England Solar Farm - Information request

Dear Elle,

1 Overview

UPC Renewables Australia Pty Ltd (UPC) proposes to develop the New England Solar Farm; a significant grid-connected solar farm and battery energy storage system (BESS) along with associated infrastructure, approximately 6 kilometres (km) east of the township of Uralla, which lies approximately 19 km south of Armidale in the Uralla Shire local government area (LGA) (the project).

The project is classed as State Significant Development (SSD) under the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP). A development application (DA) and environmental impact statement (EIS) was submitted under Part 4, Division 4.1 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The DA and EIS for the project were publicly exhibited from 20 February to 20 March 2019.

Following public exhibition of the DA and EIS, two additional reports have been submitted to the NSW Department of Planning, Industry and Environment (DPIE), namely:

- a response to submissions (RTS) report (June 2019), responding to the matters raised in the regulatory and public submissions provided during the public exhibition period of the EIS; and
- an amendment report (AR) (June 2019), providing a description of the additional project refinements and changes that have been made since the public exhibition of the EIS.

Since the submission of the RTS and AR, UPC has continued consultation with DPIE, NSW Roads and Maritime Services (RMS) and Uralla Shire Council in relation to a number of issues.

This memorandum provides a consolidated response to DPIE's request for additional information (dated 5 December 2019). A set of updated project figures is provided in Appendix A.

2 Response

2.1 Generating capacity

DPIE requested the generating capacity of the northern and central array areas.

The project is expected have a total power capacity of approximately 720 megawatts (MW) AC. The indicative capacities of the northern and central arrays are 500 MWAC and 220 MWAC, respectively. The total capacity allocation may change during detailed design based on a number of factors, including geotechnical conditions, medium voltage cable reticulation and inverter placement and technological advances (eg improvements to the efficiency of photovoltaic (PV) modules).

2.2 Intersection upgrade

DPIE requested clarification of the proposed upgrade works for the intersection of New England Highway and Barleyfields Road (north).

Further clarification was sought on this item from DPIE on 6 December 2019.

It is understood that, consistent with RMS advice, DPIE has amended Appendix 4 of the proposed consent conditions to remove requirements for a basic left turn (BAL) at the intersection of New England Highway and Barleyfields Road (north).

It is understood that a requirement for a channelised right turn (CHR) treatment has been included in the proposed consent conditions. The CHR will cater for the largest vehicle accessing the site (excluding over-dimensional vehicles).

As discussed earlier, the detailed information on the proposed intersection upgrade has been removed from the figure titled, 'Peak daily traffic distribution for Stage 1 and Stage 2 combined'.

2.3 Visual impact

DPIE requested updates to Table 5.12 of the AR.

As requested, Table 5.12 has been updated to:

- account for revisions to the development footprint;
- include reference to distances between the project boundary and non-project-related residences; and
- include distances between N1 and the southern and north-western project boundaries.

Table 5.12 Predicted visual impact from non-project related residences within 2 km of the development footprint for the two array areas

Receptor ID number (refer Figure 5.6)	Approximate distance to closest array area (m)	Approximate distance to closest project boundary (m)	Closest representative viewpoint	Evaluation of significance from Table 5.11 of AR	Predicted visual impact from residence (high, moderate, low or negligible)*
N1	450 m (south)	340 m (south)	Viewpoint 5	Moderate	Moderate
	990 m (north-west)	680 m (north-west)	Viewpoint 5	Slight	Negligible
N40**	390 m	0 m (within project boundary)	Viewpoint 6	Moderate	Moderate
N2	1,060 m	500 m	Viewpoint 20	Slight/Moderate	Low
N4	1,150 m	160 m	Viewpoint 20	Slight/Moderate	Low
N3	1,160 m	280 m	Viewpoint 20	Slight/Moderate	Low
N5	1,180 m	120 m	Viewpoint 21	Slight/Moderate	Low
N13	1,220 m	60 m	Viewpoint 18	Slight	Negligible
N6	1,130 m	260 m	Viewpoint 19	Slight	Negligible
N7	1,350 m	540 m	Viewpoint 19	Slight	Negligible
N14	1,400 m	350 m	Viewpoint 18	Slight	Low
N12	1,420 m	270 m	Viewpoint 18	Slight	Negligible
N20	1,500 m	150 m	Viewpoint 17	Slight/Moderate	Negligible
N15	1,560 m	420 m	Viewpoint 18	Slight	Negligible
C7	1,520 m	1,200 m	Viewpoint 22	Slight/Moderate	Low
N8	1,620 m	610 m	Viewpoint 18	Slight	Negligible
N16	1,610 m	460 m	Viewpoint 18	Slight	Negligible
N11	1,640 m	490 m	Viewpoint 18	Slight	Negligible
N9	1,730 m	670 m	Viewpoint 18	Slight	Negligible
N21	1,670 m	130 m	Viewpoint 17	Slight/Moderate	Negligible
C5	1,740 m	1,740 m	Viewpoint 11	Slight/Moderate	Low
N17	1,800 m	640 m	Viewpoint 18	Slight	Negligible
N18	1,900 m	750 m	Viewpoint 18	Slight	Negligible

