Material Change of Use (Renewable Energy Facility), 909 Yandina-Coolum Road, Valdora

MCU14/0161

Prepared for Sunshine Coast Council

Council Reference: MCU14/0161

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Cardno
Shaping the Future

Contact Information

Cardno HRP
Trading as Cardno (QLD) Pty Ltd
ABN 57 051 074 992

515 St Pauls Terrace
Fortitude Valley
Brisbane QLD 4006
Australia

Telephone: 07 3310 2354
Facsimile: 07 3369 9722
International: + 61 7 3310 2354

David.Perkins@cardno.com.au
www.cardno.com/cardnohrp

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1-3	March 2015	Preparation of Report	Catherine Fleming	David Perkins
4	April 2015	Report Finalisation	Catherine Fleming	David Perkins

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Executive Summary

Site Details

Site Details	
Address	909 Yandina-Coolum Road, Valdora
RPD	Lot 3 SP219490
Site Area	42.95 hectares
Owner	Sunshine Coast Council
Zoning	Community Facilities Zone and annotated 14. – renewable energy facility

Application Details

Application Details	
Development Type	Development Permit – Material Change of Use for Renewable Energy Facility (Stage 1a and 1b)
Level of Assessment	Code Assessment
Proposal Summary	The applicant proposes to establish a Solar Farm to provide a localised renewable energy source to reduce peak power demand from existing non-renewable sources. The proposal comprises a total of three stages, with the current stage being the civil site preparation (Stage 1a) and construction of solar utility infrastructure (Stage 1b). In particular the following is proposed: • Solar Farm Infrastructure Envelope – 23.85 hectares; and • Ancillary Equipment and Maintenance Precinct – 1,500m^2. The maximum height of panels will range from 3.0 metres - 3.75 metres above ground, while the inverters dispersed between sections of the solar array are likely to have a maximum height of 5.5 metres above ground. Future Stages seek to establish an Education and Information Centre and associated works/infrastructure (Stage 2) and rehabilitation work for the balance of the lot (Stage 3). Refer to **Appendix 1 – Plans of Development** for further details.
Defined Land Use	Renewable Energy Facility
Referral – Concurrence	Department of Transport and Main Roads
Applicant	Sunshine Coast Council C/- GHD Pty Ltd
Council's Independent Assessor	David Perkins Senior Principal Cardno HRP 515 St Pauls Terrace Fortitude Valley QLD 4006 Ph: 07 3310 2354 Email: david.perkins@cardno.com.au
Reference	HRP14307

1 Introduction

On 3 November 2014 Sunshine Coast Council, C/- GHD Pty Ltd, lodged a development application for a Material Change of Use (Renewable Energy Facility) at 909 Yandina-Coolum Road, Valdora ("the development application"). The development application sought approval for civil works and buffer landscaping (Stage 1a) and solar utility infrastructure (Stage 1b). Subsequent stages are planned to establish an Education and Information Centre (Stage 2) and undertake site revegetation and rehabilitation works (Stage 3). These works will be subject to future development applications as required. Under the Sunshine Coast Planning Scheme 2014 an application for a material change of use for a "Renewable Energy Facility" on the site is code assessable.

In order to remove potential or perceived conflict of interest considerations arising from Council being both the landowner and applicant, Council commissioned Cardno to undertake an independent assessment of the development application. Accordingly, this report and the assessment included in Appendix 3 has been prepared by Cardno's technical experts, including:

- David Perkins – Senior Principal, Planning (Town Planning Assessment);
- Catherine Fleming – Senior Planner (Town Planning Assessment);
- Alan Chenoweth – Senior Principal (Visual Assessment and Ecological Assessment);
- Dean Butcher – Business Unit Manager, Principal (Landscape Concept Assessment);
- Andy Johnston – Senior Traffic Engineer (Traffic and Transport Assessment);
- Michael Della – Senior Principal (Stormwater and Flooding Assessment); and
- Tony Howard – Senior Principal Civil Engineer (Geotechnical and Services Assessment).

2 Project Background

2.1 Overview

This application seeks approval to establish a Renewable Energy Facility on part of the 42.95 hectare site to generate 15 Megawatts (MW) of electricity. The maximum height of the proposed panels would range from 3.0 metres to 3.75 metres above natural ground level, while the inverters dispersed between sections of the solar array are likely to have a maximum height of 5.5 metres above natural ground level. The overall development concept for the site also includes a viewing platform/Education and Information Centre to provide information about solar photovoltaic energy production (Stage 2) and substantial site rehabilitation and revegetation works (Stage 3). The current development application only relates to Stage 1a (civil site preparation works) and Stage 1b (construction of the solar utility infrastructure).

The overall development concept presented in **Figure 1** for Stages 1a and 1b was refined following the Information Request Response and now includes:

Current Stage (subject of this development application)

- Stage 1a: Civil site preparation for construction of utility aspects, state-controlled road to site access works and essential buffer landscaping, including:
    - a 10 metre wide landscaping/vegetated buffer along Yandina-Coolum Road (east) and along the site's southern and western boundaries;
    - a 3 metre wide crushed rock internal construction/maintenance access road (proposed to be in part sealed as part of Stage 2 works); and
    - a proposed intersection upgrade to Yandina-Coolum Road.
- Stage 1b: Construction of solar utility infrastructure including:
    - proposed Solar Farm Infrastructure Envelope of 23.85 hectares to include panels, inverters, security fencing and other ancillary items;
    - proposed Ancillary Equipment and Maintenance Support Precinct of 1,500m^2 to include items such as the following:
        - 33kv Customer Connection Substation;
        - Maintenance shed (retention of existing structure); and
        - Future battery storage.

Proposed Future Stages

- Stage 2: Education and Information Centre (an envelope area of 1,875m^2 has been indicated on the plans) with integrated viewing platform and construction of associated parking. This includes internal access treatment with soft and hard landscaping around the car parking, lay down areas and building. The proposed Education and Information Centre would provide information about the solar photovoltaic energy production and cater for interested residents, tourists, local schools and other educational institutions such as universities and industry businesses; and
- Stage 3: Rehabilitation work and broader landscape treatments for the balance of the site being approximately 25 hectares (for example, walking trails, hardscape features shelters and seating etc).

The proposed plans are indicated in **Appendix 1 – Plans of Development.**

Figure 1. Proposed site layout (Source: LAUD ink, SK002, Revision H, dated 12.02.15).

2.2 Site Details

2.2.1 Background/Site History

The site located at 909 Yandina-Coolum Road, Valdora has historically been used for sugar cane production and is improved by a storage shed. On 16 February 2011 a development application was made by Energy Parks Australia Pty Ltd for a Material Change of Use - Other Use (Major Utility) for a 10MW solar farm project over the subject site. Under the provisions of the now superseded Maroochy Plan 2000 the development was Impact Assessable and accordingly the application was publicly notified. Following assessment of the development application Council issued a Decision Notice and a Negotiated Decision Notice (8 August 2011), approving the development subject to conditions. This approval was subject to two Appeals, one of which has was discontinued on 27 January 2012.

Since this time Sunshine Coast Council has purchased the site and has undertaken further technical studies and research to refine and improve the project proposal. This has led to the submission of a new development application over the site on 3 November 2014 for a 15MW solar farm.

In order to provide an independent assessment of the application, Council appointed Cardno in October 2014 to undertake an assessment of various aspects of the development application, including visual, ecological, landscape, geotechnical, transport, flooding, stormwater and planning considerations. This led to the issuing of an Information Request on 14 November 2014. A response to the Information Request was submitted by GHD on behalf of Council on 18 February 2015.

2.2.2 Site Description

The site is located approximately 12 kilometres from the Maroochydore CBD and approximately 8 kilometres from Sunshine Coast Airport. The site is currently improved by a storage shed and is owned by Sunshine Coast Council. It is proposed that this shed be retained as part of the development. The site is located within the Community Facilities Zone in the Sunshine Coast Planning Scheme 2014. The location of the subject site in relation to its surrounds is shown on **Figure 2** below. The site is located on predominantly flat, low lying coastal plains to the west of Yandina Creek.

Figure 2. Site location and context (Source: Nearmap, 2014).

2.2.3 Surrounding Land Uses

The subject site is surrounded by rural land uses, primarily used for small scale grazing and agricultural production purposes. Further surrounding land uses include a residential community west of the site at Valdora. The South Maroochy River is south of the site and Yandina Creek is located to the north of the site.

2.2.4 Services

The site and surrounding land is not serviced by any existing water or sewer infrastructure. An existing Energex 33kV infrastructure network runs along Yandina-Coolum Road and an underground telephone line is provided to the residence on the southern property.

3.0 Assessment

3.1 Introduction

The *Sustainable Planning Act 2009* (the "SPA") is the statutory planning instrument for the State of Queensland under which, amongst other matters, development applications are assessed and decided by local governments. The site is included in the **Community Facilities Zone – 14. Renewable Energy Facility** of the Sunshine Coast Planning Scheme 2014 (the "planning scheme").

3.1.1 Definition and Level of Assessment

A Solar Farm is defined as a "Renewable energy facility which under the planning scheme means:

> *"premises used for the generation of electricity or energy from renewable (naturally reoccurring) sources"* (pSC1-11).

The level of assessment table (Table 5.5.16) applying to the Community Facilities Zone states that "Any use" is:

> *Exempt if:-*
>
> *(a) annotated on a Community facilities zone;*
>
> *(b) located on Council owned or controlled land; and*
>
> *(c) not for a **renewable energy facility** or utility installation (major utility);*
>
> ***OR***
>
> *(d) annotated on a Community facilities zone; and*
>
> *(e) in an existing building.*
>
> *Code assessable if:-*
>
> *(a) annotated on a Community facilities zone; and*
>
> *(b) not otherwise specified.*

While a Renewable Energy Facility is annotated on the Community facilities zone it represents a "renewable energy facility" and as such is not exempt. Accordingly the proposal is Code Assessable.

3.1.2 Assessment Requirements

The *Sustainable Planning Act 2009* requires that code assessable development applications be assessed against:

> *313 Code assessment—generally*
>
> *(2) The assessment manager must assess the part of the application against each of the following matters or things to the extent the matter or thing is relevant to the development—*
>
> *(a) the State planning regulatory provisions;*
>
> *(b) the regional plan for a designated region, to the extent it is not identified in the planning scheme as being appropriately reflected in the planning scheme;*
>
> *(c) any applicable codes, other than concurrence agency codes the assessment manager does not apply, that are identified as a code for IDAS under this or another Act;*
>
> *(d) State planning policies, to the extent the policies are not identified in—*
>
> *(i) any relevant regional plan as being appropriately reflected in the regional plan; or*
>
> *(ii) the planning scheme as being appropriately reflected in the planning scheme;*

(e) any applicable codes in the following instruments—

(i) a temporary local planning instrument;

(ii) a preliminary approval to which section 242 applies;

(iii) a planning scheme;

(f) if the assessment manager is an infrastructure provider—the provider's LGIP.

(3) In addition to the matters or things against which the assessment manager must assess the application under subsection (2), the assessment manager must assess the part of the application having regard to the following—

(a) the common material;

(b) any development approval for, and any lawful use of, premises the subject of the application or adjacent premises;

(c) any referral agency's response for the application;

(d) the purposes of any instrument containing an applicable code.

In summary, based on the *Sustainable Planning Act 2009* the development application must be assessed against each of the following statutory planning instruments to the extent they are relevant to the development:

- State Planning Policy;
- the South East Queensland Regional Plan;
- State Planning Regulatory Provisions;
- the Planning Scheme for the local government area; and
- any Temporary Local Planning Instrument in place for the local government area.

The statutory planning instruments relevant to this application are discussed in the following sections.

3.2 State Planning Policy

The Queensland Government established the State Planning Policy (SPP) in December 2013 to simplify and clarify matters of state interest in land use planning and development. The SPP took effect superseding all previous State Planning Policies, and is applicable to this application. The Queensland Government, as part of its planning reform process, has amended the State Planning Policy (July 2014) to incorporate current Government priorities. While the December 2013 version of the SPP has been incorporated into the Planning scheme, the July 2014 version has not been formally incorporated into the Planning Scheme which commenced on 21 May 2014 (the scheme in place at the time the application was made).

3.3 South East Queensland Regional Plan 2009-2031 (SEQ Regional Plan)

The site is located within the Regional Landscape and Rural Production Area of the SEQ Regional Plan. The SEQ Regional Plan states:

> *The Regional Landscape and Rural Production Area (RLRPA) identifies land with regional landscape, rural production or other non-urban values. It protects this land from inappropriate development, particularly urban or rural residential development.*
>
> *These areas support the lifestyle and wellbeing of the regional population, primarily located in the Urban Footprint. The RLRPA's natural assets require management to improve the capacity to provide ecosystem services, increase the region's resilience and support the population (SEQ Regional Plan, p15).*

The proposed Renewable Energy Facility has been designed to protect and enhance the regional landscape values, with over half of the site proposed for revegetation as part of Stage 3. Further, as the development is not defined as an "urban activity" it does not result in any referral triggers under the *Sustainable Planning Regulation 2009*.

3.4 State Development Assessment Provisions (SDAP)

The SDAP set out the matters of interest to the State for development assessment, where the chief executive administering SPA is responsible for assessing or deciding development applications. The development site is located within 25 metres of a State controlled road (Yandina-Coolum Road). Accordingly, the following SDAP modules and their corresponding codes are relevant to this application:

Module 1: Community Amenity

1.1 Managing noise and vibration impacts from transport corridors state code;

1.2 Managing air and lighting impacts from transport corridors state code;

Module 18: State Transport Infrastructure Protection

18.1 Filling, excavation and structures state code;

18.2 Stormwater and drainage impacts on state transport infrastructure state code;

Module 19: State Transport Network Functionality

19.1 Access to state-controlled roads state code; and

19.2 Transport infrastructure and network design state code.

An assessment of the proposal has been undertaken against the relevant SDAP and is included in **Appendix 3**. The application was also referred to the Department of Transport and Main Roads (DTMR).

3.5 Temporary Local Planning Instrument

There are no relevant Temporary Local Planning Instruments applying to the site/development.

3.6 Statutory Instruments – Planning Scheme

The applicable planning scheme for the assessment of the proposal is the Sunshine Coast Planning Scheme 2014, Version 1 – 2014 ("Planning Scheme"), which was the version of the scheme in place on 3 November 2014 at the time the application was made. Pursuant to this scheme, the site is included in the Community Facility Zone – Annotated 14. Renewable Energy Facility and as such the proposed Renewable Energy Facility is code assessable based on the provisions of Level of Assessment Table 5.5.16. The relevant assessment criteria specified in Table 5.5.16 requires development to be assessed against the Community facilities zone code; relevant use code (Utility Code) and prescribed other development codes.

Based on the nature of the proposal and the site's attributes, the following codes are relevant to the assessment of the application:

- 6.2.16 Community Facilities Zone Code;
- 9.3.21 Utility Code;
- 9.4.2 Landscape Code;
- 9.4.6 Stormwater Management Code;
- 9.4.8 Transport and Parking Code;

- 9.4.11 Works, Services and Infrastructure Code;
- 8.2.1 Acid Sulfate Soils Overlay Code;
- 8.2.2 Airport Environs Overlay Code;
- 8.2.7 Flood Hazard Overlay Code;
- 8.2.11 Regional Infrastructure Overlay Code; and
- 8.2.12 Scenic Amenity Overlay Code.

An assessment of the application against each of the above codes has identified that the proposal complies or can be conditioned to comply, with all applicable provisions. While **Appendix 3** includes a detailed assessment of the applicable codes and State Development Assessment Provisions, the following sections provides a summary of the key issues arising from an assessment against these codes.

3.6.1 Community Facilities Zone Code

The site is located within the Community Facilities zone. The purpose of this zone is to:

(a) provide for a range of community activities and other activities at varying degrees of scale and intensity which meet the social, educational, spiritual, cultural, creative, health or infrastructure related needs of the Sunshine Coast's existing and future communities; and

(b) provide for the effective operation of, and public accessibility to, community related activities (p6-39).

It is considered that the proposed development complies with the overall outcomes of the Community Facilities Zone Code based on the following considerations:-

(a) the Valdora Solar Farm will provide a localised renewable energy source and will provide a number of community benefits, associated with reducing peak power demand from existing non-renewable sources and educational opportunities associated the proposed Education and Information Centre (Stage 2);

(b) the use is consistent with the site's specified uses and renewable energy facility annotated use under the Planning Scheme, being a "Renewable Energy Facility";

(c) the site is serviced by the existing State controlled road network and is in close proximity to trunk electricity infrastructure;

(d) future stages of the proposal will result in benefits to the public associated with the Education and Information Centre (Stage 2) and proposed site revegetation and rehabilitation works (Stage 3);

(e) the proposal has been assessed from a visual perspective by GHD and Cardno. Following the establishment of landscape buffers along the site boundaries, the proposal will not have an adverse impact on the existing development in the adjacent zones;

(f) the proposal has been designed to minimise the potential for land use conflict through the establishment of landscape vegetation buffers along the eastern, southern and western boundary. Extensive revegetation works are also proposed to the north of the site as part of Stage 3;

(g) the proposal is compatible with the surrounding rural uses;

(h) the proposed development has the potential to make a positive contribution to the image of the Sunshine Coast incorporating high quality landscape design along the site boundaries and by showcasing a sustainable technology through the proposed Education and Information Centre (Stage 3);

(i) the current proposal for Stage 1a and 1b does not have any substantial infrastructure energy or water requirements. Once operational project would reduce reliance on existing non-renewable energy sources;

(j) the site has been previously cleared and does not contain any ecologically important areas. Site rehabilitation works proposed as part of Stage 3, as well as the landscape vegetation buffers (Stage 1a and 1b) will create new habitats;

(k) minimum levels for infrastructure should be specified to address the management of flood hazards on the site;

(l) there are currently limited existing infrastructure services provided to the site. A Preliminary Construction Management Plan should be prepared as part of any future operational works application for the site and should outline the preferred option for delivering appropriate amenities to the construction staff during Stages 1a and 1b;

(m) the proposed Education and Information Centre (Stage 2) will be subject to a future application and is likely to use roof water harvesting and composting toilets; and

(n) Access to the site is via Yandina-Coolum Road which is a State Controlled Road. The application has been referred to DTMR for assessment.

3.6.2 Utility Code

The proposed Renewable Energy Facility has been located and sited such that it is well placed relative to the infrastructure network with a 33kV infrastructure network located along the Yandina-Coolum Road frontage. In terms of accessibility, the proposal provides a high level of accessibility for maintenance and emergency purposes, with a 3 metre wide crushed rock maintenance access proposed as part of Stage 1b works. The proposal has been sited and designed to minimise adverse visual impacts beyond the boundaries of the site with landscaping works including a landscape vegetation buffer proposed along the site's eastern, southern and western boundaries.

It is considered that the proposal complies or can be conditioned to comply with the Acceptable Outcomes of the Utility Code based on the following considerations:-

(a) the facility is well placed relative to the infrastructure network with an existing Energex 33kV infrastructure network located along the site's frontage within the Yandina-Coolum Road reserve;

(b) the site can be easily accessed for maintenance purposes or at times of emergency with a 3 metre wide crushed rock access track proposed as shown in accordance with drawing 41-28051 SK001 by GHD – revision H dated 12.02.15;

(c) the utility is sited and designed to minimise adverse visual impacts beyond the boundaries of the site with a landscaped buffer proposed along the site's western, southern and eastern boundaries;

(d) the utility provides an attractive street frontage with landscaping proposed along Yandina-Coolum Road;

(e) the proposal is for a renewable energy facility and as such will minimise greenhouse gas emissions;

(f) the siting and design of the ancillary buildings reflect the setting and rural character with vegetation buffers along western, southern and eastern boundary proposed as shown on the Stages 1A & 1B Landscape Concept Plan; and

(g) security fencing is proposed to prevent unauthorised entry to the facility.