Table 5.12 Predicted visual impact from non-project related residences within 2 km of the development footprint for the two array areas

Receptor ID number (refer Figure 5.6)	Approximate distance to closest array area (m)	Approximate distance to closest project boundary (m)	Closest representative viewpoint	Evaluation of significance from Table 5.11 of AR	Predicted visual impact from residence (high, moderate, low or negligible)*
N22	1,900 m	310 m	Viewpoint 17	Slight/Moderate	Negligible
N10	1,930 m	810 m	Viewpoint 18	Slight	Negligible
C8***	1,910 m	1,910 m	Viewpoint 10	Slight/Moderate	Negligible – extensive vegetation around residence anticipated to screen views of project infrastructure.
N28	1,990 m	700 m	Viewpoint 17	Slight/Moderate	Negligible
N35	2,000 m	880 m	None	Not applicable	Negligible – extensive vegetation around residence anticipated to screen views of project infrastructure.
C3	1,970 m	1,880 m	None	Not applicable	Low

Notes: *Based on magnitude of change – refer Section 2.2.4 and Table 2.3 of the VIA.
 **Rural dwelling owned by one of the project landholders that is currently leased to a member of the local community.
 ***Previously considered to be a project-related receptor and therefore wasn't assessed as part of the original VIA.

2.4 Figure updates

DPIE requested updates to a number of figures provided in the memorandum dated 31 October 2019.

As requested, the following figures have been updated and included in Appendix A:

- Regional context – updated to include the indicative footprint of Salisbury Solar Farm (SSD-10347);
- Project refinement – updated to include additional detail about the southern array area (removed from the DA) and areas where security fencing will cross third order watercourses;
- Project layout – updated to include areas where security fencing will cross third order watercourses;
- Peak daily traffic distribution for Stage 1 and Stage 2 combined – updated to include areas where security fencing will cross third order watercourses and remove detailed information on upgrades to the intersection of New England Highway and Barleyfields Road (north);
- Project impacts to identified heritage values – updated to include areas where security fencing will cross third order watercourses;
- Assessed viewpoints, sensitive receptors and project refinements – updated to include areas where security fencing will cross third order watercourses; and
- Revised management and mitigation measures (overview) – updated to include areas where security fencing will cross third order watercourses.

3 Closing

We trust that this memorandum addresses DPIE's requirements. We are more than happy to discuss the items listed in this memorandum or provide additional clarification should it be required.

Yours sincerely



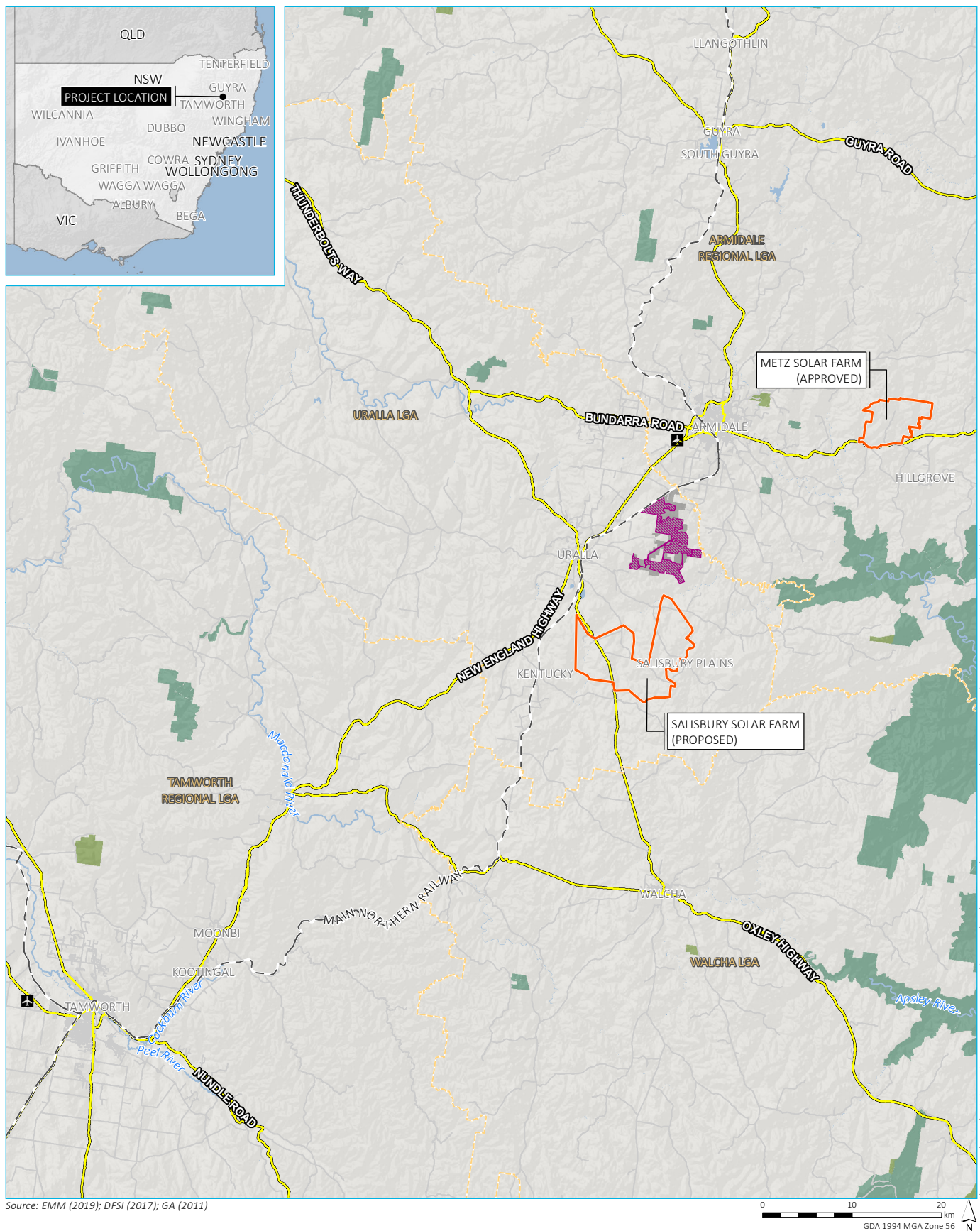
David Richards

Senior Environmental Scientist

drichards@emmconsulting.com.au

Appendix A

Updated figures



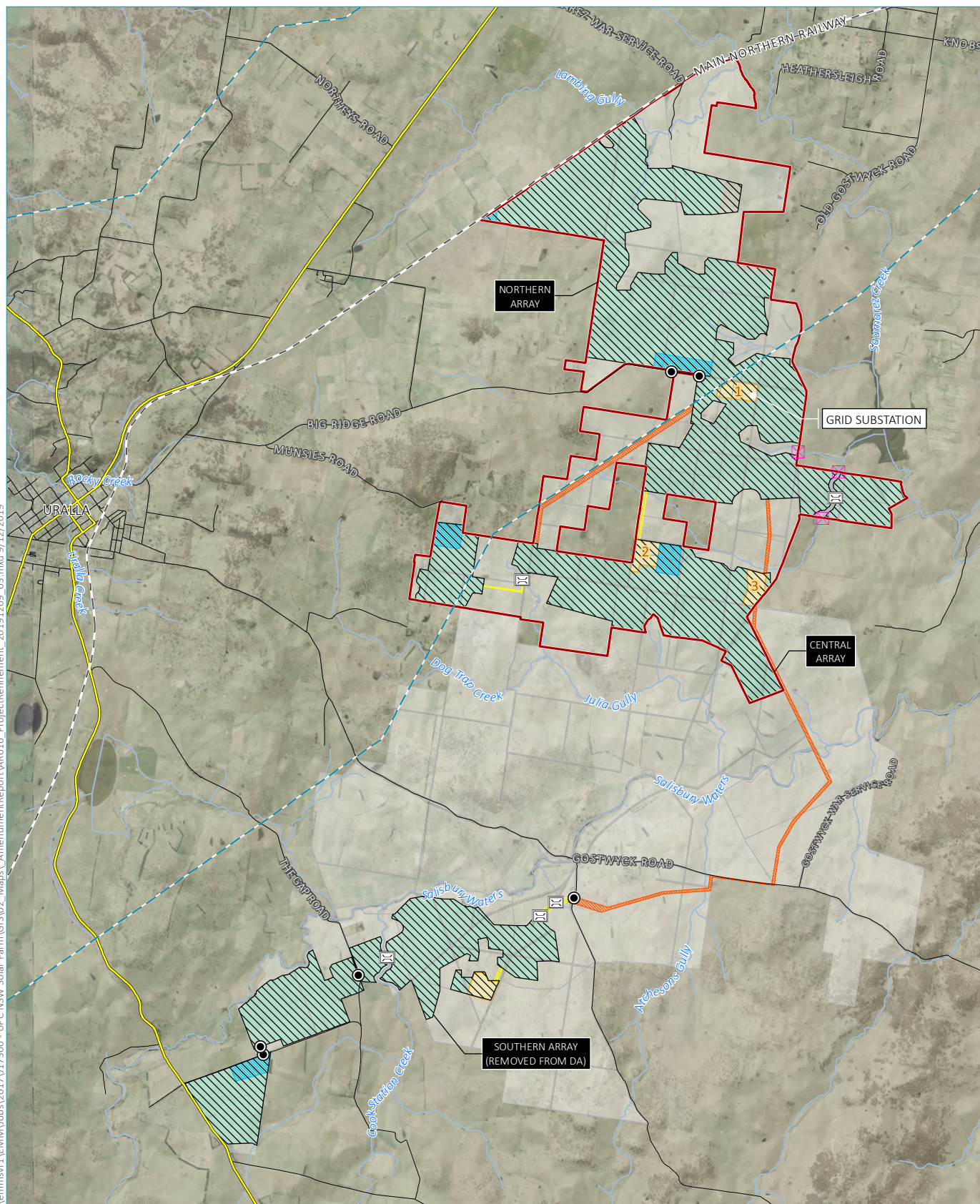
KEY

- | | | |
|-----------------------------|------------|---------------------------|
| Development footprint | Airport | Watercourse/drainage line |
| Project boundary | Rail line | Waterbody |
| Other SSD solar development | Main road | Local government area |
| | Local road | NPWS reserve |
| | | State forest |

Regional context

New England Solar Farm

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Source: EMM (2019); DFSI (2017); UPC (2019)

*The extent of Lot 1 of DP 227322 within the development footprint is 205.4 hectares, which represents approximately 8.4% of the total lot. Subsequently, the full extent of Lot 1 of DP 227322 has been excluded from the project boundary.