3.6.3 Landscape Code

The proposal to develop the Valdora Solar Farm on 49.25 hectares of disused sugarcane farmland in the Yandina Creek valley, on generally flat subcoastal river plain, will have minimal short-term ecological impacts, and significant medium to long term benefits for the local environment. The site has minimal existing natural values, apart from its interface with a drainage line along one boundary and a tributary of Yandina Creek along another. The proposed development of the southern half of the site will leave a balance area of approximately 19 hectares available for revegetation in Stages 2 and 3. It is important that guidance be provided on the minimum plant densities and sizes that should be installed at planting to ensure that the required screening and weed suppression is achieved. Further the proposed landscape vegetation buffers along the western and eastern boundaries and a wider vegetated buffer of between 12 and 38 metres along the southern boundary will enhance the biodiversity and ecological values of the subject land and the locality. An assessment has also indicated that the land is susceptible to weed invasion, and will require on-going management.

It is considered that the proposal complies or can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the Landscape Code based on the following considerations:-

(a) the site has been cleared and does not contain vegetation or topographic features have ecological, recreational, aesthetic or cultural value;

(b) the solar array will occupy almost 24 hectares of land which will be susceptible to weed invasion, accordingly a Land and Weed Management Plan is required to ensure compliance with the Performance Outcome;

(c) the development will create a high quality landscape character by using native plant species in the proposed landscape vegetation buffers which occur naturally on the floodplains of the Sunshine Coast, including but not limited to indicative species list in the 'Typical Landscape Section and Plant Palettes' (LAUD ink, SK003, Oct 2014);

(d) all landscape works will be required to be established and maintained in a manner that ensures healthy, sustained and vigorous plant growth while minimise the emergence of weeds through mulching and also requiring soil tests to determine appropriate ameliorant specification prior to planting;

(e) the proposed landscaping will enhance site access points and will incorporate a range of multi layered native planting;

(f) to ensure the stability of soils and minimisation of erosion, any future application for operational works approval, will require horticultural advice confirming the viability of the proposed grass cover within the site, considering the shading effects of the solar arrays;

(g) the development can be conditioned to require plant stock of an appropriate size at the time of planting to fulfil the intended function whilst ensuring long term viability by the specification of minimum plant sizes and densities; and

(h) the development will provide for the partial landscape screening of built form elements with vegetation buffers proposed along the western, southern and eastern boundaries. The proposed low-level feature planting should be required to have similar plant species to the other landscape vegetation buffers.

3.6.4 Stormwater Management Code

The proposed Stage 1 works includes the maintenance of the existing grassed paddock under and around the solar panels, and vegetation adjacent to other impervious surfaces and the entrance road. It is considered that this meets the objectives of the Stormwater Management Code with respect to water quality. A Stormwater Management Plan will be required for the Stage 2 works to address the water quality treatment for runoff from the entrance road and associated buildings. The development only considers a 30 year life span, thus includes allowance for Climate Change to 2050. Stormwater runoff from site will not be concentrated. The Applicant has clarified that the proposed crushed rock maintenance roads will not impact on local flooding and drainage due to the low height of the roads.

It is considered that the proposal complies or can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the Stormwater Management Code based on the following considerations:-

(a) a Stormwater Management Plan will be prepared as part of Stage 2 to address the water quality treatment for runoff from the entrance road and associated buildings;

(b) stormwater runoff from site is not concentrated and there are no significant changes to flows within the site;

(c) the proposed crushed rock maintenance roads will not impact on local flooding and drainage due to the low height of the roads;

(d) the area under and around the solar panels and other impervious areas should be managed to maintain a stable grass cover to protect water quality; and

(e) the development can be conditioned to ensure that stormwater runoff from the development to be disposed of on-site without causing scour or damage to the subject site or any adjoining property.

3.6.5 Transport and Parking Code

The proposal provides a single point of access to the site from Yandina-Coolum Road at a location further north from the current access point. Yandina-Coolum Road is a State Controlled Road and the Department of Transport and Main Roads (delegated authority) issued a concurrency agency response which approved the application, subject to conditions, on 1 April 2015. An assessment of the proposal against the relevant State Development Assessment Provisions and Transport and Parking Code has identified that the layout, design and construction of site access is safe, convenient and does not interfere with the planned function of Yandina-Coolum Road. For Stages 1a and 1b a three (3) metre wide crushed rock maintenance access track is proposed. As part of Stage 2 it is proposed that the unsealed access be upgraded to cater for a 14.5 metre bus and provide associated bus and car parking facilities.

It is considered that the proposal complies or can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the Transport and Parking Code based on the following considerations:-

(a) the design of the site access illustrates that it provides sufficient visibility and internal circulation is sufficient to accommodate identified construction and service vehicle volumes;

(b) a Preliminary Construction Management Plan should be required as part of any future Operational Works applications to ensure adequate provision for construction vehicle parking (approximately 30 vehicles) on site;

(c) car parking does not form part of this application as the site will require minimal onsite contact once constructed. Car parking will be provided as part of the future Stage 2 works and is likely to include twelve (12) car parking spaces and two (2) bus parking spaces;

(d) there is no requirement for pedestrian, cycle and public transport to the site as part of Stage 1;

(e) the proposal is not considered a high trip generating land use;

(f) traffic volumes identified as part of Stage 1 are unlikely to result in queueing;

(g) site access is proposed in area that has been previously cleared; and

(h) a Preliminary Construction Management Plan should be required as part of an Operational Works application that ensures access and manoeuvring areas do not have adverse impacts with regard to light, noise, air quality (dust) or stormwater run-off.

3.6.6 Works, Services and Infrastructure Code

The development can be undertaken in such a way to ensure any potential air, noise, water and other impacts are appropriately mitigated. There is no on-site native vegetation or faunal habitat of ecological value likely to be affected significantly by construction.

It is considered that the proposal complies or can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the Works, Services and Infrastructure Code based on the following considerations:-

(a) a Preliminary Construction Management Plan should be submitted as part of an Operational Works application to address:

  a. provision of sufficient construction vehicle parking facilities on-site;

  b. appropriate traffic signage in accordance with the Manual of Uniform Traffic Control Devices (MUTCD); and

  c. provision for safe pedestrian access across the frontage of the site both during daily construction and after daily construction has ceased;

  d. measures to ensure access and manoeuvring areas do not have adverse impacts with regard to light, noise, air quality (dust) or stormwater run-off;

  e. measures to ensure waste minimisation, as well as the appropriate storage (visually screened area), treatment and collection of waste (liquid and solid);

  f. details on the provision of appropriate amenities for construction staff (e.g. potable drinking water/toilets).

(b) there is no on-site native vegetation or faunal habitat of ecological value likely to be affected significantly by construction;

(c) although the site is within a 'high value scenic area' and the adjoining road is a 'scenic route', the solar array structures will be less than 5 metres in height above ground and easily screened by vegetation from the view of motorists; although they will be visible from residences in elevated positions at 1.5 to 3 km distance (and greater); and

(d) filling associated with the crushed rock maintenance access road is to be undertaken in accordance with the requirements of the *Planning Scheme Policy for Development Works*.

3.6.7 Acid Sulfate Soils Overlay Code

SMEC Australia (SMEC) was engaged by SCC to undertake a Geotechnical Assessment Report for the site. The study undertook geotechnical investigation of the site to assess underlying soil conditions, collected samples for laboratory sampling and recommended geotechnical design parameters. Notwithstanding these findings, the development is to be managed to avoid or minimise the release of acid and metal contaminants which may be present on the site.

It is considered that the proposal can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the Acid Sulfate Soils Overlay Code, through the imposition of the following condition:

(a) the applicant is required to prepare an acid sulfate soils investigation report and management plan which satisfies the requirements of *Planning Scheme Policy SC6.4* prepared by a qualified person, with any future application for operational works approval.

3.6.8 Airport Environs Overlay Code

The proposed structures will have a maximum height of approximately 5.5 metres and as such will not result in an obstruction or hazard to the safe movement of aircraft within the airport's operational airspace. Additionally solar panels will have a low-reflectivity surface treatment and are not expected to cause any greater glare (as seen from the air) than would arise from, for example, a water body.

It is considered that the proposal complies or can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the Airport Environs Overlay based on the following considerations:-

(a) the proposed structures will have a maximum height of approximately 5.5 metres. At this height the structures will not have an adverse impact on the operational airspace; and

(b) visible support structures and associated equipment should be low in reflectivity where possible.

3.6.9 Flood Hazard Overlay Code

The flood modelling indicates that the proposed development would not adversely impact on flood levels and discharges in the vicinity of the subject site, both in regional (Maroochy River) and local (Yandina Creek) flood events. The elevation of all electrical equipment (e.g. solar panels, inverters, batteries, switchboards, etc.), hazardous materials, and the Ancillary Equipment & Maintenance Support area is to be in accordance with the requirements of the Flood Hazard Overlay Code Table 8.2.7.3.3.

Flood modelling of the proposed development was carried out, as described in the following reports:

- *Final Report, Flood Study: 909 Yandina Coolum Rd, Valdora (Lot 3 SP219490), BMT WBM, October 2014*
- *Addendum Report, Flood Study: 909 Yandina Coolum Rd, Valdora (Lot 3 SP219490), BMT WBM, February 2015*

It is considered that the proposal can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the Flood Hazard Overlay Code, through the imposition of the following condition:

(a) The minimum level of the Ancillary Equipment and Maintenance Support Precinct (and any other areas required for the storage of batteries and hazardous or bulky materials) must be provided in accordance with the requirements of the Flood Hazard Overlay Code Table 8.2.7.3.3, i.e. the minimum design level is the 1% AEP flood level incorporating Climate Change to the Year 2050 plus 0.5 metres. Based on the information provided in Final Report, Flood Study: 909 Yandina Coolum Rd, Valdora (Lot 3 SP219490) (BMT WBM, October 2014), the minimum design level is therefore 4.24m AHD. The minimum level of all other electrical equipment (e.g. solar panels, inverters, switchboards, etc.) can be either:

   a. above the 1% AEP flood level incorporating Climate Change to the Year 2050, i.e. 3.74m AHD; or

   b. designed and constructed to exclude floodwater or storm tide intrusion or infiltration and resist hydrostatic and hydrodynamic forces as a result of inundation by the 1% AEP flood event incorporating Climate Change to the Year 2050 (given appropriate flood modelling demonstrating an acceptable outcomes with respect to flood impacts).

3.6.10 Regional Infrastructure Overlay Code

Overhead high voltage electricity is located along Yandina-Coolum Road along the eastern frontage of the site. The proposed solar farm will be directly connected to the ENERGEX grid via the existing high voltage cabling.

It is considered that the proposal complies or can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the Regional Infrastructure Overlay based on the following considerations:-

(a) the development does not adversely impact on existing or planned high voltage electricity transmission infrastructure;

(b) subject to DTMR's advice, the proposal is considered to maintain the safety, efficiency and effectiveness of the State Controlled Road corridor (Yandina-Coolum Road); and

(c) the proposal incorporates a vegetated landscaped buffer along the frontage of the site.

3.6.11 Scenic Amenity Overlay Code

The site is well located out of sight of major routes and coastal centres, and the proposed structures are capable of being screened by the proposed 10m landscape vegetation buffers along three boundaries, plus the 150m wide area of revegetation on the northern side of the solar array. A rigorous visual impact assessment process was undertaken by GHD, including reflectivity, solar glare hazard, visibility (Zone of Visual Influence) mapping, cross-sections and photomontages from 10 viewpoints representing sensitive receptor locations. Although the graphic material accompanying the visual impact assessment indicated that the solar array could potentially be visible over a large part of the Yandina Creek valley, the array of solar panels will be less than 5.5 m above ground, screened from views of motorists on Yandina-Coolum Road and Valdora Road and residents of the rural valley floor (with the exception of the proposed Education and Information Centre near the entrance). While elevated residences in the Valdora area will be within view of the solar array, the distance of view will reduce the visual impacts to minor and acceptable level. Additional information requested from GHD related to residences to the west of the site, where potential sightlines towards the solar array can and will be screened by landscape buffer planting along the western boundary.

In summary, the proposed solar array development will be low in height and capable of satisfactory screening from nearby roads and houses by the landscape buffers indicated in the Landscape Concept Plans for Stages 1A & 1B (including retention of existing trees plus additional planting along the western boundary) and the broad areas of rehabilitation proposed for Stages 2 and 3.

It is considered that the proposal complies or can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the Scenic Amenity Overlay Code based on the following considerations:-

(a) although the proposal will change the experience of a scenic route for a limited section, and some residents in elevated locations will see the solar array at distances of 1.5km or greater, the views to Mt Ninderry or Mt Coolum will not be affected. The proposed solar array, vegetated buffer and ancillary buildings are visually compatible with the rural landscape, and for some visitors are likely to be a source of visual interest;

(b) a solar array does not confer an 'urban' character and is not incompatible with an inter-urban break; provided the ancillary buildings and future education centre remain small-scale;

(c) the proposed solar array with panels up to 5 m above ground (when at full height) is below the maximum height specified on the relevant Overlay Map, and will not affect any significant views;

(d) landscaped vegetation buffers are proposed along the site's eastern (Yandina-Coolum Road), southern and western boundary; and

(e) any visible support structures, framing, cabling, or other equipment and infrastructure shall where possible have a colour and finish that reduces reflectivity and visual recognition in the landscape.

4 Conclusion

The application seeks a Development Permit for a Material Change of Use (Renewable Energy Facility – Stages 1a and 1b). Once all stages are completed the proposed development would provide a localised renewable energy source which will assist in reducing greenhouse gas emissions and also provide substantial environmental benefits associated with the proposed vegetation replanting and rehabilitation on the balance of the site. It will also potentially deliver economic and social benefits associated with reducing Council's long-term electricity costs and increasing educational and public awareness through the proposed Education and Information Centre.

Technical assessments have been undertaken to address the relevant provisions of the Sunshine Coast Planning Scheme. The assessment has found that the proposal complies or can be conditioned to comply with the Performance Outcomes and Acceptable Outcomes of the following relevant codes included in the Sunshine Coast Planning Scheme:

- Community Facilities Zone Code;
- Utility Code;
- Landscape Code;
- Stormwater Management Code;
- Transport and Parking Code;
- Works, Services and Infrastructure Code;
- Acid Sulfate Soils Overlay Code;
- Airport Environs Overlay Code;
- Flood Hazard Overlay Code;
- Regional Infrastructure Overlay Code; and
- Scenic Amenity Overlay Code.

The proposal is consistent with the planning framework applying to the site and offers significant public benefits associated with providing a localised renewable energy source. It is recommended for approval, subject to conditions as included in **Appendix 2**.

Should you require any further details or clarification please David Perkins on (07) 3310 2354 or david.perkins@cardno.com.au.

Yours faithfully,

David Perkins
Senior Principal,
Planning
For Cardno

APPENDIX 1

PROPOSAL PLANS (LAUD INK AND GHD)

LOT 3 SP219490
42.95ha

10m WIDE LANDSCAPE / VEGETATION BUFFER

LOT 6 SP168779

10m WIDE LANDSCAPE / VEGETATION BUFFER

YANDINA-COOLUM ROAD

LOT 7 SP202950

10m

SOLAR PANEL FARM
23.85ha

A SK003

A SK003

D SK004

D SK004

1

15m

12m

15m

38m

12m

20m

3m WIDE CRUSHED ROAD MAINTENANCE ACCESS (INDICATIVE ONLY)

LOT 4 SP202949

LOT 2 SP219490

LANDSCAPE / VEGETATION BUFFER WIDTH VARIES ALONG SOUTHERN SITE BOUNDARY

LEGEND

PROPOSED BUFFER PLANTING TO SITE BOUNDARY

PROPOSED VEGETATED BUFFER BETWEEN YANDINA-COOLUM ROAD AND SUB STATION INTERFACE INCLUDING: TREES, LOW FEATURE SHRUBS AND GROUNDCOVERS TO PROVIDE A VISUAL CUE TO SITE ENTRY

(1) ANCILLARY EQUIPMENT AND MAINTENANCE SUPPORT PRECINCT INCLUDING INDICATIVE BUILDING AND STRUCTURE ITEMS AS FOLLOWS:
- FUTURE BATTERY STORAGE FACILITY
- SOLAR FARM ANCILLARY INTERCONNECTION BUILDING
- SOLAR FARM CUSTOMER SUB STATION (33 kva)
- MAINTENANCE SHED

EXISTING BUILDING

PROPOSED SECURITY FENCE

PROPERTY BOUNDARY

NOTE

1. REFER DRG 1408-004-SK003 & 1408-004-SK004 FOR INDICATIVE SPECIES LIST AND BUFFER PLANTING DETAIL
2. REFER CIVIL ENGINEERING DESIGN DOCUMENTATION FOR PROPOSED HARD SURFACE FINISH DETAILS

N

0 10 20 30 40 50m
SCALE 1:1500 AT ORIGINAL SIZE

GHD

Sunshine Coast COUNCIL

rev	description	app'd	date
H	REVISED ISSUE	*EN	12.02.15
G	IR RESPONSE ISSUE	*EN	05.02.15

SUNSHINE COAST COUNCIL
VALDORA SOLAR FARM
STAGE 1A AND 1B
LANDSCAPE CONCEPT PLAN

LAUD ink
landscape architecture and urban design

Office 3 / 137 Melbourne Street South Brisbane QLD 4101
E eleas@laudink.com.au / jane@laudink.com.au
W www.laudink.com.au

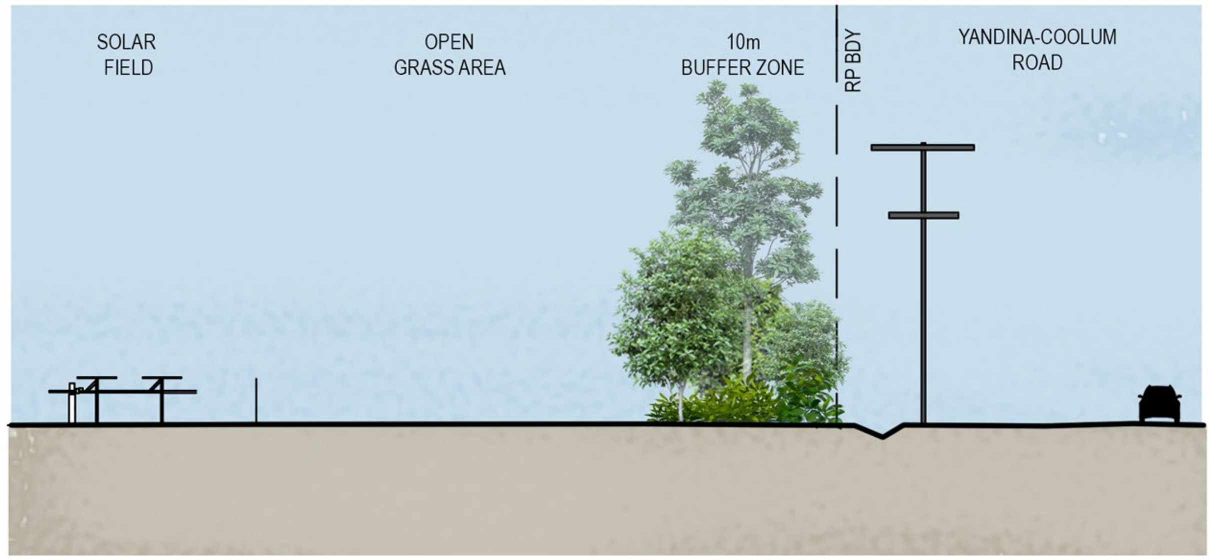
ABN 80 169 838 144

scale	1:1500 for A1	job no.	1408-004
date	FEB 2015	rev no.	H

approved *J.HULME

SK001

Plot Date: 12 FEBRUARY 2015 10:... Cad File No: Z:\Projects and Proposals\1408-004_GHD_SCC Valdora Solar Farm\Drawings\CADD\1408-004-SK001.dwg



A SECTION
SK001 SCALE 1 : 200

B SECTION
SK002 SCALE 1 : 200


Livistona australis


Banksia robur


Leptospermum madidum


Eucalyptus robusta


Melaleuca quinquenervia


Vitex trifolia

Indicative Species List

Large Trees
Eucalyptus tereticornis*
Eucalyptus robusta*
Eucalyptus bancroftii*

Trees
Hibiscus tiliaceus
Melaleuca quinquenervia
Acacia disparrima
Acacia melanoxylon
Acacia leiocalyx
Acacia concurrens
Lophostemon suaveolens
Casuarina glauca
Waterhousea floribunda
Eucalyptus conglomerata
Livistona australis
Tristaniopsis laurina

Shurbs and Groundcovers
Vitex trifolia
Callistemon pachyphyllus
Clerodendrum inerme
Crinum pedunculatum
Banksia robur
Leptospermum madidum
Lomandra hystrix
Melaleuca squarrosa
Melastoma malabathricum

*Setback and clearence from overhead powerlines required

0 2 4 6 8 10m
SCALE 1:200 AT ORIGINAL SIZE

GHD Sunshine Coast COUNCIL

rev	description	app'd	date
D	DA ISSUE	*EN	15.10.14
C	REVISED ISSUE	*EN	10.10.14

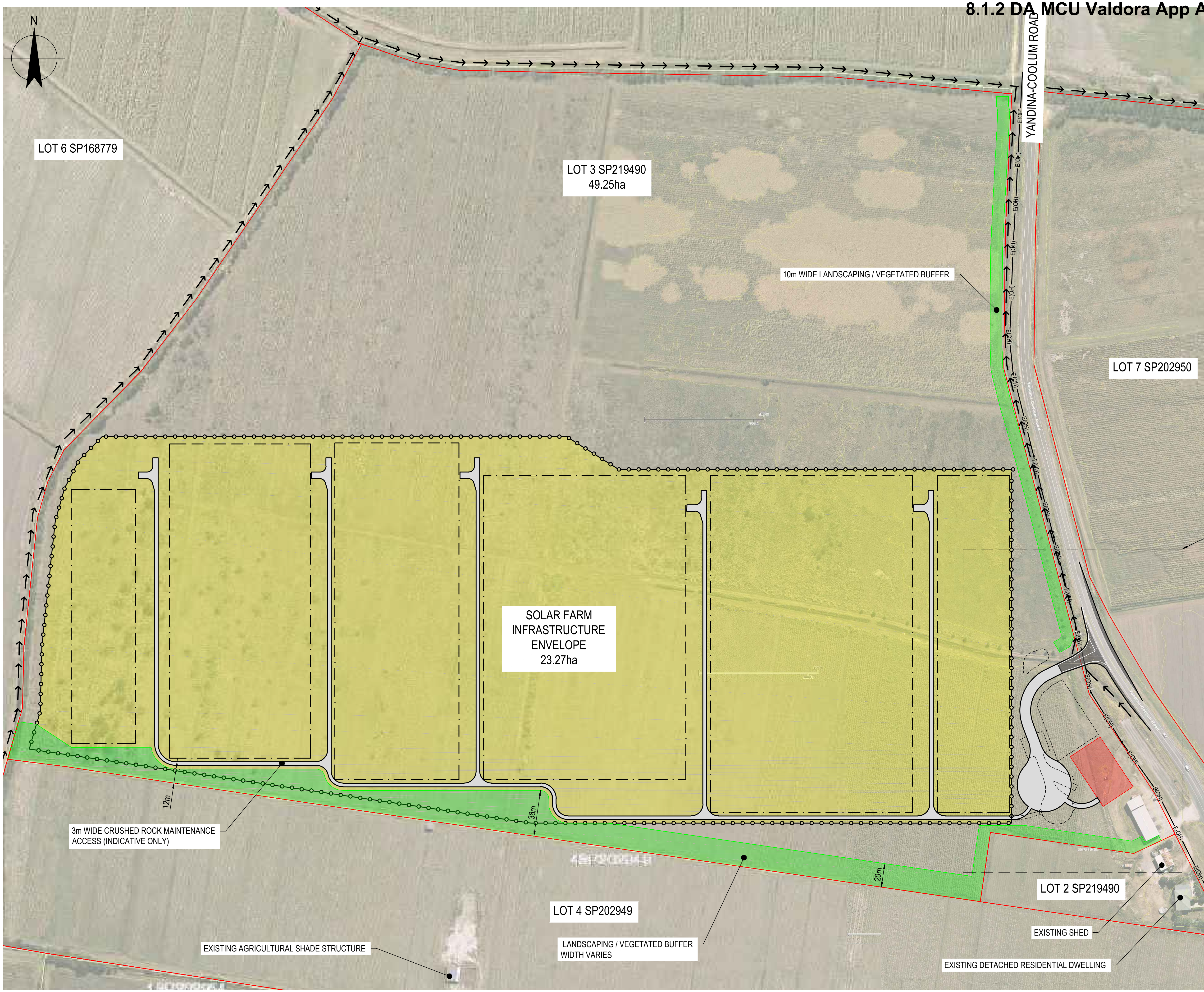
SUNSHINE COAST COUNCIL
VALDORA SOLAR FARM
TYPICAL LANDSCAPE SECTION AND PLANT PALETTES

LAUD ink
landscape architecture and urban design
Office 3 / 137 Melbourne Street South Brisbane QLD 4101
E eleas@laudink.com.au / jane@laudink.com.au
W www.laudink.com.au
ABN 80 169 838 144

scale 1:200 for A1 job no. 1408-004
date OCT 2014 rev no. D

approved J.HULME* SK003

Plot Date: 15 OCTOBER 2014 05:27pm Plotted by: Jane Hulme
Cad File No: Z:\Projects and Proposals\1408-004_GHD_SCC Valdora Solar Farm\Drawings\CADD\1408-004-SK003.dwg



LEGEND

- EXISTING PROPERTY BOUNDARY
- E(OH) EXISTING OVERHEAD ELECTRICITY
- EXISTING DRAINAGE CHANNELS
- PROPOSED SOLAR FARM INFRASTRUCTURE ENVELOPE. SOLAR FARM INFRASTRUCTURE TO BE WHOLLY CONTAINED WITHIN THIS AREA AND IN ACCORDANCE WITH THE SUNSHINE COAST COUNCIL PLANNING SCHEME HEIGHT OF BUILDINGS AND STRUCTURES OVERLAY MAP OVM9H.
- PROPOSED BUILDING AND STRUCTURES ENVELOPE. PROPOSED ENVELOPE TO CONTAIN BUILDINGS AND STRUCTURES IN ACCORDANCE WITH THOSE DETAILED FOR THE ANCILLARY EQUIPMENT AND MAINTENANCE SUPPORT PRECINCT AND IN ACCORDANCE WITH THE SUNSHINE COAST PLANNING SCHEME HEIGHT OF BUILDINGS AND STRUCTURES OVERLAY MAP OVM9H
- PROPOSED LANDSCAPE / VEGETATION BUFFER
- PROPOSED CRUSHED ROCK CONSTRUCTION / MAINTENANCE ACCESS
- PROPOSED SECURITY FENCING
- FUTURE WORKS

rev	description	app'd	date
E	REVISED TEMPORARY TURNAROUND	*EK	12.02.15

SUNSHINE COAST COUNCIL
VALDORA SOLAR FARM

STAGE 1A AND 1B OVERALL LAYOUT PLAN

GHD
Sunshine Coast COUNCIL
4-6 Innovation Parkway
Kawana Business Village, Birtinya QLD 4575 Australia
PO Box 1540 Buddina QLD 4575
T 61 7 5413 8100 F 61 7 5413 8199
E bta1mail@ghd.com W www.ghd.com

scale 1:1500 for A1 job no. 41-28051
date SEP 2014 rev no. E

approved (PD) *E.KERR SK001

Plot Date: 12 February ... Cad File No: G:\41\28051\CADD\Drawings\Concept MCU\41-28051-SK001.dwg

N

10m WIDE LANDSCAPING / VEGETATED BUFFER

3m WIDE CRUSHED ROCK MAINTENANCE ACCESS (INDICATIVE ONLY)

FUTURE STORMWATER TREATMENT AREA (SIZE INDICATIVE ONLY)

PROPOSED INTERSECTION UPGRADE (BAR / BAL TREATMENT)

LOT 7 SP202950

TEMPORARY UNSEALED CRUSHED ROCK CONSTRUCTION ACCESS SUITABLE FOR HEAVY VEHICLE AND CONSTRUCTION TRAFFIC. INTERNAL ACCESS TO BE UPGRADED AND SEALED AS PART OF STAGE 2 WORKS.

FUTURE EDUCATION AND INFORMATION CENTRE ENVELOPE (1875m²)

FUTURE SEALED CARPARKING

ANCILLARY EQUIPMENT AND MAINTENANCE SUPPORT PRECINCT (1500m²) RL 3.74m AHD

EXTENT OF FUTURE SEALED ACCESS

FUTURE SEALED BUS SET DOWN AREA

EXISTING SHED TO REMAIN

LANDSCAPING / VEGETATED BUFFER WIDTH VARIES

LOT 2 SP219490

YANDINA-COOLUM ROAD

E(OH) EP 9m 50m 12m 30m

LEGEND

- EXISTING PROPERTY BOUNDARY
- E(OH) EXISTING OVERHEAD ELECTRICITY
- EXISTING DRAINAGE CHANNELS
- PROPOSED SOLAR FARM INFRASTRUCTURE ENVELOPE. SOLAR FARM INFRASTRUCTURE TO BE WHOLLY CONTAINED WITHIN THIS AREA AND IN ACCORDANCE WITH THE SUNSHINE COAST COUNCIL PLANNING SCHEME HEIGHT OF BUILDINGS AND STRUCTURES OVERLAY MAP OVM9H.
- PROPOSED BUILDING AND STRUCTURES ENVELOPE. PROPOSED ENVELOPE TO CONTAIN BUILDINGS AND STRUCTURES IN ACCORDANCE WITH THOSE DETAILED FOR THE ANCILLARY EQUIPMENT AND MAINTENANCE SUPPORT PRECINCT AND IN ACCORDANCE WITH THE SUNSHINE COAST PLANNING SCHEME HEIGHT OF BUILDINGS AND STRUCTURES OVERLAY MAP OVM9H
- PROPOSED LANDSCAPE / VEGETATION BUFFER
- PROPOSED CRUSHED ROCK CONSTRUCTION / MAINTENANCE ACCESS
- PROPOSED SECURITY FENCING
- FUTURE WORKS

rev	description	app'd	date
E	REVISED TEMPORARY TURNAROUND	*EK	12.02.15

SUNSHINE COAST COUNCIL
VALDORA SOLAR FARM

STAGE 1A AND 1B
SITE FACILITIES LAYOUT PLAN

GHD Sunshine Coast COUNCIL
4-6 Innovation Parkway
Kawana Business Village, Birtinya QLD 4575 Australia
PO Box 1540 Buddina QLD 4575
T 61 7 5413 8100 **F** 61 7 5413 8199
E bta1mail@ghd.com **W** www.ghd.com

scale	1:500	for A1	job no. 41-28051
date	SEP 2014		rev no. E

approved (PD) *E.KERR SK002

APPENDIX 2

CONDITIONS OF APPROVAL

APPENDIX 2: CONDITIONS OF APPROVAL

1. APPLICATION DETAILS

Application No:	MCU14/0161
Street Address:	909 Yandina-Coolum Road, Valdora
Real Property Description:	Lot 3 SP 219490
Planning Scheme:	Sunshine Coast Planning Scheme 2014 (21 May 2014)

2. DECISION DETAILS

The following type of approval has been issued:

Development permit for Material Change of Use (MCU) of premises (Renewable Energy Facility - Stages 1a and 1b).

3. RELEVANT PERIOD OF APPROVAL

The relevant period for this development approval is 4 years starting the day that this development approval takes effect.

4. ASSESSMENT MANAGER CONDITIONS

PLANNING

When Conditions Must Be Complied With

1. Unless otherwise stated, all works required by the conditions of this Decision Notice must be completed prior to the use commencing, and then compliance maintained at all times while the use continues.

Approved Plans

2. Development authorised by this approval must be undertaken generally in accordance with the Approved Plans listed within this Decision Notice.

Nature and Extent of Approved Use

3. The approved development is for a Renewable Energy Facility generally in accordance with the Approved Plans comprising:

   (a) a Solar Farm Infrastructure Envelope; and
   (b) an Ancillary Equipment and Maintenance Support Precinct.

4. The landscaped vegetation buffers along the site's eastern (Yandina-Coolum Road), southern and western boundary as indicated on the Approved Plans are to be planted prior to the commencement of the use.

Visual Amenity

5. Any visible support structures, framing, cabling, or other equipment and infrastructure shall where possible have a colour and finish that reduces reflectivity and visual recognition in the landscape.

Fencing

6. Security fencing is provided along the boundaries of the Solar Farm Infrastructure Envelope as shown on the Approved Plans.

LANDSCAPING

7. The development site must be landscaped. The works must be undertaken in accordance with an Operational Works approval that is consistent with the landscaped areas shown on the Approved Plans. Landscaping is to comply with the following:

   (a) landscape vegetation buffers are to be planted in Stages 1A and 1B along the site's eastern (Yandina-Coolum Road) southern and western boundaries;
   (b) landscape vegetation buffers are to be a minimum of 10 metres wide and include multi-layered native planting capable (at maturity) of providing visual screening to a minimum height of 15 metres as shown on the Approved Plans, with the exception of the proposed Low-Level Feature Planting along the Yandina Coolum Road frontage where adjoining the Ancillary Equipment and Maintenance Support Precinct;
   (c) vegetation used in the landscape vegetation buffers and site rehabilitation works are to be native plant species which occur naturally on the floodplains of the Sunshine Coast, including but not limited to indicative species list in the Approved Plans, with the inclusion of *Melicope elleryana*;
   (d) the existing native trees along the western boundary are to be retained to assist with screening from houses on Valdora Road/Aurora Place;
   (e) the minimum plant sizes and densities of plants to be used in the landscape vegetation buffers are:
      (i) Shrubs and Groundcovers - 50mm Tube stock, Density 1/m^2;
      (ii) Medium Trees/ Large Shrubs – 200mm Pots, Density 1/10m^2;
      (iii) Large Trees – 25L pots, 1/100m^2.
   (f) the Low-Level Feature Planting along the Yandina Coolum Road frontage where adjoining the Ancillary Equipment and Maintenance Support Precinct, is to be planted with species listed in the Approved Plans which do not grow to a level that conflicts with overhead electrical infrastructure or pose a safety risk;
   (g) all landscape vegetation buffers are to be mulched to minimise the emergence of weeds and assist in moisture retention. Mulch is to be typically tub-ground site mulch to a depth of 100mm; and
   (h) soil tests should be carried out on existing site soil and analysed by agronomist to determine appropriate ameliorant specification prior to planting.

8. All landscape works must be established and maintained in accordance with the approved design for the life of the development, and in a manner that ensures healthy, sustained and vigorous plant growth. All plant material must be allowed to grow to full form and be refurbished when its life expectancy is reached.

9. A Land and Weed Management Plan is to be prepared and approved by Council prior to the commencement of works.

ENGINEERING

Acid Sulfate Soils

10. The applicant is requested to submit, with any future application for operational works approval, an acid sulfate soils investigation report and management plan which satisfies the requirements of *Planning Scheme Policy SC6.4* prepared by a qualified person*.
** (Refer to Advisory Note)*

Geotechnical

11. Development is to ensure the stability of soils and the minimisation of erosion. The applicant is requested to include, with any future application for operational works approval, horticultural advice confirming the viability of the proposed grass cover within the site, considering the shading effects of the solar arrays.

Stormwater Drainage

12. Stormwater runoff from the development must be disposed of on-site without causing scour or damage to the subject site or any adjoining property.

13. The maximum height of the internal crushed rock maintenance access roads is to be no more than 100 mm.

Stormwater Quality Management

14. The area under and around the solar panels, and the areas adjacent to impervious surfaces and the temporary entrance road, must be maintained as a grassed paddock with stable cover, using suitable grass species.

Flood Immunity

15. The minimum level of the Ancillary Equipment and Maintenance Support Precinct (and any other areas required for the storage of batteries and hazardous or bulky materials) must be provided in accordance with the requirements of the Flood Hazard Overlay Code Table 8.2.7.3.3, i.e. the minimum design level is the 1% AEP flood level incorporating Climate Change to the Year 2050 plus 0.5 metres. Based on the information provided in *Final Report, Flood Study: 909 Yandina Coolum Rd, Valdora (Lot 3 SP219490)* (BMT WBM, October 2014), the minimum design level is therefore 4.24m AHD. The minimum level of all other electrical equipment (e.g. solar panels, inverters, switchboards, etc.) can be either:

(a) above the 1% AEP flood level incorporating Climate Change to the Year 2050, i.e. 3.74m AHD; or

(b) designed and constructed to exclude floodwater or storm tide intrusion or infiltration and resist hydrostatic and hydrodynamic forces as a result of inundation by the 1% AEP flood event incorporating Climate Change to the Year 2050 (given appropriate flood modelling demonstrating an acceptable outcomes with respect to flood impacts).

* *(Refer to Advisory Note)*

Access

16. Access for maintenance within the site should be provided via a three (3) metre wide crushed rock maintenance access track generally in accordance with the Approved Plans.

CONSTRUCTION

17. Construction (including the entry and departure of heavy vehicles) must only occur between the hours of 6:30am to 6:30pm Monday to Saturday with no work on Sunday or Public Holidays.

DECOMMISSIONING

18. All infrastructure, panels, footings and structures associated with the solar arrays shall be removed from the site within six months from when the development ceases its operational life and site rehabilitation works undertaken.

5. REFERRAL AGENCIES

The Department of State Development, Infrastructure and Planning issued the referral agency response on behalf of the Department of Transport and Main Roads. The Department approved the development subject to conditions 1 April 2015.

6. APPROVED PLANS

The following plans are Approved Plans for the Development:

Approved Plans

Plan No.	Rev.	Plan Name	Date
1408-004	H	SK001 - LAUD ink – Stage 1A and 1B Landscape Concept Plan	12.02.15
1408-004	D	SK003 - LAUD ink – Typical Landscape Section and Plant Palettes	15.10.14
41-28051*	E	SK001 – GHD – Stage 1A and 1B Overall Layout Plan	12.02.15
41-28051*	E	SK002 – GHD – Stage 1A and 1B Site Facilities Layout Plan	12.02.15

* The following plans require amendment:

- *SK001 – GHD – Stage 1A and 1B Overall Layout Plan dated 12.02.15* – updating the proposed landscape/vegetation buffer to include the area along the western boundary and full length of eastern boundary (excluding site access point); updating the area of the Solar Farm Infrastructure Envelope

from 23.27 hectares to 23.85 hectares;

- *SK002 – GHD – Stage 1A and 1B Site Facilities Layout Plan dated 12.02.15* – updating the proposed landscaped/vegetation buffer to include full length of the eastern boundary (excluding site access point).