** The grid substation (location 1) and only one of potential substation location numbers 2 or 3 to be constructed

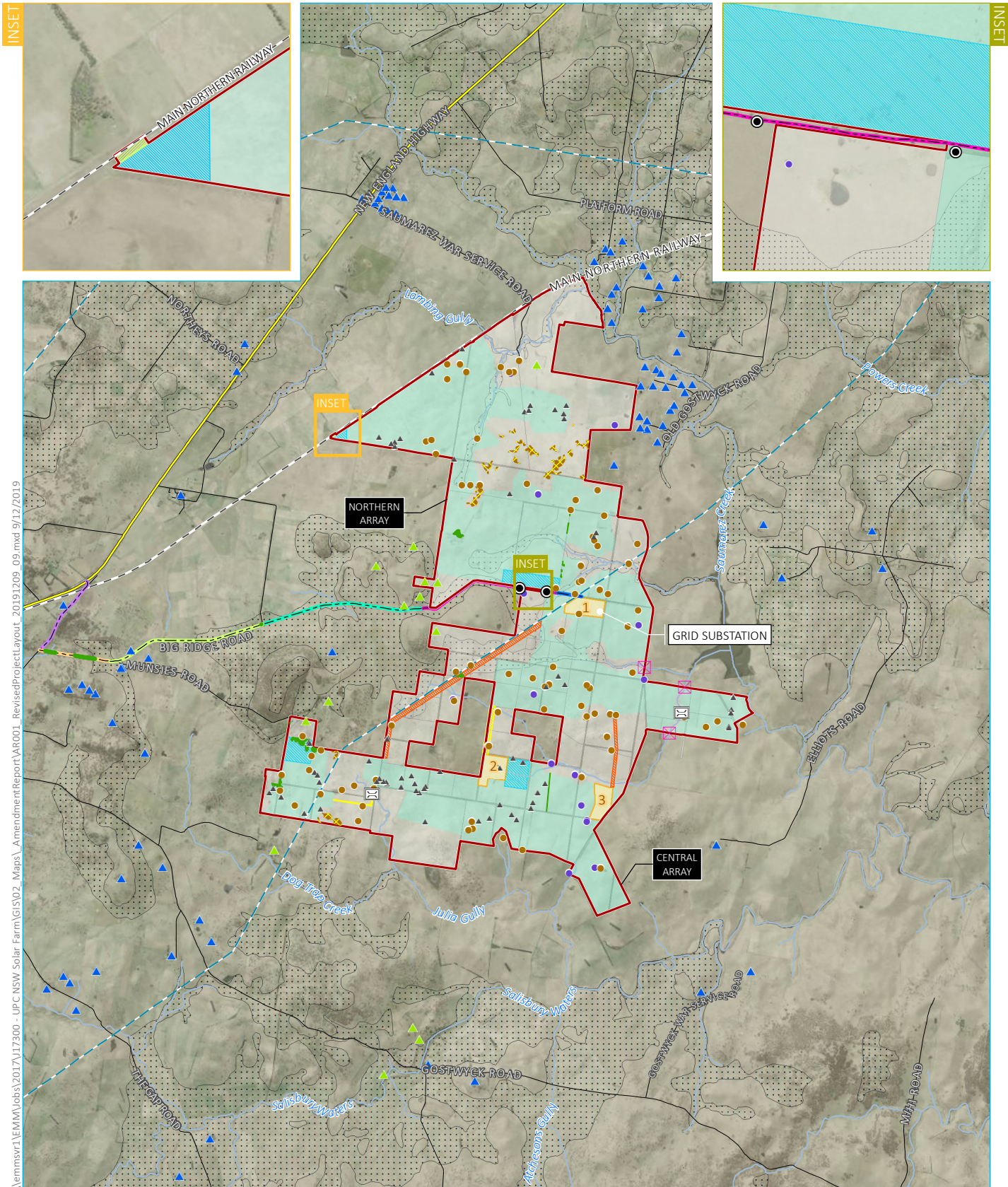
KEY

- 330 kV transmission line
- - Rail line
- Main road
- Local road
- Watercourse/drainage line
- EIS project boundary
- ▨ EIS development footprint
- ▭ Project boundary *
- ▭ Development footprint
- ▭ Solar array
- ▭ Potential electrical cabling
- ▭ Potential site access/electrical cabling
- ▭ Potential laydown area/site compound
- ▭ Potential substation/BESS footprint (location number) **
- Proposed primary site access point
- ▭ Potential creek crossing

▭ Indicative location of security fencing across third order watercourses

Project refinement

New England Solar Farm



Source: EMM (2019); DFSI (2017); UPC (2019)

*The extent of Lot 1 of DP 227322 within the development footprint is 205.4 hectares, which represents approximately 8.4% of the total lot. Subsequently, the full extent of Lot 1 of DP 227322 has been excluded from the project boundary.
 ** The grid substation (location 1) and only one of potential substation location numbers 2 or 3 to be constructed

KEY

- 330 kV transmission line
- Rail line
- Main road
- Local road
- Watercourse/drainage line
- Project boundary *
- Biophysical Strategic Agricultural Land
- Sensitive receptors
 - ▲ Project-related
 - ▲ Non-project related

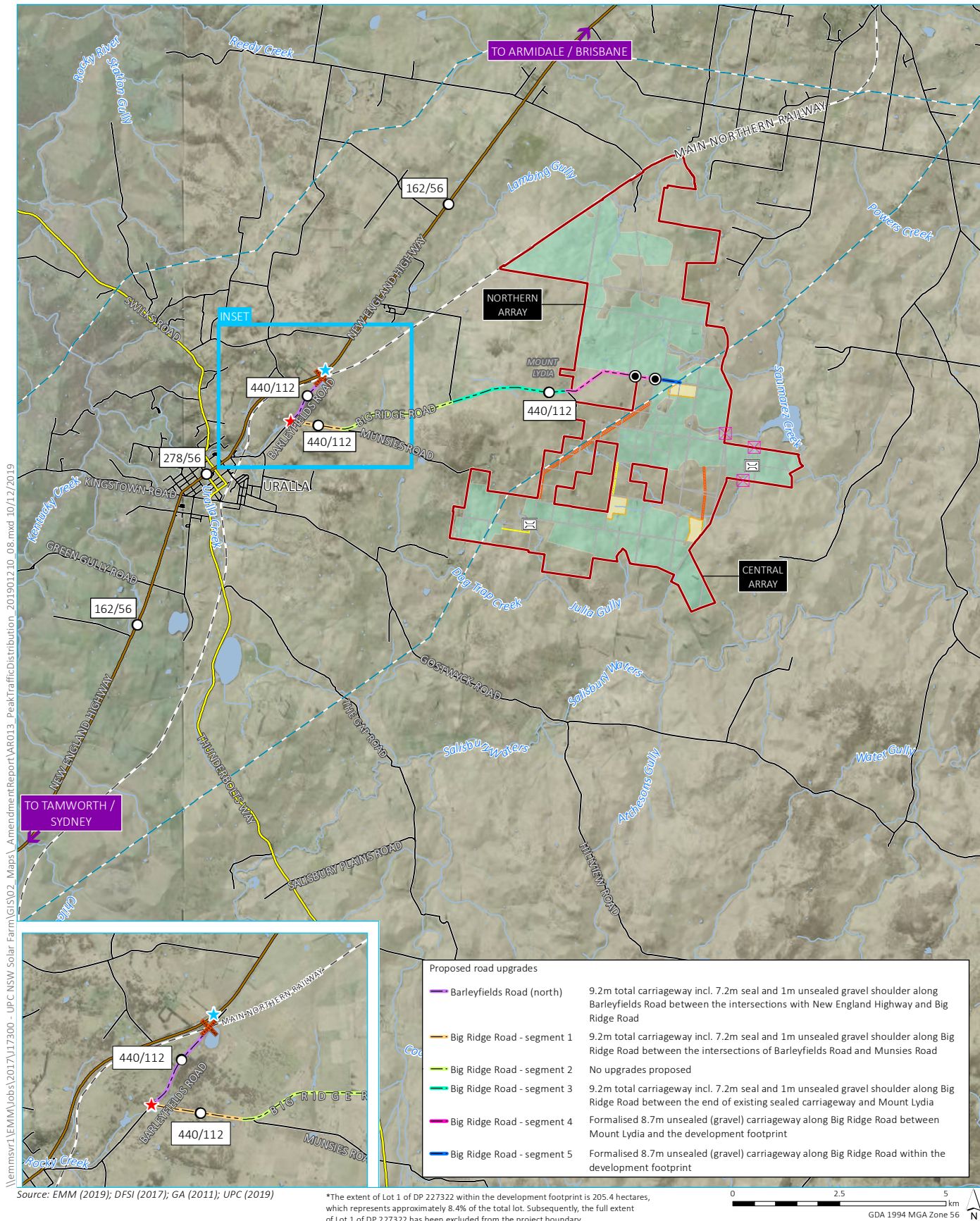
- Development footprint
 - Solar array
 - Potential electrical cabling
 - Potential site access/electrical cabling
 - Potential laydown area/site compound
 - Potential substation/BESS footprint (location number) **
 - Hardstand in rail corridor
 - Potential creek crossing
 - Proposed primary site access point
 - Indicative location of security fencing across third order watercourses

- Identified Aboriginal sites
- Historic heritage sites
- ▲ Paddock trees requiring offsets
- Plant community requiring offset
- Plant community type avoidance areas
- PCT 510 woodland
- Primary vehicle access route
 - Barleyfields Road
 - Big Ridge Road - segment 1
 - Big Ridge Road - segment 2
 - Big Ridge Road - segment 3
 - Big Ridge Road - segment 4
 - Big Ridge Road - segment 5