7. REFERENCED DOCUMENTS

Not applicable.

8. ADVISORY NOTES

The following notes are included for guidance and information purposes only and do not form part of the assessment manager conditions:

PLANNING

1. The following plans do not form part of this approval but do provide useful context for Stage 1A and 1B works and provide an indication of the sites potential future development.

Plan No.	Rev.	Plan Name	Date
1408-004	H	SK002 - LAUD ink – Stage 2 and 3 Landscape Concept Plan	12.02.15
41-28051	E	SK003 – GHD – Stage 2 Overall Layout Plan	12.02.15
41-28051	E	SK004 – GHD – Stage 2 Site Facilities Layout Plan	12.02.15
41-28051	E	SK004 – GHD – Stage 3 Overall Layout Plan	12.02.15

Aboriginal Cultural Heritage Act 2003

2. There may be a requirement to establish a Cultural Heritage Management Plan and/or obtain approvals pursuant to the *Aboriginal Cultural Heritage Act 2003*.
The ACH Act establishes a cultural heritage duty of care which provides that: "A person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage." It is an offence to fail to comply with the duty of care. Substantial monetary penalties may apply to individuals or corporations breaching this duty of care. Injunctions may also be issued by the Land Court, and the Minister administering the Act can also issue stop orders for an activity that is harming or is likely to harm Aboriginal cultural heritage or the cultural heritage value of Aboriginal cultural heritage.
You should contact the Cultural Heritage Unit on 07 3247 6212 to discuss any obligations under the ACH Act.

Other Laws and Requirements

3. This approval relates to development requiring approval under *the Sustainable Planning Act 2009* only. It is the applicant's responsibility to obtain any other necessary approvals, licences or permits required under State and Federal legislation or Council local law, prior to carrying out the development. Information with respect to other Council approvals, licences or permits may be found in the "Laws & Permits" page of the Sunshine Coast Council website (www.sunshinecoast.qld.gov.au). For information about State and Federal requirements please consult with these agencies directly.

Development Compliance Inspection

4. Prior to the commencement of the use, please contact Council's Development Audit & Response Unit to arrange a Development Compliance Inspection.

Infrastructure Charges

5. This Development Permit may trigger an "Adopted Infrastructure Charge Notice" (if applicable) to be issued in accordance with Council's "Adopted Infrastructure Charges Resolution" under the State Planning Regulatory Provision (Adopted Charges) and the *Sustainable Planning Act 2009*.

Landscape Works, Fixtures and Pavements

6. Landscape work, fixtures and pavement surfaces complies with the standards specified in the *Planning Scheme Policy for Development Works.*

Building Height

7. The maximum height of structures must comply with the *Sunshine Coast Planning Scheme* 2014 - *Height of Buildings and Structures Overlay Map OVM9H* for the locality being 8.5 metres.

ENGINEERING

Flood Immunity

8. The minimum floor level of the future Education and Information Centre Building will be determined as part of the Stage 2 development application.

9. Any hazardous material is to be stored at minimum level in accordance with Table 8.2.7.3.3 of the Flood Overlay Code.

Building and Construction Industry (Portable Long Service Leave) Levy

10. The QLeave levy must be paid prior to the issue of a development permit for Operational Works where required. Council will not be able to issue a Decision Notice without receipt of details that the Levy has been paid. QLeave contact: 1800 803 481 (free call) or (07) 3212 6855.

Access

19. Construction vehicle access, internal circulation and manoeuvring areas, are designed in accordance with the standards specified in the *Planning Scheme Policy for the Transport and Parking Code*.

Filling

11. Filling associated with the crushed rock maintenance access road is to be undertaken in accordance with the requirements of the *Planning Scheme Policy for Development Works*.

ENVIRONMENTAL HEALTH

Acid Sulfate Soils

12. For the purpose of preparing an Acid Sulfate soil and Groundwater Management Plan, a qualified person is considered to be either:
    i) a Registered Professional Engineer of Queensland (RPEQ) or;
    ii) a soil scientist with a minimum of 5 years experience in the field of acid sulfate soils.

CONSTRUCTION

Preparation of a Preliminary Construction Management Plan

13. A preliminary Construction Management Plan must be submitted with the Operational Works application and must address the following:
    (a) provision of sufficient construction vehicle parking facilities on-site;
    (b) appropriate traffic signage in accordance with the Manual of Uniform Traffic Control Devices (MUTCD); and
    (c) provision for safe pedestrian access across the frontage of the site both during daily construction and after daily construction has ceased;
    (d) measures to ensure access and manoeuvring areas do not have adverse impacts with regard to light, noise, air quality (dust) or stormwater run-off;
    (e) measures to ensure waste minimisation, as well as the appropriate storage (visually screened area), treatment and collection of waste (liquid and solid);
    (f) details on the provision of appropriate amenities for construction staff (e.g. potable drinking water/toilets).

9. PROPERTY NOTES

Not Applicable.

10. PRELIMINARY APPROVAL OVERRIDING PLANNING SCHEME

Not Applicable.

11. FURTHER DEVELOPMENT PERMITS REQUIRED

- Development Permit for Operational Works (Filling and excavation, Engineering works and Landscaping Works)
- Development Permit for Building Work

12. SELF ASSESSABLE CODES

Not Applicable.

13. SUBMISSIONS

Not Applicable.

14. REASONS / GROUNDS FOR APPROVAL DESPITE CONFLICT WITH SCHEME

Not Applicable.

15. RIGHTS OF APPEAL

You are entitled to appeal against this decision. A copy of the relevant appeal provisions from the *Sustainable Planning Act 2009* is attached.

During the appeal period, you as the applicant may suspend your appeal period and make written representations to Council about the conditions contained within the development approval. If Council agrees or agrees in part with the representations, a "negotiated decision notice" will be issued. Only one "negotiated decision notice" may be given. Taking this step will defer your appeal period, which will commence again from the start the day after you receive a "negotiated decision notice".

16. OTHER DETAILS

If you wish to obtain more information about Council's decision, electronic copies are available on line at www.sunshinecoast.qld.gov.au, or at Council Offices.

APPENDIX

3

DETAILED CODE ASSESSMENT (PLANNING SCHEME AND SDAP)

Appendix 3 –Detailed Code Assessment

Contents

1. Community Facilities Zone Code

Overall Outcomes	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
(a) development caters predominantly for specified uses, facilities and works which include:- (i) land used, owned or operated by Federal, State or local government for purposes such as *air services*, *cemeteries*, *community uses*, *educational establishments*, *emergency services*, *hospitals*, *utility installations* and *transport networks*; (ii) uses, facilities and works which by virtue of their location, intensity, combination of uses, operations or *site* characteristics are best managed in a use-specific land use allocation; or (iii) private community services and facilities including *educational establishments*, *places of worship*, private *hospitals* and *tourist parks*;	Council proposes to establish the proposed Valdora Solar Farm to provide a localised renewable energy source that will reduce peak power demand from existing non-renewable sources on Council owned land. The Solar Farm will also provide a number of various public benefits, including financial and broader economic, community, environmental and electricity network. Future Stages incorporate a proposed Education and Information Centre. The use is consistent with the overall outcome.	Not required.	Not required.
(b) a limited range of allied and compatible uses are provided to fulfil *ancillary* functions required for community facilities to function effectively;	The proposal incorporates an ancillary equipment and maintenance support precinct which complies with this outcome. Future proposed stages incorporate an Education and Information Centre for residents, tourists, local schools and other educational institutions such as universities and industry businesses.	Not required.	Not required.
(c) community facilities and associated uses are located to optimise their accessibility, operational efficiency and benefit to the public;	The site is well serviced by the existing State controlled road network and is in close proximity to trunk electricity infrastructure. The proposal will result in benefits to the public associated with the Education and Information Centre (Stage 2) and proposed site revegetation and rehabilitation works (Stage 3).	Not required.	Not required.
(d) development accommodates the specific operational, functional and locational needs of the particular use, whilst being of a scale, appearance and intensity that is compatible with existing and intended development in adjacent zones;	The proposal has been assessed from a visual perspective by GHD and Cardno. Following the establishment of landscape buffers along the site boundaries, the proposal will not have an adverse impact on the existing development in the adjacent zones.	Not required.	Not required.

Overall Outcomes	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
(e) development provides a high level of amenity, maintains the safety of people, buildings and works, and effectively manages the potential for land use conflict with existing and intended surrounding development;	The proposal has been designed to minimise the potential for land use conflict through the establishment of landscape vegetation buffers along the eastern, southern and western boundary. Extensive revegetation works are also proposed to the north of the site as part of Stage 3.	Not required.	Not required.
(f) existing and planned community facilities and associated uses are protected from the intrusion of incompatible uses that could limit the ongoing operation of existing community facilities or prejudice appropriate new community facilities;	The proposal is compatible with the surrounding rural uses.	Not required.	Not required.
(g) activities established in the zone make a positive contribution to the image of the Sunshine Coast by incorporating a high quality of built form and landscape design;	The proposed development has the potential to make a positive contribution to the image of the Sunshine Coast incorporating high quality landscape design along the site boundaries and by showcasing a sustainable technology through the proposed Education and Information Centre (Stage 3).	Not required.	Not required.
(h) development is located, designed and operated to be responsive to the Sunshine Coast's sub-tropical climate and minimises the consumption of energy and water;	The current proposal for Stage 1a and 1b does not have any substantial infrastructure energy or water requirements. Once operational project would reduce reliance on existing non-renewable energy sources.	Not required.	Not required.
(i) development avoids as far as practicable, or where avoidance is not practicable, minimises and otherwise mitigates, adverse impacts on *ecologically important areas*, including creeks, gullies, *waterways*, *wetlands*, coastal areas, habitats and *vegetation* through location, design, operation and management; Sunshine Coast Planning Scheme 2014 **Page** 6-40	The site has been previously cleared and does not contain any ecologically important areas. Site rehabilitation works proposed as part of Stage 3, as well as the landscape vegetation buffers (Stage 1a and 1b) will create new habitats.	Not required.	Not required.

Overall Outcomes	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
(j) development is designed and sited to sensitively respond to the physical characteristics and constraints of land, including flooding, *steep land*, landslide hazard and bushfire hazard, where applicable;	The site is not impacted by steep land, bushfire and landslide hazards. Minimum levels for infrastructure should be specified to address the management of flood hazards on the site.	Information regarding flood modelling was requested.	A condition regarding minimum levels for electrical equipment and ancillary equipment is required.
(k) development is provided with a level of *infrastructure* and essential services that is commensurate with the location, nature, scale and intensity of the use; and	There are currently limited existing infrastructure services provided to the site. A Preliminary Construction Management Plan should be required as part of any operational works application to outline the preferred option for delivering appropriate amenities to the construction staff during Stages 1a and 1b. The proposed Education and Information Centre (Stage 2) will be subject to a future application and is likely to use roof water harvesting and composting toilets.	Not required.	A Preliminary Construction Management Plan should be prepared as part of any operational works application and should address the preferred option for providing services to construction staff for Stages 1a and 1b.
(l) development is located and designed to maximise the efficient extension and safe operation of *infrastructure*.	Access to the site is via Yandina-Coolum Road which is a State Controlled Road. The application has been referred to DTMR for assessment.	Not required.	Not required.

2. Utility Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Utility Code							
Location and Site Suitability							
PO1	The utility is located and sited such that:- (a) it is well placed relative to the *infrastructure* network that is services; (b) opportunities for cost efficiencies and reduction in environmental and social impacts are maximised; and (c) a high standard of accessibility is available for maintenance purposes and at times of emergency.	**AO1.1** **AO1.2** **AO1.3**	The utility is established on a *site* that is well located such that it can efficiently service the supply or distribution network. Where practicable, the utility is co-located with another utility of a similar or compatible type. The utility is located in a position where it can be easily accessed for maintenance purposes or at times of emergency.	**Complies AO1.1.** The facility is well located to access the existing Energex 33kV infrastructure network located along the sites frontage within the Yandina-Coolum Road reserve. This trunk infrastructure has capacity for the 15MW Solar Farm to connect and feed electricity into the Energex grid, making the site ideally located. **Not Applicable AO1.2.** It is not practicable for the solar farm to be co-located with another utility. **Complies AO1.3.** An access road for operations and maintenance is proposed as part of Stage 1b works. This internal access network can be used in times of emergency. The access road provides an internal cul-de-sac connecting to the ancillary equipment and support precinct.	A 3m wide crushed rock maintenance access track proposed, as shown in SK001 is sufficient to provide access for maintenance purposes.	Not required.	Access for maintenance should be provided via a 3m wide crushed rock maintenance access track proposed, generally in accordance with drawing 41-28051 SK001 by GHD.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Utility Code							
Visual Amenity and Landscape Character							
PO2	The utility is sited and designed to:- (a) minimise adverse visual impacts beyond the boundaries of the *site*; and (b) minimise adverse impacts on the amenity of nearby residential, community or other *sensitive land uses*.	**AO2**	No acceptable outcome provided.	**Complies AO2.** Landscaping works will comprise a 10m vegetated buffer along the frontage of the site and down the entire length of the southern boundary. Lower level planting is proposed along the frontage from the vehicle access crossover to the south eastern frontage boundary to provide softening of the facility from the road frontage. Refer to the Landscape Concept Plans included in Appendix K.	Landscape buffer is effective to minimise adverse impacts to the east and south, but mitigation from the west will also require retention of existing narrow band of trees along the western boundary plus a 10m wide Landscape/Vegetation Buffer.	A cross-section to west (through Valdora Road and Ocean Vista Drive) to check if vegetation buffer is also needed along western boundary was requested.	Vegetation buffers are to be a minimum of 10 m wide and include several rows of multi-layered native plants, including along western boundary as shown on the Stages 1A & 1B Landscape Concept Plan.
PO3	The utility provides an attractive street front address with unsightly elements screened from view by walls, landscapes and natural features.	**AO3**	No acceptable outcome provided.	**Complies AO3.** The Solar Farm utility aspects are screened by the 10m buffer landscaping. Lower level plantings are proposed across part of the frontage for the education and information centre to appropriately address Yandina – Coolum Road Refer to the Landscape Concept Plans included in Appendix K.	Further information required on the proposed low-level feature planting along Yandina-Coolum Road.	Information on the low- level feature planting requested, including species mix and buffer cross section.	Condition required to ensure that proposed low-level feature planting is consistent with preferred species list on SK003 prepared by LAUD Ink, while ensuring that planting that won't pose a safety risk or interrupt electricity supply.
PO4	The utility is designed, constructed and operated in a manner that:- (a) minimises energy use and greenhouse gas emissions;	**AO4**	No acceptable outcome provided.	**Complies AO4.** The Valdora Solar Farm will provide a localised renewable energy source critical in addressing the region's targets for renewable energy	The proposal is for a renewable energy facility and as such achieves the outcomes sought for PO4(a). Future	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Utility Code							
	(b) minimises the use of water; and (c) maximises the re-use and recycling of by-products associated with the operation of the utility.			production and the reduction of greenhouse gas emissions and address peak power demand from existing non-renewable sources. There is no existing reticulated Unitywater infrastructure in the vicinity of the site. No reticulated water is required for the operation of the solar farm. The education and information centre subject to a future application will use roof water harvesting, tank storage and re use methods. There are no by-products associated with the operation of the facility.	applications will address the preferred option for delivering water to the proposed Education and Information Centre.		
Building Siting and Design							
PO5	The siting and design of any buildings or structures associated with the utility reflects the setting and character of the local area in which the facility is located.	**AO5**	No acceptable outcome provided.	**Complies AO5.** The master plan for the site has been configured in such a way that appropriately respond to the site's characteristics and surrounding locality whilst accommodating the facilities' required functions. Details regarding the various elements of the proposal are detailed in section 5.	The siting and design of the ancillary buildings reflect the setting and rural character with vegetation buffers along western, southern and eastern boundary proposed as shown on the Stages 1A & 1B Landscape Concept Plan	Not required.	Not required.
Health and Safety							
PO6	Public access is discouraged to those parts	**AO6.1**	Security fencing is provided to prevent unauthorised entry to the utility.	**Complies AO6.1.** Security fencing will be provided around the utility infrastructure	Security fencing should be provided around the boundary	Not required.	A condition requiring the provision of security

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Utility Code							
	of the utility that pose a health or safety risk.	**AO6.2**	Safety and warning signage is displayed where necessary.	as part of Stage 1b. The site will be gated to prevent unauthorised access. The gate will be set back a sufficient distance from the intersection with Yandina-Coolum Road to allow for the storage and manoeuvring of any vehicle. **Complies AO6.2.** It is expected that directional signage on-site will be relatively minimal and will likely consist of directional signage in future stages for visitors, including signs indicating car parking areas, the entrance to the visitor and information centre and the associated viewing platform. Warning and safety signage will be displayed where necessary.	of the solar farm panel envelope area.		fencing around the boundary of the solar farm panel envelope area should be included.
Recommended Flood Level for Essential Community Infrastructure							
PO7	The functioning of a utility that is essential community infrastructure is maintained during and immediately after flood and storm tide inundation events. Editor's note—essential community infrastructure is defined in Schedule 1 (Definitions).	**AO7**	A utility that is essential community infrastructure:- (a) is located, designed and constructed in accordance with the recommended flood levels specified in Table 8.2.7.3.3 (Flood levels and flood immunity requirements for development and infrastructure) of the Flood hazard overlay code; and	**Not Applicable AO7.** The use is not essential community infrastructure. Notwithstanding, the solar panels as part of Stage 1b works will be constructed at the existing surface level which varies between RL 0.8 to 1.3 m AHD. The panels and associated infrastructure such as inverters will be constructed on steel posts and will be located above the 1 in 100 year ARI flood level. There is no	It is agreed that a Utility is not classified as "essential community infrastructure". Therefore PO7 does not apply.	Not required.	Refer to assessment included in the Flood Hazard Overlay Code for relevant requirements.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Utility Code							
			(b) ensures that any components of the infrastructure that are likely to fail or function, or may result in contamination when inundated by floodwaters (e.g. electrical switchgear and motors, water supply pipeline air valves) are:- (i) located above the recommended flood level; or (ii) designed and constructed to exclude floodwater intrusion/infiltration.	applicable minimum design level in Table 8.2.7.3.3 of SCC's Flood Hazard Overlay Code for this type of infrastructure. Accordingly, the proposed solution adequately balances the need to maintain flood storage over the site whilst protecting infrastructure from water damage.			

3. Landscape Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
Retention of Vegetation and Topographic Features in Layout and Design of Landscapes							
PO1	Development provides landscapes that, as far as practicable, retain and protect existing trees, *vegetation* and topographic features of ecological, recreational, aesthetic and cultural value.	**AO1**	No acceptable outcome provided. Note—the **Planning scheme policy for development works** provides more specific guidance about the retention of *vegetation* and topographic features.	**Complies AO1.** The site has been completely cleared in line with its previous use for broad acre agriculture. The site is not mapped as containing remnant vegetation or essential habitat. The protection and enhancement of existing environmental features onsite have been paramount in realising the vision for the site through the staged master plan. The works throughout the earlier stages of the project offer a non-worsening effect to the sites' existing values from its current disturbed form. Future Stage 3 works provides the opportunity for substantial rehabilitation of the site. Refer to the Landscape Concept Plans included in Appendix K.	No on-site vegetation or topographic features have ecological, recreational, aesthetic or cultural value.	Not required.	Existing native trees along the western boundary should be retained to assist with screening from houses on Valdora Road / Aurora Place within 2 km distance to the west.
Management of Weeds							
PO2	Development provides for all weeds to be managed within the *site* and frontages and for the implementation of effective measures to reduce weed intrusion and	**AO2**	No acceptable outcome provided. Note—the **Planning scheme policy for development works** provides more specific	**Complies AO2.** Numerous weeds declared under the *Land Protection (Pest and Stock Route Management) Act 2002* were observed across the site. Refer to the Ecological Site	The solar array will occupy almost 24ha of land susceptible to weed invasion.	Proposed management (including weed control) of the solar array site.	A Land and Weed Management Plan is required for all stages.