0 1 2 km
GDA 1994 MGA Zone 56

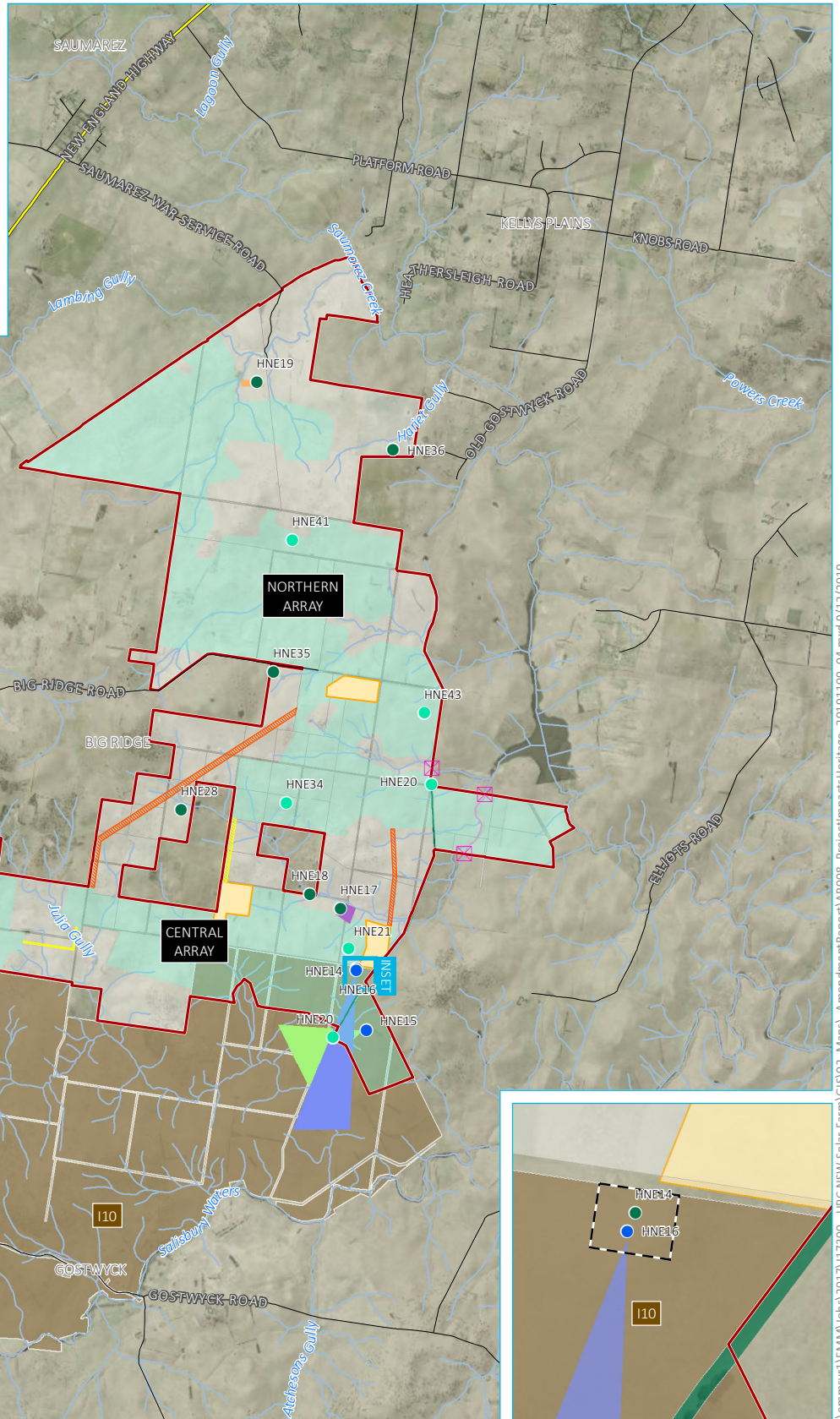
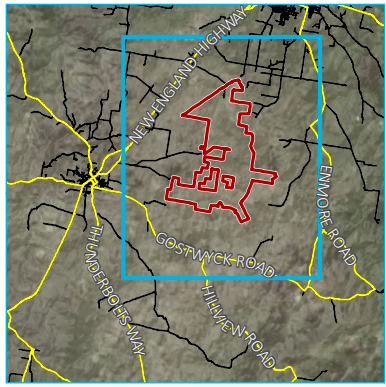
Project layout

New England Solar Farm



Peak daily traffic distribution for Stage 1 and Stage 2 combined

New England Solar Farm
Figure 3.2



Source: EMM (2019); DFSI (2017); GA (2011); UPC (2019)

*The extent of Lot 1 of DP 227322 within the development footprint is 205.4 hectares, which represents approximately 8.4% of the total lot. Subsequently, the full extent of Lot 1 of DP 227322 has been excluded from the project boundary.