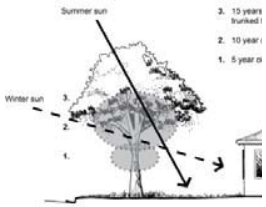
Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	the risk of re-infestation on an ongoing basis.		guidance about the management of weeds.	Assessment Report provided in Appendix L. These will be managed within the site and frontages as required.			
Landscape Design							
PO3	Development provides for landscapes that contribute to and create a high quality landscape character for the *site*, street, local area and the Sunshine Coast, by:- (a) promoting the character of the Sunshine Coast as a sub-tropical environment; (b) being sensitive to site conditions, natural landforms and landscape characteristics; (c) protecting and enhancing native *vegetation*, wildlife habitat and ecological values; (d) protecting and framing significant views, vistas and areas of high scenic quality; and (e) being of an appropriate scale to integrate successfully with development.	**AO3**	No acceptable outcome provided. Note—the publication *Sub-tropical Design in South East Queensland – a handbook for Planners, Developers and Decision Makers* provides guidance about the use of landscapes in a sub-tropical climate.	**Complies AO3.** Landscaping works will comprise a 10m vegetated buffer along the frontage of the site and down the entire length of the southern boundary. Lower level planting is proposed along the frontage from the vehicle access crossover to the south eastern frontage boundary to provide softening of the facility from the road frontage. Refer to the Landscape Concept Plans included in Appendix Landscaping is proposed as part of future Stages 2 around the education and information centre including internal road and car parking. Stage 3 also involves revegetation and rehabilitation of a large proportion of the site. Refer to the Landscape Concept Plans for future Stages 2 and 3 not subject to this application included in Appendix K.	Vegetation used in landscaping and rehabilitation are to be native plant species which occur naturally on the floodplains of the Sunshine Coast.	Additional details of planting within the 10m wide buffers required.	Vegetation used in landscaping and rehabilitation are to be native plant species which occur naturally on the floodplains of the Sunshine Coast, including but not limited to indicative species list in the 'Typical Landscape Section and Plant Palettes' (LAUD ink SK003D Oct 2014) plus *Melicope elleryana.* Information should also be provided on the size/density of the plants to be used.
Landscape Management and Maintenance							
PO4	Development provides for landscapes that are	**AO4**	No acceptable outcome provided.	**Complies AO4.**	As per P02 above documentation of the	Information on proposed	A Land and Weed Management Plan is

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	designed, constructed, established and maintained to allow for natural vegetation communities renewal, where practicable, and to ensure minimisation of ongoing maintenance costs.			The site has been completely cleared in line with its previous use for broad acre agriculture. The buffer landscaping requires minimal maintenance and proposed species are aligned with natural vegetation communities. Refer to the Landscape Concept Plans and indicative species lists included in Appendix K.	proposal to date gives little consideration to land management.	management (including weed control) of the solar array site was requested.	required for all stages.
PO5	Development provides for maintenance issues to be considered as an integral part of the landscape design and a sustainable maintenance regime to be implemented over time.	**AO5**	No acceptable outcome provided.	**Complies AO5.** Landscaping on site has been designed so that minimal maintenance is required. Refer to the Landscape Concept Plans included in Appendix K.	The proposal does not provide sufficient information on maintaining issues.	Information on low maintenance initiatives was requested.	Condition required regarding the need for landscape works to be established and maintained, as well as mulching.
PO6	Development provides for landscapes that enhance *access* points and personal safety, but which do not impede visibility at *access* points, pedestrian crossings, speed control devices and intersections.	**AO6**	Development provides landscapes which:- (a) define territory and ownership of public, common, semi-private and private space and does not create ambiguous spaces adjacent to areas with security issues; (b) allow passive surveillance into, and visibility within, communal recreational spaces, children's play areas / playgrounds,	**Complies AO6.** The buffer landscaping along the frontage clearly discourages access to the site. Additionally, the site will be gated and infrastructure fenced to prevent unauthorised access. The site is not within close proximity to communal recreational spaces, children's play areas / playgrounds. The vegetated buffer will include large trees, trees and shrubs and groundcovers to provide height variation. The site will be closed at night. As the site will not be accessed at night, external intersection	The proposed landscaping will enhance site access points and will incorporate a range of multi layered native planting.	Not required.	Condition requiring the establishment of multi layered native planting.

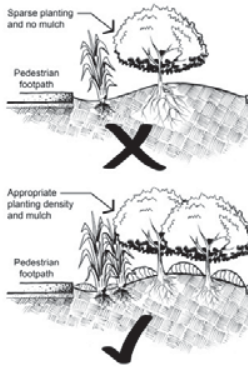
Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			pathways and car parks; (c) incorporate trees that will establish to provide a minimum of 1.8 metres clear trunk and understorey planting that is a maximum of 0.7 metres in height above the road pavement, where located immediately adjacent to pathways, entries, parking areas, street corners, street lighting and driveways; (d) minimise the use of dense shrubby *vegetation* over 1.5 metres in height along street frontages and adjacent to open space areas; (e) incorporate pedestrian surfaces that comply with AS/NZS 4586 Slip resistance classification of new pedestrian surface materials and AS 3661 Slip resistance	lighting is not considered necessary. Limited internal lighting will be provided for the site and will likely consist of bollard style lighting only. Future stages with the education and information centre and associated works will be open to public access and designed to accord with the relevant standards. Refer to the Landscape Concept Plans included in Appendix K.			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			of pedestrian surfaces, and be stable and trafficable in all weather conditions; (f) provide universal access in accordance with *Australian Standard AS 1428: Design for Access and Mobility;* and (g) provide security and pathway level lighting to site entries, driveways, parking areas, building entries and pedestrian pathways.				
PO7	Development provides for public landscape management to occur within a safe working environment.	**AO7**	No acceptable outcome provided. Note—development of landscape is to have regard to the Manual of Uniform Traffic Control Devices and the *Work Health and Safety Act 2011*.	**Complies AO7.** Landscaping on site has been designed so that minimal maintenance is required. Proposed landscaping allows for required maintenance to occur within a safe working environment.	The proposed landscaping uses primarily local native species that will have low maintenance requirements.	Not required.	Not required.
PO8	Development provides landscapes that assist in passive solar access, the provision of shade, microclimate management and energy conservation.	**AO8.1** **AO8.2**	Landscape elements are positioned to shade walls, windows and outdoor areas from afternoon (western) sun. Landscapes facilitate winter sun access to living areas, north facing	**Not Applicable AO8.1. – AO8.3.** The proposed development does not include living areas or public areas. **Complies AO8.4.** Landscaping is not proposed within the fenced area containing the solar panel infrastructure so	Not applicable.	Not required.	Not required.

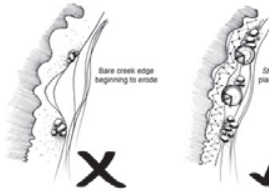
Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			windows and public spaces.	that no landscape elements will shade the solar panels.			
		AO8.3	Landscapes, fences and walls allow exposure of living and public areas to prevailing summer breezes and protection against winter winds.	**Complies AO8.5.** There are no existing street or park trees on the site as the site has been completely cleared in line with its previous use for broad acre agriculture.			
		AO8.4	Landscape elements do not shade solar collector devices during the middle 6 hours of the day.				
		AO8.5	Existing street and park trees are retained where solar collectors are installed. Note—**Figure 9.4.2A (Design for passive solar access)** illustrates how landscapes may provide for passive solar access, the provision of shade and microclimate management. **Figure 9.4.2A Design for passive solar access**				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
							
PO9	Development provides for landscapes that successfully integrate stormwater drainage and water sensitive urban design elements with the street tree infrastructure and surrounding landscapes.	**AO9**	No acceptable outcome provided.	**Complies P09.** It is proposed to retain the existing drainage network on site where possible. Although the existing drainage network is flat or almost flat and outfall is controlled by flap gates, this is considered to be the best solution for the site. Any upgrading of the drainage system such as re-grading of drains, filling or construction of permanent water bodies will increase site disturbance, affect existing stormwater runoff rates and could have an impact on the surrounding low lying properties. A conceptual Site Based Stormwater Management Plan assessing the development's compliance with water quality and quantity requirements along with	The proposed Stage 1 works includes the maintenance of the existing grassed paddock under and around the solar panels and vegetation adjacent to other impervious surfaces and the entrance road. It is considered that this meets the objectives of the Stormwater Management Code.	Not required.	Not required.

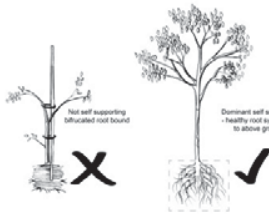
Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
				lawful points of discharge has been prepared and is included in Appendix H.			
PO10	Development provides for landscapes that promote the efficient use of water through appropriate plant selection and layout and by maximising opportunities for water infiltration.	**AO10**	Landscapes maximise the infiltration and conservation of water by:- (a) selecting plant species appropriate for local conditions and appropriate turf species that require minimal irrigation after establishment; (b) grouping plants and street trees (where appropriate) in mulched beds; (c) minimising impervious surfaces; (d) incorporating semi-porous pavement surfaces as an alternative to impervious surfaces; and (e) draining hard surface areas to landscaped areas and water sensitive urban design devices. Note—**Figure 9.4.2B (Planting density and use of mulch)** illustrates how landscapes may promote water conservation through	**Complies AO10.** Indicative plant species and grouping of plants have been selected according to the planning scheme policy for development works and the findings of the ecology site assessment. Refer to Landscape Concepts Plans included in Appendix K and Ecological Site Assessment Report in Appendix L.	It would be desirable to ensure that landscape vegetation buffers are required to be mulched and maintained.	Not required.	A condition requiring vegetation buffers to be mulched and maintained is required to a minimum depth of 100mm.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			appropriate planting density and use of mulch. Figure 9.4.2B Planting density and use of mulch  				
PO11	Development provides for landscapes with planting and lawn areas that do not require permanent irrigation, except in high profile and high use landscape areas.	**AO11**	No acceptable outcome provided.	**Complies AO11.** Landscaping proposed in Stages 1a and 1b do not require permanent irrigation.	The proposal complies with this requirement.	Not required.	Not required.
PO12	Development provides for landscapes which are designed and sited to ensure the stability of soils and minimisation of erosion.	**AO12**	No acceptable outcome provided.	**Complies A012.** SMEC Australia (SMEC) was engaged by SCC to undertake a Geotechnical Assessment Report for the site. The study undertook geotechnical investigation of the site to assess underlying soil conditions,	The development is to ensure the stability of soils and the minimisation of erosion by ensuring appropriate grass cover particularly under the solar arrays.	The applicant was requested to provide horticultural advice confirming the viability of the proposed grass cover within the	The applicant is requested to include, with any future application for operational works approval, horticultural advice confirming the

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
				collected samples for laboratory sampling and recommended geotechnical design parameters. Refer to Appendix M. Based on the findings and recommendations in SMEC's Geotechnical Study and informed by the Flood Risk Mitigation Report – Appendix N, a suitable earthworks design methodology has been adopted for the site.		site, considering the shading effects of the solar arrays.	viability of the proposed grass cover within the site, considering the shading effects of the solar arrays.
PO13	Development provides for landscapes on steep and unstable land to be managed with slope stabilising planting rather than engineered retaining structures, as far as practicable.	**AO13**	Landscapes incorporate stabilising plant species at an appropriate density and establishment materials on batters, slopes and the edges of *waterways* using soils which are less prone to erosion. Note – **Figure 9.4.2C (Landscape design for waterway edges)** illustrates the preferred landscape treatment for *waterway* edges. **Figure 9.4.2C Landscape design for waterway edges**	**Complies A013.** Landscape works are not proposed within the existing vegetated areas on the edges of waterways. Stabilising plant species will be selected to stabilise earthwork batters.	Not applicable – the area of the site to be developed is not steep or currently unstable.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
							
PO14	Development provides for landscapes that incorporate planting media that is capable of supporting the successful establishment and sustainable growth of selected plant species.	**AO14.1** **AO14.2**	All planting media including site soil and imported topsoil used in landscapes:- (a) is suitable for the successful establishment of the selected plant species; and (b) is suitably remediated to maximise the site specific vegetation performance objectives. As far as practicable, existing site soil is used for planting media.	**Complies AO14.1. – AO14.2.** Planting is to have appropriate site soil and topsoil to support the successful establishment and sustainable growth of vegetation. Existing site soil is to be used as far as practicable.	Soil tests should be carried out on existing site soil and analysed by agronomist to determine appropriate ameliorant specification prior to planting.	Not required.	Soil tests to be carried out on existing site soil and analysed by agronomist to determine appropriate ameliorant specification prior to planting.
PO15	Development provides for landscapes where planting of plant stock is undertaken in accordance with best horticultural practice.	**AO15**	No acceptable outcome provided.	**Complies AO15.** The Landscape Concept Plans in Appendix K include a proposed species list for proposed landscaping on-site.	The proposal should demonstrate best practice to ensure the effectiveness of the landscape vegetation buffers.	Not required.	Not required.
PO16	Development provides for landscapes which incorporate plant stock of	**AO16**	Landscapes incorporate plant stock sizes that comply with **Table**	**Complies AO16.** Plant stock sizes are to accord with Table 9.4.2.3.1A.	The density, spacing and sizes are not included on drawing	Further information	A condition is required that states:

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	an appropriate size at the time of planting to fulfil the intended function whilst ensuring long term viability.		**9.4.2.3.1A (Minimum plant stock sizes)** **Table 9.4.2.3.1A** **Minimum plant stock sizes** **Column 1 ing Stock** / **Column 2 Minimum Pot S** re or landmark — 45 litre pot trees or park — 25 litre pot trees — 15 litre pot (300r s, vines and d covers — 140mm pot ophytes, tufting and etation stock — 50mm tube.		SK003. This provides no direction on what minimum plant densities and sizes should be installed at planting. Left to a contractor, minimum sizes and spacing of plants may be insufficient to give the required short term coverage for screening and weed suppression Conditioned Information.	requested on pot sizes for plants.	Minimum Plant sizes and densities: - Shrubs and Groundcover - 50mm Tube stock, Density 1/m^2 - Medium Trees/ Large Shrubs – 200mm Pots, Density 1/10m^2 - Large Trees – 25L pots, 1/100m^2
PO17	Development provides for landscapes which incorporate plant species that:- (a) are well matched to the required landscape function; (b) are not poisonous or dangerous; (c) have a form and structure typical of the species, free from structural or root system faults, diseases and nutritional deficits; and	**AO17.1** **AO17.2** **AO17.3** **AO17.4**	In urban settings, landscapes incorporate local and 'cultivar' native plants with moderate use of suitable non-invasive exotic species where function requires. Landscape planting does not use plant species that:- (a) have large thorns or spines; (b) are capable of triggering severe allergic reactions; or (c) are poisonous.	**Complies AO17.1. – AO17.5.** The Landscape Concept Plans in Appendix K include a proposed species list. Indicative plant species and grouping of plants have been selected according to the planning scheme policy for development works and the findings of the ecology site assessment.	Proposed plant species generally suitable for both screening and for wildlife habitat & movement.	No	One additional native tree suggested for this area is *Melicope elleryana.*

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	(d) are of appropriate hardiness for the intended location.	**AO17.5**	Landscape planting does not use declared or environmental weeds as specified in the **Planning scheme policy for development works**. Street and park tree stock meet the requirements for quality specified in the *NATSPEC Guidelines: Specifying Trees, and/or plants are true to form.* Note—**Figure 9.4.2D (Quality of street and plant tree stock)** illustrates the condition of trees to be used in landscapes. **Figure 9.4.2D Quality of street and plant tree stock**  All plant stock is free of disease and nutritional deficiencies and has been				

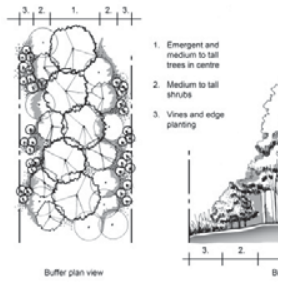
Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			acclimatised to conditions similar to those expected on the development *site* (i.e. full sun, wind, salt spray).				
PO18	Development ensures that where palms are used in landscapes they are:- (a) used in a manner that is consistent with their natural character and occurrence on the Sunshine Coast, where practicable; (b) used as an emergent rather than dominant landscape feature, where other species are less suitable; and (c) the appropriate species for their location, and minimise public safety risks.	**AO18**	Palms included in the planting palette are planted in small naturalistic groups (clumped as they would normally occur) in coordination with other trees and foliage planting.	**Complies AO18.** The Landscape Concept Plans in Appendix K include a proposed species list. The proposed species includes a mix of large trees, trees and shrubs and groundcovers. Any palm planting is to be done in coordination with other trees and foliage planting.	Palms are not included on the updated indicative species list.	Not required.	Not required.
PO19	Development with landscapes for revegetation or habitat restoration works, ensures that the works:- (a) are of a high quality; (b) replicate the topography and structure of appropriate natural habitat and corridor elements; (c) utilise plant species of local native	**AO19**	Revegetation and habitat restoration works:- (a) are undertaken in accordance with the standards specified in the **Planning scheme policy for development works**; (b) employ suitable establishment and management methods and	**Not Applicable AO19.** Revegetation and rehabilitation does not form part of this application. Revegetation is proposed as part of future Stage 2 and 3 works.	Not applicable as part of Stage 1a or 1b works.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	provenance where available; and (d) are established using appropriate methods so as to maximise environmental outcomes and minimise ongoing maintenance requirements.		combinations of methods to encourage the most successful regeneration; (c) use local native provenance species, where available, that are planted in a matrix or naturalistic pattern to densities best suited to the species, landform, soil profile, drainage and ecosystem being recreated; (d) provide for self-sustaining ecosystems to be created through successional planting/regeneration methods that employ pioneer species to stabilise the site, before encouraging longer term species establishment; and (e) use understorey shrubs and vines to appropriately bind rehabilitation area edges (including *waterway* edges) against degradation and weed infestation.			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
Landscape Design for Wildlife							
PO20	Development ensures that landscapes protect habitats and corridors for native wildlife by:- (a) replicating adjacent remnant *vegetation* including understorey *vegetation* and ground surface habitat logs, rock piles and melon holes; (b) siting landscaped areas to complement and enhance existing and surrounding *vegetation*; (c) retaining old trees (including dead trees) with hollows for local native fauna habitat, where trees will not provide a public safety risk; (d) retaining natural leaf litter where appropriate for local native fauna; (e) creating or enhancing *vegetation* linkages between existing habitats; (f) selecting species that provide a range of foliage, fruit and flower suitable for local native fauna;	**AO20**	No acceptable outcome provided.	**Complies AO20.** The Landscape Concept Plans in Appendix K include a proposed species list detailing the location and extent of planting required. The proposed species includes a mix of large trees, trees and shrubs and groundcovers which will complement and enhance existing vegetation in line with the findings of the ecology assessment and outcomes of PO20. No clearing of existing vegetation is required.	As per P017 above, Proposed plant species generally suitable for both screening and for wildlife habitat & movement.	No	Vegetation buffers to be a minimum of 10 m wide and include several rows of multi-layered native plants capable (at maturity) of providing visual screening from 1.5m to at least 15 m height, including along western boundary as shown on the Stages 1A & 1B Landscape Concept Plan and indicative species list in the 'Typical Landscape Section and Plant Palettes' (LAUD ink SK003D Oct 2014), with the addition of *Melicope elleryana*.