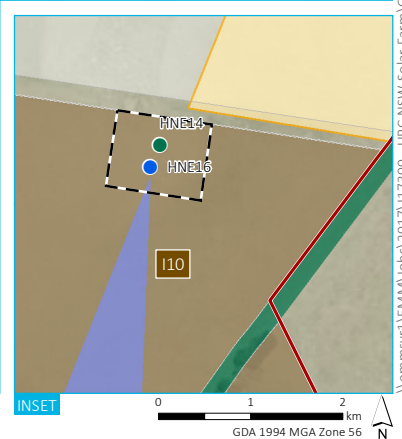
KEY

- Project boundary *
- Main road
- Local road
- Watercourse/drainage line
- Development footprint
 - Solar array
 - Potential electrical cabling
 - Potential site access/electrical cabling
 - Potential substation/BESS footprint
 - Indicative location of security fencing across third order watercourses

- Uralla LEP listing - item
- Indicative site boundaries
 - HNE15
 - HNE16
 - HNE17
 - HNE19
 - HNE20

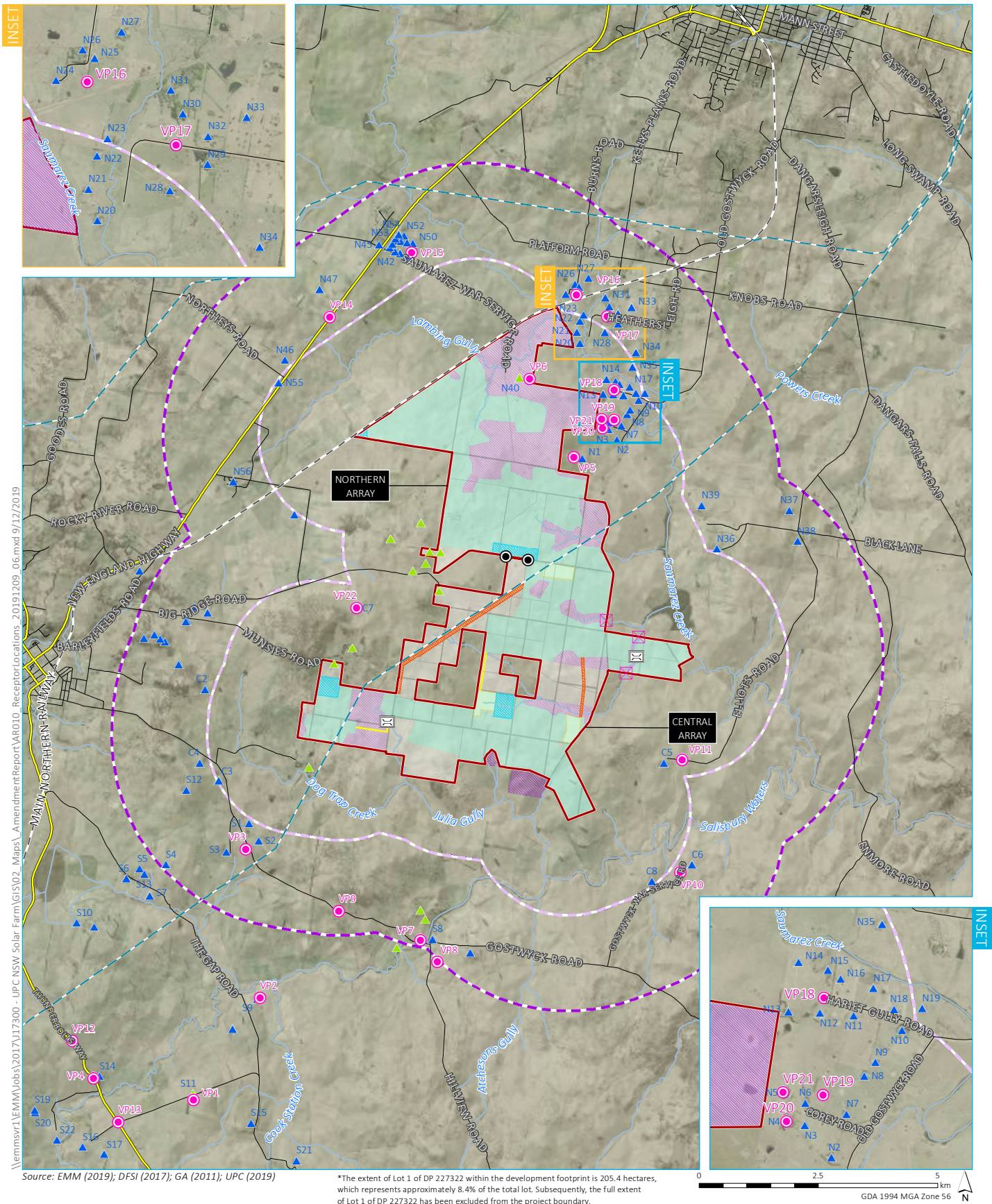
- Impact type
 - None
 - Physical
 - Visual
- Avoidance buffer (HNE14)

Note: HNE37 is not shown as a point as it is representative of the cultural landscape