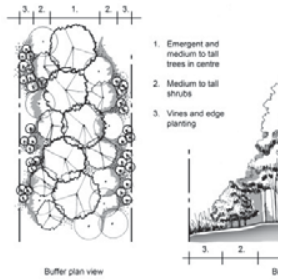
Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	(g) minimising adverse effects to koalas by planting and retaining appropriate tree species and facilitating koala movement in koala habitat areas; and (h) providing wildlife nesting boxes, fauna bridges, ropeways, arboreal road crossings, fauna underpasses and traffic calming.						
Landscape Buffers							
PO21	Development provides for *landscape buffers* that:- (a) effectively protect the edges of existing native *vegetation* or another *ecologically important area*; (b) achieve visual screening of acoustic attenuation devices; and (c) provide separation between incompatible land uses or between major *infrastructure* elements (such as State controlled roads) and land uses.	**AO21**	Where a *landscape buffer* is required by an applicable use code, local plan code or overlay code, it is designed, constructed, established and maintained in accordance with the following:- (a) earth mounding is provided, where necessary, to complement and achieve satisfactory acoustic attenuation, visual screening or land use separation; (b) selected plant species are appropriate to the	**Complies AO21.** Landscaping works will comprise a 10m vegetated buffer along the frontage of the site and down the entire length of the southern boundary. Earth mounding is not proposed to avoid any influence on the site's drainage characteristics. The Landscape Concept Plans in Appendix K include a proposed species list. The proposed species includes a mix of large trees, trees and shrubs and groundcovers and species.	Buffers are appropriate where shown, but may also be required on the western boundary to screen houses on the foothill slopes of Mt Ninderry.	Information requested on planting densities and spacing for the 10m wide buffers.	As above for P20.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			location, drainage and soil type, meet the buffer's functional requirements and require minimal ongoing maintenance; (c) plant selection includes a range of species to provide variation in form, colour and texture to contribute to the natural appearance of the *buffer*; (d) planting density results in the creation of upper, mid and understorey strata with:- (i) large trees planted at 6 metre centres; (ii) small trees planted at 2 metre centres; and (iii) shrubs planted at 1 metre centres; (e) tufting plants, vines and groundcovers planted at 0.5 metre to 1 metre centres; and				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			(f) where adjoining the edge of native *vegetation* or *waterway* understorey, shrubs and vines are used to bind appropriately the *buffer* edges against degradation and weed infestation. Note—**Figure 9.4.2E (Landscape buffer design)** illustrates the preferred configuration of *landscape buffers*. **Figure 9.4.2E Landscape buffer design**  				
Landscape Screening							
PO21	Development provides for *landscape buffers* that:- (d) effectively protect the edges of existing native *vegetation* or	**AO21**	Where a *landscape buffer* is required by an applicable use code, local plan code or overlay code, it is designed,	**Complies AO21.** Landscaping works will comprise a 10m vegetated buffer along the frontage of the site and down the entire length of the southern	It is unclear what the "Low Feature shrub planting area" proposed in Stages 1a and 1b of the	Information was provided on the cross section showing structure	A condition requiring the similar treatment of the Low Feature shrub planting area with the other

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	another *ecologically important area*; (e) achieve visual screening of acoustic attenuation devices; and (f) provide separation between incompatible land uses or between major *infrastructure* elements (such as State controlled roads) and land uses.		constructed, established and maintained in accordance with the following:- (g) earth mounding is provided, where necessary, to complement and achieve satisfactory acoustic attenuation, visual screening or land use separation; (h) selected plant species are appropriate to the location, drainage and soil type, meet the buffer's functional requirements and require minimal ongoing maintenance; (i) plant selection includes a range of species to provide variation in form, colour and texture to contribute to the natural appearance of the *buffer*; (j) planting density results in the creation of upper, mid and understorey strata with:-	boundary. Earth mounding is not proposed to avoid any influence on the site's drainage characteristics. The Landscape Concept Plans in Appendix K include a proposed species list. The proposed species includes a mix of large trees, trees and shrubs and groundcovers and species.	Landscape Concept Plan will contain.	of plants proposed.	landscape vegetation buffers is required.

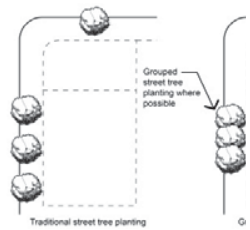
Performance Outcomes	Acceptable Outcomes	GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code					
	(i) large trees planted at 6 metre centres; (ii) small trees planted at 2 metre centres; and (iii) shrubs planted at 1 metre centres; (k) tufting plants, vines and groundcovers planted at 0.5 metre to 1 metre centres; and (l) where adjoining the edge of native *vegetation* or *waterway* understorey, shrubs and vines are used to bind appropriately the *buffer* edges against degradation and weed infestation. Note—**Figure 9.4.2E (Landscape buffer design)** illustrates the preferred configuration of *landscape buffers*. **Figure 9.4.2E Landscape buffer design**				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
							
Landscape Screening							
PO22	Development provides for complete or partial landscape screening of built form elements, carparks, fences, utilities and storage areas at maturity.	**AO22.1** **AO22.2** **AO22.3** **AO22.4**	Built form is softened and integrated with the broader landscape by structured landscape planting. Landscape screening occupies at least 30% of a building elevation as viewed from the street. Except where otherwise provided by the applicable use code, car parks and driveways are screened by:- (a) a planting bed of at least 1.5 metres wide where adjacent to a residential use; or (b) a planting bed of at least 3 metres wide where adjacent to a	**Complies AO22.1 – AO22.2.** Landscaping works will comprise a 10m vegetated buffer along the frontage of the site and down the entire length of the southern boundary. Lower level planting is proposed along part of the frontage to screen, soften and integrate structures onsite with the broader landscape. . **Complies AO22.3. – AO22.4.** The combination of vegetation buffering and lower level planting is to provide a complete screen to the solar panel array from Yandina-Coolum Road. The lower level planting provides a screen to the ancillary equipment and maintenance support precinct to soften its appearance from Yandina-Coolum Road. It is	It is unclear what the "Low Feature shrub planting area" proposed in Stages 1a and 1b of the Landscape Concept Plan will contain.	Information was provided on the cross section showing structure of plants proposed.	A condition requiring the similar treatment of the Low Feature shrub planting area with the other landscape vegetation buffers is required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			street *frontage* or *public open space*. Storage and utility areas are completely screened by *vegetation* or built screens, except for access ways. Note—**Figure 9.4.2F (Landscape screening of building elevations)** illustrates how landscape screening is intended to soften and integrate with the built form. **Figure 9.4.2F Landscape screening of building elevations** 	however not a complete screen so that this 200m section addresses the road frontage and provides visibility to the future education and information centre.			
Engineered Planting							
PO23	Development provides for landscapes incorporating any podium planter, green wall or other vertical landscape element to be appropriately designed,	**AO23**	No acceptable outcome provided.	**Not Applicable AO23.** Podium planter or green wall planting is not proposed as part of this application.	Not Applicable	Not Applicable	Not Applicable

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	constructed and managed with adequate growing media, drainage and irrigation, where required, and to ensure vigorous and sustainable plant growth without structural or drainage conflicts.						
Landscape Area Provision							
PO24	Areas to be included in landscape provisions contribute to the local amenity and conditions that support the establishment of successful trees and landscapes whose growth is not compromised by services and *infrastructure*.	**AO24**	Landscape areas are concentrated toward development frontages and contribute to the *streetscape*.	**Complies AO24.** Landscaping works in Stage 1a and 1b of the development will comprise a 10m vegetated buffer and lower level planting along the site's frontage.	**Not applicable.**	Not required.	Not required.
Streetscape Landscapes							
PO25	Development provides for streetscape landscapes that:- (a) ensures the provision of shade trees at regular intervals; (b) contributes to the continuity and character of existing and proposed *streetscapes*; (c) in established urban areas, towns and villages, incorporates landscape design (including planting, pavements, furniture,	**AO25**	No acceptable outcome provided. Note—a landscape master plan may provide further guidance regarding particular streetscape treatments in a local plan area. Note—streetscape materials and palettes can be referenced from the *Council's* Infrastructure and Guideline Standards for each centre as required.	**Complies AO25.** The proposed landscaping works as part of Stage 1a and 1b of the development will comprise a 10m vegetated buffer along the frontage and southern boundaries. No streetscape landscapes are proposed given the location of the site being contained within a rural setting. Refer to Landscape Concept Plans included in Appendix K.	**Not applicable.**	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	structures, etc.) that reflect and enhance the character of the streetscape; and (d) in new or establishing urban areas, incorporates landscape design that is consistent with and complementary to the natural landscape character of the local area.						
PO26	Development provides for entry statement landscapes that:- (a) consist mainly of vegetative features with minimal signage and built form; (b) have all components of the entry statement contained wholly on private land; and (c) are vandal resistant and require minimal ongoing maintenance.	**AO26**	Entry statements:- (a) are only provided at major estate or centre entry points; (b) incorporate feature trees and suitable understorey planting as the main elements of the entry statement; (c) incorporate restrained signage with all built form features located on private land; and (d) require minimal ongoing maintenance. Editor's note—**Section 9.4.1 (Advertising devices code)** sets out requirements for an entry statement sign.	**Not Applicable AO26.** The proposed development is not a major estate or centre; therefore no entry statement is proposed as part of this application.	Not Applicable	Not Applicable	Not Applicable

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
PO27	Developments are designed to ensure adequate space is provided for street trees and that the provision of shade and amenity to the *streetscape* receives high priority when locating services, footpaths, driveways, car parking and buildings.	**AO27.1** **AO27.2**	Street trees are centrally located between kerb and footpath. Street trees are suitable to the locality, soil type, drainage and functional requirements of a shade tree. Note—**Figure 9.4.2G (Street tree planting configuration)** illustrates traditional and grouped street tree planting configuration examples. **Figure 9.4.2G Street tree planting configuration**  	**Complies AO27.1. – AO27.2.** Due to the site being within a rural setting, street trees have not been provided.	Not Applicable	Not Applicable	Not Applicable
Provision of Natural and Built Shade							
PO28	Development provides for landscapes that incorporate protective shade to public and communal spaces, including car parking areas, barbeque and picnic areas, children's play areas and	**AO28.1**	All pathways are designed for maximum shade opportunities, with shade trees at an average of 6 metre centres and/or awnings to achieve a shade level consistent	**Complies AO28.1. – AO28.6.** Stages 1a and 1b have no public access and therefore these elements haven't been incorporated in this application. The rehabilitation works proposed as part of future Stage	Not Applicable	Not Applicable	Not Applicable

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	exercise equipment stations.	**AO28.2** **AO28.3** **AO28.4** **AO28.5** **AO28.6**	with the subtropical climate. Note—target of 80% shade at tree maturity. All carparking areas are shaded by either:- (a) shade trees at a maximum spacing of 1 shade tree per 4 parking bays planted in:- (i) deep natural ground where growing media has sufficient volume to facilitate vigour, sustainability and will allow for the tree to achieve mature form; or (ii) structured soil cells with growing media volume capable of facilitating vigour, sustainability and allowing the tree to achieve mature form; or (b) a constructed shade structure, only where set back from the	3 works will be incorporated into the Stage 2 education and information centre proposed for the site, along with broader landscape treatments which may include walking trails and hardscape features (shelters, seating etc.).			

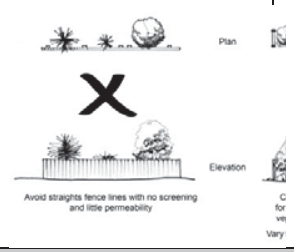
Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			street and consistent with the character of the area. All public or communal barbecues, picnic table areas, children's play areas and playgrounds are shaded by a constructed shade structure and supplemented with trees. Constructed shade structures (awnings, pergolas, shelters and shade sails) are manufactured from long lasting UV stable materials that are vandal resistant and require minimal ongoing maintenance. Shade trees are selected from species suitable to the location, soil and drainage conditions and create a dense, wide spreading foliage canopy with minimal limb, leaf and fruit drop. The quantities and types of built or natural shade is provided in accordance				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			with the *Creating Shade at Public Facilities: Policy and Guidelines for Local Government*, prepared by the Australian Institute of Environmental Health.				
Pathways and Access Points							
PO29	Development provides for public and communal pathways and access points to be fit for purpose in terms of their location, width and extent and to be effectively integrated with the landscape design for the development. Note—public and communal pathways and access points include, but are not limited to, beach access paths, vehicle and machinery access paths, boat ramp accesses and pedestrian and bicycle pathways.	**AO29**	Development complies with the standards for pathways and access points specified in the **Planning scheme policy for development works.**	**Complies AO29.** Future public and communal pathways and access points are to comply with the standards for pathways and access points as specified in the Planning scheme policy.	Not Applicable	Not Applicable	Not Applicable
Recreational Equipment							
PO30	Development provides for children's play areas, recreational sports areas and exercise equipment provided in public and communal open space to:- (a) be appropriately located within open space; (b) utilise equipment and materials that are fit for	**AO30**	Development complies with the standards specified in the **Planning scheme policy for development works**.	**Complies AO30.** Future public and communal areas are to comply with the standards as specified in the Planning scheme policy.	Not Applicable	Not Applicable	Not Applicable

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	purpose, durable and safe; and (c) be designed for the use of a range of age groups and physical and cognitive abilities.						
Landscape Structures							
PO31	Development provides for all built structures used in landscapes to:- (a) be appropriately located within the landscape; (b) be fit for purpose, durable and safe; (c) incorporate impervious roofs that maximise rain and sun protection, where intended to provide shelter; (d) harvest water for re-use, where appropriate; and (e) comply with any relevant building, engineering, plumbing or electrical standards. Note—landscape structures include, but are not limited to, shade shelters for barbeques and picnic areas, pergolas, toilet and change room facilities, maintenance and storage sheds, boardwalks,	**AO31**	Development complies with the standards specified in the **Planning scheme policy for development works**.	**Complies AO31.** Built structures are to comply with the standards specified in the planning scheme policy for development works.	Not applicable for Stage 1a or 1b.	Not Applicable	Not Applicable

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	bridges, raised platforms, lookouts, steps and stairs.						
Furniture and Fixtures							
PO32	Development provides for all furniture and fixtures used in open space or landscapes to:- (a) be appropriately located within open space or the landscape; (b) be fit for purpose, durable and safe; (c) be vandal resistant with parts that are easily replaceable; (d) be easy to maintain; and (e) comply with any relevant building, engineering, plumbing or electrical standards. Note—landscape furniture and fixtures include, but are not limited to, seats, benches, picnic tables, tree guards, bicycle racks/rails, balustrades and railings, bollards, maintenance gates, barbeque plates, taps and drinking fountains, beach showers, bins and bin surrounds, lighting and signage.	**AO32.1** **AO32.2**	Development complies with the standards specified in the **Planning scheme policy for development works**. Landscape furniture and fixtures:- (a) comply with the furniture and fixture range design developed for the local area; or (b) where no range design exists, reflect a coordinated or themed design aesthetic. Note—a streetscape master plan may provide further guidance regarding particular streetscape treatments in a local plan area. Note—streetscape materials and palettes' can be referenced from the *Council's* Infrastructure and Guideline Standards for each centre as required.	**Complies AO32.1. – AO32.2.** Any landscape furniture and fixtures including bollards, maintenance gates, lighting and signage are to comply with the standards specified in the planning scheme policy for development works.	Landscape furniture and fixtures proposed as part of Stage 1a or 1b should comply with the Planning Scheme Policy.	Not required.	An advisory note is proposed to address this matter.
Pavements							
PO33	Development provides for all pavements used in landscapes to be:-	**AO33**	Development complies with the standards specified in the **Planning**	**Complies AO33.** Any pavements as part of public walking areas are to comply with	All pavements proposed as part of Stage 1a or 1b should	Not required.	An advisory note is proposed to address this matter.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	(a) hard wearing; (b) non-slip; (c) shaded or coloured to reduce glare and heat reflection; and (d) finished with surface treatments that require minimal cleaning or ongoing maintenance.		**scheme policy for development works**.	the standards specified in the planning scheme policy.	comply with the Planning Scheme Policy.		
Fencing, Walls and Screening							
PO34	Development provides for all fences, walls and screening structures used in landscapes, where interfacing with public use areas, to be:- (a) appropriately located within the landscape; (b) fit for purpose, durable and safe; (c) integrated within the landscape; (d) vandal and graffiti resistant where fronting a public space; and (e) articulated, screened by planting, coloured and textured so as to blend in with the character of the local area.	**AO34.1** **AO34.2** **AO34.3** **AO34.4** **AO34.5**	Development complies with the standards specified in the **Planning scheme policy for development works**. Fences and screens to street *frontages* are a minimum of 50% visually and climatically permeable. Fences and screens do not extend further than 6 lineal metres without articulation and vegetative screening. Fences and screens bordering public use areas allow for casual surveillance opportunities and are designed to blend with adjacent landscape features.	**Complies AO34.1.** Fencing is suited to the purpose of restricting access to the solar farm infrastructure and is to be a neutral colour with low reflectivity. **Complies AO34.2 – AO34.3.** No fencing is proposed along the frontage as fencing in Stages 1a and 1b are limited to fencing the solar panels and the ancillary equipment and maintenance precinct. **Not Applicable AO34.4.** The site does not border a public use area. **Not Applicable AO34.5.** The site does not border a beachfront reserve.	Security fencing is proposed along the boundary of the solar farm infrastructure envelope area.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			Fences and screens bordering beachfront reserves are of commercial grade pool type fence construction, coloured to blend with adjacent landscape features. Note—**Figure 9.4.2H (Design of fences, walls and structures)** illustrates the preferred treatment of fences, walls and structures used in landscapes. **Figure 9.4.2H Design of fences, walls and structures**  				
Lighting							
PO35	Development provides for lighting of a suitable standard to be incorporated in landscapes, where required, to support the use of areas and facilities and	**AO35**	Development complies with the standards specified in the **Planning scheme policy for development works** and *Australian Standard (AS*	**Complies AO35.** The site will be closed at night. As the site will not be accessed at night, external intersection lighting is not considered necessary. Limited internal	The proposal will not be accessed at night.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
	maintain the safety and security of people and property.		*1158.3.1 Lighting for roads and public spaces)*.	lighting will be provided for the site and will likely consist of bollard style lighting only.			
Signage							
PO36	Development provides for signage in *public open space* and communal open space areas to be:- (a) appropriately located in open space; (b) limited to park naming signs, estate signs, way finding signs and symbols, education and interpretive signs and warning/safety signs; and (c) durable and easy to maintain.	**AO36**	No acceptable outcome provided.	**Complies PO36.** It is expected that directional signage on-site will be relatively minimal for the proposed Stages 1a and 1b. Future stages will likely consist of directional signage for visitors, including signs indicating car parking areas, the entrance to the visitor and information centre and the associated viewing platform.	Not applicable.	Not applicable.	Not applicable.
Roads, Services and Utilities							
PO37	Development provides for all landscapes to be located a safe distance from utilities and underground services.	**AO37.1** **AO37.2** **AO37.3**	Planting and landscape structures are located to enable tradespersons to access, view and inspect switchboards, substations, service meters and the like. Root barriers are installed around critical *infrastructure* where *infrastructure* is located adjoining tree planting zones.	**Complies A37.1-A37.3.** Landscaping will be positioned so it does not prevent maintenance access to the ancillary equipment and support precinct. Any vegetation or planting in landscape areas adjacent to the ancillary equipment and support precinct is to comply with the ENERGEX Vegetation Management Standard.	The vegetation landscape buffers have been positioned so it does not prevent maintenance access to the ancillary equipment.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Landscape Code							
			Planting in landscapes adjacent to electricity substations or high voltage transmission line easements complies with:- (a) for Energex's assets, the *Energex Vegetation Management Standard*; and (b) for Powerlink's assets, Powerlink's *Easement Co-use Guideline* and *Screening Your Home from Powerlines* Guideline.				