Project impacts to identified heritage values

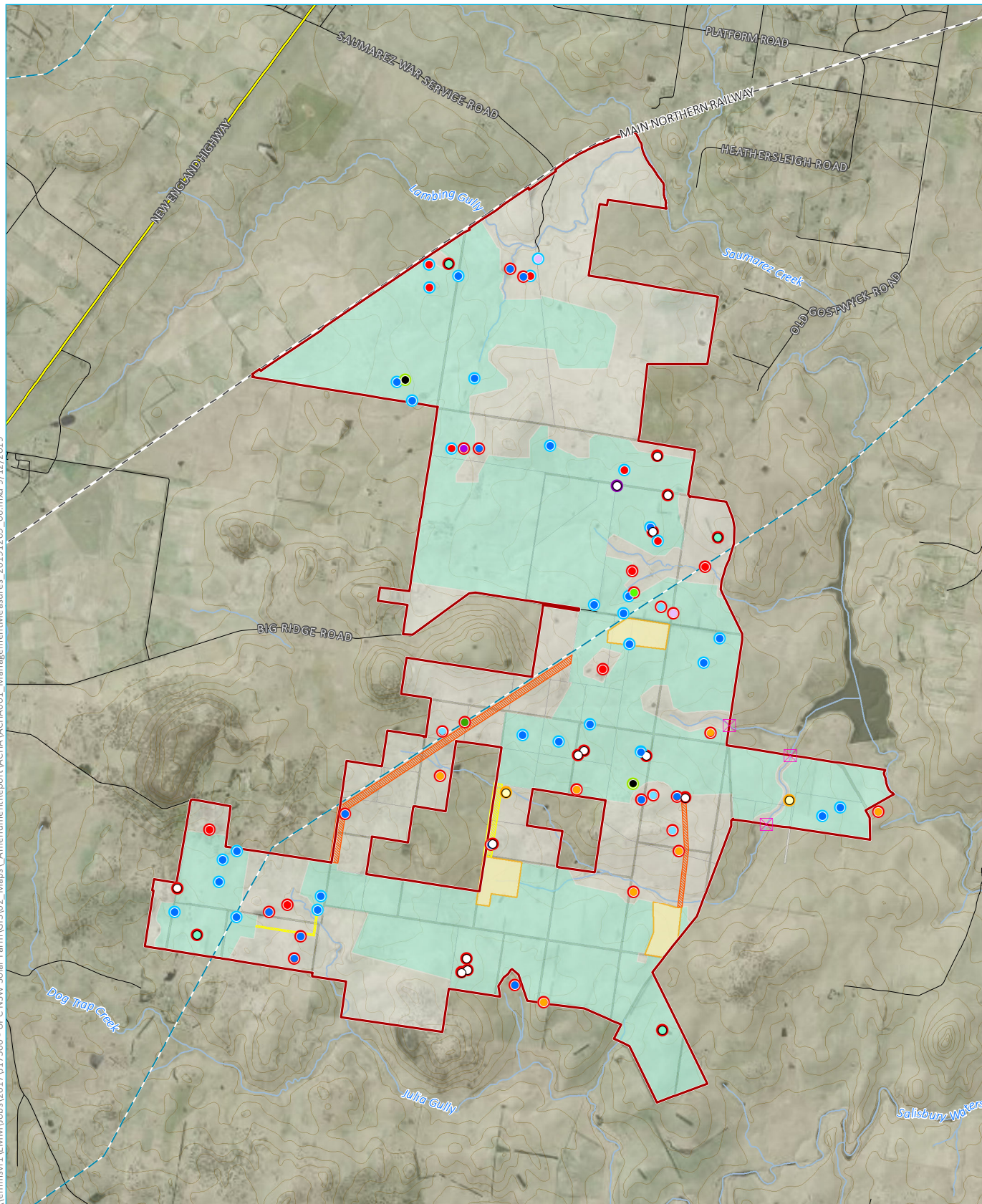
New England Solar Farm
Amendment report
Figure 5.3



Assessed viewpoints, sensitive receptors and project refinements

New England Solar Farm
Amendment report
Figure 5.6

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Source: EMM (2019); DFSI (2017); GA (2011); UPC (2019)

*The extent of Lot 1 of DP 227322 within the development footprint is 205.4 hectares, which represents approximately 8.4% of the total lot. Subsequently, the full extent of Lot 1 of DP 227322 has been excluded from the project boundary.

0 1 2 km
GDA 1994 MGA Zone 56
N

KEY

- 330 kV transmission line
- Main road
- Local road
- Rail line
- Contour (10 m)
- Project boundary *
- Development footprint
- Solar array
- Potential ETL easement
- Potential site access/ETL easement
- Potential substation/BESS footprint
- Indicative location of security fencing across third order watercourses

- Management measure
- Avoidance
- Avoid significant area
- Surface collection
- Salvage: remove and relocate
- No management required
- Site type
- Artefact scatter
- Artefact scatter, PAD
- Artefact scatter, confirmed deposit, PAD

- Grinding groove
- Grinding groove, PAD
- Grinding groove, artefact scatter, PAD
- Isolated find
- Isolated find, PAD
- Isolated find, confirmed deposit, PAD
- Quarry, artefact scatter, PAD
- Scarred tree
- Not an Aboriginal scar tree

Revised management and mitigation measures – overview

New England Solar Farm
Aboriginal cultural heritage
assessment addendum report
Figure 7.1