4. Stormwater Management Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
Development Design							
PO1	Development design, including but not limited to layout, scale, intensity and staging, is based on a thorough assessment of:- (a) site characteristics; (b) potential environmental risks; and (c) the likely effectiveness and limitations of available erosion and sediment control and stormwater drainage measures to achieve protection of the environmental values of water and the functioning of stormwater *infrastructure*, both during and post construction.[1]	**AO1**	No acceptable outcome provided.	**Complies AO1.** A conceptual Site Based Stormwater Management Plan assessing the development's compliance with water quality and quantity requirements along with lawful points of discharge has been prepared and is included in Appendix H.	A Stormwater Management Plan will be prepared as part of Stage 2 to address the water quality treatment for runoff from the entrance road and associated buildings.	Acceptable response provided.	Not required.
Stormwater Drainage Systems							
PO2	Development is provided with a stormwater drainage system which:- (a) incorporates allowance for climate change; and (b) ensures the development is adequately drained, and	**AO2.1** **AO2.2**	Development is provided with a stormwater drainage system which is designed and constructed in accordance with	**Complies AO2.1. – AO2.4.** The master plan for the site has been configured in such a way that appropriately responds to the site's characteristics and surrounding locality whilst accommodating the facilities' required functions. Details	The development only considers a 30 year life span, thus includes allowance for Climate Change to 2050. Stormwater	Not required.	Stormwater runoff from the development must be disposed of on-site without causing scour or damage to the

[1] Editor's note—the **Planning scheme policy for development works** provides guidance for satisfying PO1, including requirements for the preparation of an Erosion Risk Assessment and an Erosion Hazard Evaluation Report. **Section 9.4.11 (Works, services and infrastructure code)** sets out additional requirements in relation to erosion and sediment control during construction activities and works.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
	stormwater is managed and lawfully discharged without altering stormwater drainage characteristics external to the *site*.	**AO2.3** **AO2.4**	the standards specified in the **Planning scheme policy for development works.** The stormwater drainage system connects to a lawful point of discharge in accordance with the **Planning scheme policy for development works.** Stormwater flows discharged from the development are either within the capacity of the downstream drainage system such that non-worsening occurs, or are mitigated to pre-development characteristics. Development provides for the management of stormwater to incorporate appropriate	regarding the various elements of the proposal are detailed in section 5 of the Planning Report. A conceptual Site Based Stormwater Management Plan assessing the development's compliance with water quality requirements along with lawful points of discharge has been prepared and is included in Appendix H.	runoff from site is not concentrated. Stormwater runoff should not impact on the site or adjoining properties		subject site or any adjoining property.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
			allowance for climate change impacts (including rainfall intensity and sea level rise), in accordance with the **Planning scheme policy for development works.**				
PO3	Development is provided with stormwater conveyance channels which use natural channel design principles to convey external catchment stormwater through development and support landscape, passive recreation and ecological values.	**AO3.1** **AO3.2** **AO3.3**	Development is provided with stormwater conveyance channels designed in accordance with the standards specified in the **Planning scheme policy for development works.** Landscape and ecological features (e.g. plant species and habitat types) used in stormwater conveyance channels are complementary to the local context, including natural *waterways*.	**Complies AO3.1.** As discussed in section 4.5 of the Planning Report, the drainage channel located along the western boundary of the site flows in a northerly direction. This drain currently collects stormwater runoff from the southern adjoining cane farms and discharges to the existing drain located along the northern boundary of the site. It is proposed to retain the existing drainage network on site where possible. Although the existing drainage network is flat or almost flat and outfall is controlled by flap gates, this is considered to be the best solution for the site. Any upgrading of the drainage system such as re-grading of drains, filling or construction of permanent water bodies will increase site disturbance, affect existing stormwater runoff rates and could have an impact on the surrounding low lying properties. Refer to Appendix H.	Applicant has clarified that the proposed crushed rock maintenance roads will not impact on local flooding and drainage due to the low height of the roads (maximum of 100 mm).	Acceptable response provided.	Condition required regarding internal road heights so that stormwater drainage characteristics external to the site are not affected.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
			Bank and bed stability and planting densities result in a stable channel over the long term and minimal potential for invasive weed growth.				
PO4	Stormwater *infrastructure* is designed to minimise maintenance costs and the requirement for specialised equipment or maintenance techniques.	**AO4**	Stormwater *infrastructure* is designed and constructed in accordance with the standards specified in the **Planning scheme policy for development works.**	**Complies AO4.** To meet SCC's stormwater quality requirements for the future stages, it is proposed to construct a stormwater treatment facility adjacent to the proposed site entrance. Stormwater infrastructure is to be designed and constructed in accordance with the planning scheme policy.	A Stormwater Management Plan will be prepared as part of Stage 2 to address the water quality treatment for runoff from the entrance road and associated buildings.	The applicant is requested to provide additional details, including indicative pipework invert levels, to confirm that the filter media within the proposed stormwater treatment bioretention basin will be free draining during both catchment runoff and tidal events. Response is satisfactory. Details to be provided and assessed with operational works	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
						Acceptable response provided.	
PO5	Development avoids stormwater inflow and infiltration to the sewer *infrastructure* network.	**AO5**	No acceptable outcome provided.	**Not Applicable AO5.** No sewerage networks exist on the site and no sewerage works are required for Stages 1a and 1b.	Not applicable.	Not applicable.	Not applicable.
Hydrology and Waterway Stability							
PO6	Development prevents increased channel bed and bank erosion in *waterways* by limiting changes in flow rate and flow duration within receiving waters.	**AO6**	Stormwater discharges are mitigated to achieve the waterway stability objective specified in the **Planning scheme policy for development works.**	**Complies AO6.** A concept stormwater model using DRAINS software has been prepared to estimate stormwater runoff from the site for pre-developed and post-developed conditions and to assess the impact of the proposed development on runoff. Results from the DRAINS model indicate that there was very little increase in stormwater runoff from the site between pre and post developed conditions for major storm events. Accordingly, the proposed development is assessed to be non-worsening to the existing waterways stability. Refer to the Engineering Assessment Report included in Appendix H.	Site discharges to tidal waterway, therefore waterway stability criteria do not apply. There are no significant changes to flows within the subject site.	Not required.	Not required.
PO7	Development protects in-stream ecology by maintaining pre-development low flow discharge regimes.	**AO7**	Frequent stormwater discharges are captured and managed to achieve the frequent flow management objective specified in the **Planning**	**Complies AO7.** Refer to comments for AO6 above.	Refer comments in PO6.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
			scheme policy for development works.				
PO8	Development ensures adequate surface and sub-surface water to maintain the environmental values of water dependent ecosystems, including downstream in stream and off stream aquatic, riparian, wetland and terrestrial ecosystems.	**AO8**	Stormwater harvesting (excluding roof water harvesting) and the location and form of stormwater discharge points do not compromise the pre-development hydrology of receiving waters.	**Complies AO8.** As discussed in section 4.5 of the Planning Report, the drainage channel located along the western boundary of the site flows in a northerly direction. This drain currently collects stormwater runoff from the southern adjoining cane farms and discharges to the existing drain located along the northern boundary of the site. It is proposed to retain the existing drainage network on site where possible. Although the existing drainage network is flat or almost flat and outfall is controlled by flap gates, this is considered to be the best solution for the site and will not compromise the pre-development hydrology of receiving waters.	No significant changes to discharge at outlet points.	Not required.	Not required.
Stormwater Quality							
PO9	Development protects or enhances the environmental values and water quality objectives[2] of receiving waters or buffer areas within or downstream of a *site*.	**AO9.1** **AO9.2**	Stormwater discharges achieve the pollutant load reduction objectives specified in the **Planning scheme policy for development works.**	**Complies AO9.1-9.2.** To meet SCC's stormwater quality requirements for the future stages, it is proposed to construct a stormwater treatment facility adjacent to the proposed site entrance. This will be constructed as part of future Stage 2 works. The stormwater treatment facility will likely consist of a bio-retention basin with a small sediment	A Stormwater Management Plan will be prepared as part of Stage 2 to address the water quality treatment for runoff from the entrance road and	Acceptable response provided.	Condition regarding the maintenance of the existing grassed paddock under and around the solar panels, and vegetation around other impervious areas.

[2] Editor's note—water quality objectives are prescribed in Schedule 1 of the *Environmental Protection (Water) Policy 2009*.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
			Where a development includes or adjoins a *constructed waterbody* or a *buffer* to a *waterway* or *wetland*, the pollutant load reduction targets are met prior to the discharge entering that *buffer* or waterbody.	fore bay and will collect stormwater runoff from the site facilities located in the south eastern corner of the site. It is not proposed to provide any formal stormwater treatment devices for the solar panel farm. This is considered to comply with the planning scheme policy.	associated buildings The area under and around the solar panels, and the areas adjacent to impervious surfaces and the temporary entrance road, must be maintained as a grassed paddock with stable cover, using suitable grass species.,.		
PO10	Treatment systems that use natural processes and materials are integrated into the development, wherever practicable, taking into account the whole of life cycle cost to enhance biodiversity and landscape benefits.	**AO10**	No acceptable outcome provided.	**Complies AO10.** Refer to comments for AO9.1-AO9.2 above.	Refer comments in PO9.	Not required.	Not required.
PO11	Treatment systems are designed to eliminate or minimise health, safety and aesthetic hazards.	**AO11**	Risks associated with insect breeding, odour and public safety are minimised by designing treatment systems in accordance with the **Planning scheme policy for**	**Complies AO11.** Refer to comments for AO9.1-AO9.2 above.	Refer comments in PO9.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
			development works.				
PO12	Treatment systems are designed to minimise maintenance, renewal and adaptation costs and the requirement for specialised equipment or maintenance techniques.	**AO12**	Design achieves acceptable maintenance, renewal and adaptation costs for the project life[3] in accordance with the **Planning scheme policy for development works.**	**Complies A12.** Refer to comments for AO9.1-AO9.2 above.	Refer comments in PO9.	Not required.	Not required.
Stormwater Harvesting and Re-use							
PO13	Development provides for stormwater capture, in addition to roof water capture.	**AO13**	Stormwater harvesting systems are designed in accordance with the standards specified in the **Planning scheme policy for development works.**	**Complies AO13.** Refer to comments for AO9.1-AO9.2 above.	No stormwater harvesting system is proposed.	Not required.	Not required.
PO14	Stormwater capture for the purpose of substituting for potable water use does not create a health, safety or aesthetic hazard.	**AO14.1** **AO14.2**	Stormwater harvesting systems are designed in accordance with the standards specified in the **Planning scheme policy for development works.**	**Complies AO14.1 – 14.2.** Refer to comments for AO9.1-AO9.2 above.	No stormwater harvesting system is proposed.	Not required.	Not required.

[3] Editor's note—project life is a minimum of 50 years, unless the asset is proposed to be decommissioned in a shorter period.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
			Water quality treatment is designed, established and monitored to human health standards appropriate for the intended use.				
PO15	Stormwater harvesting systems are designed to minimise maintenance costs and the requirement for specialised equipment or maintenance techniques and are provided with an ongoing funding source.	**AO15.1** **AO15.2**	For systems that are to be dedicated to *Council* as public assets, there is an overriding community benefit resulting from the stormwater harvesting system. A detailed operations and maintenance budget is prepared for the project life and financial assurances are in place to operate and maintain the system for the project life.	**Complies AO15.1 – 15.2.** Refer to comments for AO9.1-AO9.2 above.	No stormwater harvesting system is proposed.	Not required.	Not required.
Construction and Establishment of Stormwater Management Systems							
PO16	Construction methods and materials minimise environmental impacts and minimise the risk of asset failure.	**AO16.1**	Construction methods are undertaken in accordance with	**Will Comply AO16.1 – 16.2.** To meet SCC's stormwater quality requirements, it is proposed to construct a stormwater treatment	Refer comments in PO9.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
		AO16.2	the standards specified in the **Planning scheme policy for development works.** Construction timing is co-ordinated with civil and other landscape works to minimise risks to stormwater *infrastructure* and the environment.	facility adjacent to the proposed site entrance. This will be constructed as part of future Stage 2 works. This phase of construction will also involve civil and other landscaping works to minimise risks to the environment.			
PO17	Vegetated stormwater management systems proposed to be dedicated as public assets are established and maintained during the maintenance period to ensure optimal *vegetation* growth and that the functional elements of the system achieve the design function at the end of the maintenance period.	**AO17**	Establishment and maintenance of stormwater management systems is undertaken in accordance with the standards specified in the **Planning scheme policy for development works.**	**Will Comply AO17.** Establishment and maintenance of stormwater management systems will be in accordance with the standards specified in the planning scheme policy for development works. Refer to Engineering Services Report included in Appendix H.	Refer comments in PO9.	Not required.	Not required.
Constructed Waterbodies							
PO18	Constructed waterbodies which are proposed to be dedicated as public assets are avoided, unless there is an overriding need in the public interest.	**AO18**	Where a *constructed waterbody* is proposed to be dedicated as a public asset, an overriding need for	**Not Applicable AO18.** The proposal does not involve a constructed waterbody to be dedicated as a public asset.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
			the waterbody is demonstrated in accordance with the requirements of the **Planning scheme policy for development works.**				
PO19	Constructed waterbodies are designed and constructed to achieve environmental values and water quality objectives which correlate to their intended function, use and receiving waters.	**AO19**	Constructed waterbodies are designed and constructed in accordance with standards specified in the **Planning scheme policy for development works.**	**Not Applicable AO19.** The proposal does not involve a constructed waterbody.	Not applicable.	Not applicable.	Not applicable.
PO20	Constructed waterbodies are designed, constructed and established to minimise maintenance and decommissioning costs and the requirement for specialised maintenance equipment and techniques, and are provided with an on-going funding source.	**AO20**	A detailed maintenance and decommissioning costing is prepared for the project life in accordance with the **Planning scheme policy for development works** and financial assurances are in place to provide for maintenance for the project life and, if required, decommissioning.	**Not Applicable AO20.** The proposal does not involve a constructed waterbody.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Stormwater Management Code							
PO21	Constructed waterbodies are not used as stormwater quality treatment devices.	**AO21**	Stormwater discharges achieve the pollutant load reduction objectives specified in the **Planning scheme policy for development works,** prior to entering the *constructed waterbody*.	**Not Applicable AO21.** The proposal does not involve a constructed waterbody.	Not applicable.	Not applicable.	Not applicable.
PO22	Constructed waterbodies support landscape, passive recreation and ecological values, and do not pose a health, safety or aesthetic risk.	**AO22**	Constructed waterbodies are designed and constructed in accordance with the standards specified in the **Planning scheme policy for development works.**	**Not Applicable AO22.** The proposal does not involve a constructed waterbody.	Not applicable.	Not applicable.	Not applicable.

5. Transport and Parking Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
Layout and Design of On-site Parking and Access							
PO1	Development ensures that the layout and design of vehicle *access*, on-site circulation systems and parking areas and systems is safe, convenient and legible for all users, including people with disabilities, pedestrians, cyclists and public transport services, where relevant.	**AO1.1** **AO1.2**	Development provides access driveways, internal circulation and manoeuvring areas, service areas and parking areas in accordance with the standards specified in the **Planning scheme policy for the transport and parking code**, including ensuring:- (a) the number and type of vehicles planned for the development can be accommodated on-site; (b) on-site vehicle parking and manoeuvring areas provide for vehicles to enter and leave the *site* in a forward motion; and	**Complies AO1.1.** Road access for operations and maintenance is proposed as part of Stage 1 works. Internal circulation and manoeuvring areas and parking areas will be provided as part of the future Stage 2 works. A Traffic Impact Assessment (TIA) report has been developed (refer to Appendix I). Conclusions of this report detail that the internal traffic provisions for the site are suitable to cater for the expected operation of the proposed development. This included parking and vehicle circulation areas provided are in excess of those set out in Australian Standard 2890.1. **Not Applicable AO1.2.** Car parking does not form part of this application as the site will require minimal onsite contact once constructed. Car parking will be provided as part of the future Stage 2 works. Stage 2 is to provide twelve (12) car parking spaces and two (2) bus parking spaces.	**Complies A01.1** – The design of the site access illustrates that it provides sufficient visibility and internal circulation is sufficient to accommodate construction vehicles. **Not Applicable AO1.2**. – Car parking will be provided in Stage 2 which is not part of this application.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			(c) a progressive reduction in vehicle speed between the external transport corridor and internal parking spaces such that lower speeds occur near areas of high pedestrian activity. Development provides clearly defined pathways within and around on-site vehicle parking areas that:- (a) are located in identified pedestrian desire lines; and ensure pedestrian movement through parking areas is along aisles rather than across them.				
Site Access							
PO2	Development ensures that the layout, design and construction of *access*:-	**AO2.1** **AO2.2**	The location and design of any new site *access* is in accordance with the standards specified	**Complies AO2.1.** Site access will be in accordance with the standards specified in the Planning scheme policy for the transport and parking code.	**Complies AO2.1. –** This can be conditioned. **Complies AO2.2.**	Not required.	Condition regarding access to the site is required by DTMR.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	(a) is safe, convenient and legible for all users, including people with disabilities, pedestrians, cyclists and public transport services, where relevant; (b) does not interfere with the planned function, safety, capacity and operation of the *transport network*; (c) minimises the impact of turning traffic from the development on external traffic systems; (d) provides sufficient sight distances to ensure safe operation; (e) is appropriate to design traffic volumes and vehicle types; and (f) includes appropriate and sufficient signage to ensure safe and convenient use.		in the **Planning scheme policy for the transport and parking code**. For assessable development, the number of site *access* driveways is minimised (usually one), with *access* to the lowest order transport corridor to which the *site* has *frontage*, consistent with amenity impact constraints.	**Complies AO2.2.** External access to the site will be gained directly from Yandina-Coolum Road. Whilst the number of access points to the State-controlled road will not increase, the location of the proposed access point will be further north from its current location. The current access point in front of the existing shed will no longer be used.	Single point of access specified for the proposed development		
On-Site Car Parking							

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
PO3	Development provides on-site car parking for the demand anticipated to be generated by the development.	**AO3.1**	Development provides on-site car parking spaces at the minimum rates specified in **Table 9.4.8.3.3 (Minimum on-site parking requirements)**. **OR** Where located in a *centre zone* or the Tourist accommodation zone, development provides on-site car parking spaces at rates varied from those in **Table 9.4.8.3.3 (Minimum on-site parking requirements)** for specified development, as outlined below:- (a) *rooming accommodation*, *short-term accommodation*, *resort complex*, or *retirement facility* – reduce visitor parking to 1 space per 10	**Will Comply AO3.1, Not Applicable AO3.2.** Car parking does not form part of this application. Car parking will be provided as part of the future Stage 2 works. As discussed in section 5.5.2 of the Planning Report, based on the adopted parking rate of 1 space per 20m^2 and the 150m^2 GFA of the visitor and information centre, the minimum required parking provision would be eight (8) parking spaces. The proposed development will be providing twelve (12) car parking spaces and two (2) bus parking spaces which exceed the minimum requirement for community use (which is expected to generate more trips compared to the solar farm facility) and is therefore considered sufficient for the future development of the site.	**Not applicable** – Cardno agrees with this assessment	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			rooming units or *dwellings*; (b) *food and drink outlet*, *function facility*, *hotel*, *indoor and sport and recreation*, *theatre* – reduce parking to 1 space per 20m^2 *gross floor area*; (c) *shopping centre* – reduce parking to 1 space per 25m^2 *gross floor area* for any component above 1,000m^2 *gross floor area*; and (d) *child care centre* – reduce customer parking to 1 space per 7 children. Note—where the calculated number of spaces is not a whole number, the required number of parking spaces is the nearest whole number. Parking requirements for other vehicles including service vehicles, motorcycles/scooters				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			and cycles, as well as design requirements, outlined in the remainder of this code do not change. **OR**				
		AO3.2	For self-assessable development, other than a call centre, located in premises that were lawfully established prior to the commencement of the planning scheme, the number of on-site car parking spaces provided is equal to the number of spaces required at the time the premises were lawfully established. **OR** Where development is physically unable to provide the required number of car parking spaces on-site, an Infrastructure Agreement is entered into between the developer and				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			the *Council* which provides for contributions in lieu of on-site car parking spaces. For assessable development, car parking provided for *mixed-use development* is sufficient to meet the demand of residential and business uses, with exclusive designations for both user types.				
PO4	Development provides for a reasonable portion of the total number of on-site car parking spaces to be wheelchair accessible spaces and to be identified and reserved for such purposes.	**AO4.1** **AO4.2**	Development provides the number of parking spaces for people with disabilities, required by the *Building Code of Australia* and, in any case, provides a minimum of one space. Parking spaces for people with disabilities, access and signage complies with *AS 1428 – General Requirements for*	**Will Comply AO4.1. – AO4.2.** Car parking does not form part of this application. Car parking will be provided as part of the Stage 2 works. This will include sufficient parking spaces for people with disabilities.	**Not Applicable** – Car parking not proposed as part of this application	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			Access: Buildings and *AS 2890.6 – Parking facilities (Part 6: Off-street Parking for People with Disabilities).*				
On-site Parking and End of Trip Facilities for Bicycles							
PO5	Development provides on-site cycle parking facilities to encourage use of this mode of transport and support the demand anticipated to be generated by the development	**AO5.1** **AO5.2** **AO5.3**	Development provides on-site cycle parking spaces at the minimum rates specified in **Table 9.4.8.3.3 (Minimum on-site parking requirements)**. Cycle parking is designed in accordance with the **Planning scheme policy for the transport and parking code**. End of trip facilities, including personal lockers, change rooms, showers and sanitary compartments and wash basins are provided in accordance with the **Planning scheme policy for the transport and**	**Will Comply AO5.1. – AO5.3.** Car parking does not form part of this application. Car parking will be provided as part of the Stage 2 works. This will include sufficient on-site cycle parking spaces.	**Not Applicable** – Car parking not proposed as part of this application.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			parking code, for development involving:- (a) a use in the *business activity group*; (b) a use in the *community activity group*; (c) a use in the *industrial activity group*, other than *bulk landscape supplies* and *extractive industry*; (d) a use in the *residential activity group*; (e) a use in the *sport and recreation activity group*, other than *park*; and (f) a use in the *other activity group* being *air services*.				
Service Vehicle Requirements							
PO6	Development provides sufficient parking and *access* for service vehicles to meet the	**AO6.1** **AO6.2**	Development provides on-site service vehicle parking bays at the minimum rates	**Will Comply AO6.1.** Parking areas are not proposed as part of this application. Parking will be provided as part of the Stage 2 works.	**A06.01 Not Applicable** – Car parking not proposed as part of this application	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	needs of the development.		specified in **Table 9.4.8.3.3 (Minimum on-site parking requirements)**. Service vehicle *access*, internal circulation and manoeuvring, loading and unloading, waste collection and fuel delivery facilities (if required) and parking areas are designed in accordance with the standards specified in the **Planning scheme policy for the transport and parking code**.	Stages 1a and 1b of the Valdora Solar Farm will be generally unmanned, with minimal access to the site required other than for maintenance and repairs on an ad-hoc basis, as required. **Complies AO6.2.** The construction of the access road for operations and maintenance purposes only will occur as part of Stage 1 works. The access road will provide an internal cul-de-sac connecting to the ancillary equipment and support precinct. Conclusions of the Traffic Impact Assessment (refer to Appendix I) detail that the internal traffic provisions for the site are suitable to cater for the expected operation of the proposed development. This included parking and vehicle circulation areas provided in excess of the Australian Standards.	**A06.2 Complies**, the circulation area outlined in Stage 1a and b is sufficient for the identified service vehicle.	Not required.	Advisory comment included to address this design requirement.
PO7	Development provides for driveways, internal circulation areas and service areas to be designed to:- (a) ensure that proposed loading, unloading, waste collection and fuel delivery facilities (if required) can satisfactorily accommodate the number and type of	**AO7.1** **AO7.2**	Driveways, internal circulation areas, and service areas are provided to accommodate the nominated design vehicles for each development type. Driveways, internal circulation areas, manoeuvring areas, loading and unloading areas and	**Complies AO7.1. – AO7.2.** A temporary unsealed gravel/crushed rock construction access will be constructed, suitable for heavy vehicle and construction traffic. The access road will be constructed in accordance with the standards specified in the planning scheme policy for the transport and parking code.	**Complies** – The proposed access is compliant with the code.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	service vehicles expected on-site; and (b) the movement of service vehicles on-site and loading and unloading operations do not interfere with on-site amenity and the safe and convenient movement of other vehicles and pedestrians on the *site*.		refuse collection facilities are designed and constructed in accordance with the standards specified in the **Planning scheme policy for the transport and parking code**.				
Transport Network							
PO1	Traffic on the street and road network and public transport and *active transport* networks and the provision of transport *infrastructure*, is considered in an integrated manner and in a regional and localised context to ensure that development:- (a) is consistent with the Sunshine Coast 2031 Functional Transport Hierarchy and strategic networks of pedestrian, cycle	**AO1**	Development makes provision for pedestrian, cyclist, public transport and private vehicle movement consistent with:- (a) the Sunshine Coast Functional Transport Hierarchy as shown on **Figure 9.4.8A (2031 Functional Transport Hierarchy)** and described in the	**Complies AO1.** As the Stage 1 use is a renewable energy facility and access to the site for the proposed stage is for operations and maintenance only, pedestrian, cyclist and public transport infrastructure is not considered to be required for this stage. A new intersection with Yandina-Coolum Road will be constructed to facilitate the main access point to/from the site. The requirement for this intersection was assessed in the Traffic Impact Assessment report provided in Appendix I.	**Complies** – No requirement for Pedestrian, cycle and PT to the site in stage 1.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	and public transport links; and (b) includes measures to upgrade the network to meet the imposed demands.		**Planning scheme policy for the transport and parking code**; (b) the Sunshine Coast Strategic Network of Pedestrian and cycle Links as shown on **Figures 9.4.8B(i) and (ii) (2031 Strategic Network of Pedestrian and Cycle Links)**; (c) the Sunshine Coast Strategic Network of Public Transport Links as shown on **Figure 9.4.8C (2031 Strategic Network of Public Transport Links)**; and (d) any relevant local area plan.				
PO2	Development provides for a *transport network* which is designed to:- (a) achieve a high level of permeability and	**AO2.1**	Development provides for a street and road network based on a modified grid pattern.	**Complies AO2.1.** The access road and internal layout of the site is based on a modified grid pattern.	**Complies AO2.1. –** Cardno agrees with this assessment.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	connectivity, particularly for pedestrians, cyclists and public transport, both within the development and to the surrounding area; and (b) maximise active and public transport access to activity centres, employment areas, residential areas, community facilities and open space in the local area.	**AO2.2**	Development provides for high trip generating land uses, such as higher density residential development and employment generators, to be located in and around activity centres and around major public transport hubs.	**Not Applicable AO2.2.** The use is not a high trip generating land use. **Not Applicable AO2.3.** The development will not involve substantial increases in employment and residential activity. **Not Applicable AO2.4.** Public transport is not proposed as part of this application. **Not Applicable AO2.5.** As the use is a renewable energy facility and access to the site for the proposed stage is for operations and maintenance only; pedestrian and cyclist access is not considered to be required.	**Not Applicable AO2.2.** – Cardno agrees with this assessment. **Not Applicable AO2.3.** – Cardno agrees with this assessment. **Not Applicable AO2.4.** – Cardno agrees with this assessment. **Not Applicable AO2.5.** – Cardno agrees with this assessment.		
		AO2.3	Development involving substantial increases in employment and residential activity are connected to the *principal public transport network* as shown on **Figure 9.4.8C (2031 Strategic Network of Public Transport Links)**.				
		AO2.4	Development provides routing, stop and interchange arrangements for public transport services.				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
		AO2.5	Development provides safe, convenient and direct pedestrian and cyclist access to activity centres, public transport stops and stations and other strategic redevelopment and activity generators.				
PO3	Development involving high trip generating land uses minimises any adverse impacts on surrounding land use and the external *transport network*, including by the provision of *infrastructure* and services to increase the use of active and public transport.	**AO3**	Development with potential to generate significant transport impacts is undertaken in accordance with an approved Traffic Impact Assessment Report and Integrated Transport Plan, prepared in accordance with the **Planning scheme policy for the transport and parking code**.	**Complies AO3.** The proposal is not considered a high trip generating land use. The Traffic Impact Assessment included in Appendix I has been developed to identify and manage potential traffic impacts attributed to the proposed development.	**Complies** – Cardno Agrees with this assessment	Not required.	Not required.
PO4	Development is designed to operate in a safe and efficient manner and facilitates the orderly provision of transport *infrastructure* in accordance with the intended role, function	**AO4.1** **AO4.2**	Development and any associated transport *infrastructure* is designed and constructed in accordance with the hierarchy characteristics and	**Complies AO4.1-AO4.4.** As per section 5.6.2 of the town planning report, it is anticipated that the main access to the site will occur through the use of a new intersection off Yandina-Coolum Road (i.e. Yandina-Coolum Road/Site Access Road intersection). As part of this assessment, the design of this access point was determined based	**Complies** – Cardno agrees with the assessment	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	and characteristics of the *transport network*.	**AO4.3** **AO4.4**	standards specified in the **Planning scheme policy for the transport and parking code** and **Planning scheme policy for development works**[4]. Development provides for upgrades or contributes to the construction of *transport network* improvements. The design features of streets and roads encourage driver behaviour appropriate to the role and function of the street or road in the functional *transport hierarchy*. Development design incorporates road safety auditing in accordance with the standards specified in the **Planning**	on existing traffic, and the anticipated traffic entering and exiting the site. The requirement for this intersection was assessed in the Traffic Impact Assessment report provided in Appendix I.			

[4] Editor's note—a development application triggering concurrence referral to the Queensland Department of Transport and Main Roads will be subject to State government standards, guidelines and policies.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			scheme policy for development works.				
Pedestrian and Cycle Network							
PO5	Development provides a conveniently located network of footpaths, shared pathways and cycleways that:- (a) achieve a high level of safety and accessibility, particularly to public transport facilities and high trip generating land uses located internally and externally to the *site*; (b) recognise the different needs of pedestrians and cyclists; (c) provide for safe and convenient joint usage; (d) allow the retention of trees and other significant features; (e) maximise the visual interest provided by views and landmarks where they exist;	**AO5.1** **AO5.2** **AO5.3**	Footpaths, shared pathways and cycleways are provided in accordance with **Figures 9.4.8B(i) and (ii) (2031 Strategic Network of Pedestrian and Cycle Links)** and the standards specified in the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**. Development provides convenient and prominent pedestrian entrances that cater for universal access. Development provides cycle access, that:- (a) is located close to the building's	**Will Comply AO5.1. – AO5.3.** As the use is a renewable energy facility and access to the site for the proposed stage is for operations and maintenance only; footpaths, shared pathways and cycleways are not considered to be required for Stage 1a and 1b. However, the rehabilitation works proposed for future Stage 3 works will be incorporated into the Stage 2 visitor and information centre proposed for the site, along with broader landscape treatments including walking trails and hardscape features (shelters, seating etc.).	**Not Applicable –** The development would only require access for maintenance in Stage 1a and b. Therefore would not require pedestrian and cycles access.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	(f) do not compromise the operation of or access to other *infrastructure* and services; (g) are widened at potential conflict points; (h) are well lit and located where there is casual surveillance from nearby premises; and (i) incorporate safe street and road crossings for pedestrians and cyclists with adequate sight distances, pavement markings, warning signs and safety rails.		pedestrian entrance; (b) is obvious and easily and safely accessible from outside the *site*; (c) does not adversely impact on visual amenity; and (d) does not impede the movement of pedestrians or other vehicles.				
PO6	Development provides for cyclists on streets and roads, unless specifically prohibited (e.g. motorways).	**AO6**	Streets and roads provide for on-road cycling in accordance with the standards specified in the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for**	**Not Applicable AO6.** Yandina-Coolum Road is classified as a limited cycle transport corridor. As the use is a renewable energy facility and access to the site for the proposed stage is for operations and maintenance only, provision for on-road cycling is not considered to be required.	**Not Applicable** – Cardno agrees with the assessment	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			development works.				
Public Transport Facilities							
PO7	Development encourages the use of public transport through:- (a) design which maximises accessibility via existing and planned public transport facilities; and (b) appropriate provision of on-site or off-site public transport facilities, having regard to the specific nature and scale of development, and the number of people involved in the use.	**AO7.1** **AO7.2** **AO7.3** **AO7.4** **AO7.5**	Development is designed and arranged to provide convenient and attractive linkages to existing and proposed public transport facilities. On-site public transport facilities are provided in conjunction with the following development:- (a) *shopping centre*, where having a *gross floor area* of greater than 10,000m²; (b) *tourist attraction*, having a total *use area* of greater than 10,000m²; (c) *educational establishment*, where accommodating more than 500 students; (d) *major sport, recreation and*	**Not Applicable AO7.1.** Yandina-Coolum Road is classified as a limited public transport corridor. There are no existing or proposed public transport facilities within close proximity to the site. **Not Applicable AO7.2. – AO7.3.** The proposed use is not listed in AO7.2 or AO7.3. **Not Applicable AO7.4.** On-street public transport facilities are not proposed as part of this application as the development is not located on an existing or future public transport route. Yandina-Coolum Road is classified as a limited public transport corridor. **Not Applicable AO7.5.** Public transport facilities are not proposed as part of this application.	**Not Applicable** – Cardno agrees with the assessment	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			entertainment facility; (e) *indoor sport and recreation*, where having a *gross floor area* of more than 1,000m^2, or for spectator sports; and (f) *outdoor sport and recreation*, where for spectator sports. On-street public transport facilities are provided as part of the following development:- (a) *shopping centre*, where having a *gross floor area* of 10,000m^2 or less; (b) *tourist attraction*, where having a *gross floor area* of 10,000m^2 or less; (c) *educational establishment*, where accommodating 500 or less students; and				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			(d) *indoor sport and recreation* where having a *gross floor area* of 500m^2 or less and not for spectator sports. Where not otherwise specified above, on-street public transport facilities are provided where development is located on an existing or future public transport route. Public transport facilities are located and designed in accordance with the standards specified in the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works.**				
Access and On-site Parking							
Car Parking Requirements							
PO8	Development provides for shared or multiple	**AO8**	No acceptable outcome provided.	**Will Comply AO8.**	**Not Applicable** – Car parking not proposed	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	use of car parking areas, particularly large car parking areas:- (a) at times when car parking areas would otherwise not be occupied (e.g. weekends); (b) when car parking spaces service two or more land uses with varying peak usage times (e.g. restaurants and entertainment uses which generate peak parking demands in periods when retail or office uses are relatively inactive); and (c) to reduce the amount and size of the car parking area.			Parking areas are not proposed as part of this application. Parking will be provided as part of the Stage 2 works.	as part of this application		
PO9	Development in a *Regional Activity Centre* provides for or contributes to the provision of public or shared car *parking stations* which serve a variety of nearby uses.	**AO9**	No acceptable outcome provided.	**Will Comply AO9.** Parking areas are not proposed as part of this application. Parking will be provided as part of the Stage 2 works.	**Not Applicable** – No located in a Regional Activity Centre	Not required.	Not required.
PO10	Development ensures that car parking areas, service areas and	**AO10**	No acceptable outcome provided.	**Will Comply AO10.**	**Not Applicable** – Car parking not proposed	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	access driveways are located where:- (a) they will not dominate the *streetscape*; and (b) will not unduly intrude upon pedestrian use of pathways, through:- (i) the use of rear *access* lanes; (ii) car parking areas and service areas situated at the rear of the premises or below ground level; or (iii) shared driveways.			Parking areas are not proposed as part of this application. Parking will be provided as part of the Stage 2 works.	as part of this application		
PO11	Development does not provide for *basement* car parking areas to be located below public streets or roads.	**AO11**	No acceptable outcome provided.	**Will Comply AO11.** Parking areas are not proposed as part of this application. Parking will be provided as part of the Stage 2 works.	**Not Applicable** – Car parking not proposed as part of this application	Not required.	Not required.
PO12	Development provides for multi-level car parking areas to be designed, articulated and finished to make a positive contribution to the local *streetscape* character.	**AO12**	No acceptable outcome provided.	**Will Comply AO12.** Parking areas are not proposed as part of this application. Parking will be provided as part of the Stage 2 works.	**Not Applicable** – Car parking not proposed as part of this application	Not required.	Not required.
PO13	Development provides for car parking areas	**AO13**	No acceptable outcome provided.	**Will Comply AO13.**	**Not Applicable** – Car parking not proposed	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	which are located, designed and managed to promote public security and safety.		Note—**Section 9.4.5 (Safety and security code)** sets out requirements for safety and security in car parking areas.	Parking areas are not proposed as part of this application. Parking will be provided as part of the Stage 2 works.	as part of this application		
On-site Parking and Motorcycles and Scooters							
PO14	Development provides sufficient on-site parking for motorcycles and scooters to encourage their use and support the demand anticipated to be generated by the development.	**AO14.1** **AO14.2**	Development provides on-site motorcycle and scooter parking spaces at the minimum rates specified in **Table 9.4.8.3.3 (Minimum on-site parking requirements).** Motorcycle and scooter parking is designed in accordance with the standards specified in the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**.	**Will Comply AO14.1. – AO14.2.** Parking areas are not proposed as part of this application. Parking will be provided as part of the Stage 2 works.	**Not Applicable** – Car parking not proposed as part of this application	Not required.	Not required.
On-site Parking for Buses							
PO15	Development provides for sufficient *access*, internal circulation and	**AO15.1**	Development for any of the following uses provides a number of	**Will Comply AO15.1. – AO15.2.** Parking areas are not proposed as part of this application. The car parking	**Not Applicable** – Car parking not proposed	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	on-site parking for buses to meet the needs of the development.	**AO15.2**	on-site bus parking spaces commensurate with the scale of the use and in any case, does not provide less than one on-site bus parking space:- (a) *rooming accommodation*, *short-term accommodation* or *resort complex* where having more than 20 *rooming units*; (b) *retirement facility*, where having more than 20 *dwellings*; (c) *function facility*, where having a gross floor area exceeding 200m²; (d) *hotel*, where having a *gross floor area* exceeding 500m²; (e) *tourist attraction*; (f) *community care centre*, where having a *gross*	provided as part of future Stage 2 works is to comprise twelve (12) car parking spaces and two (2) bus parking spaces which exceed the minimum requirement for community use (which is expected to generate more trips compared to the solar farm facility) and is therefore considered sufficient for the future development of the site.	as part of this application		

Performance Outcomes	Acceptable Outcomes	GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development					
	floor area exceeding 200m²; (g) *community use*, where having a *gross floor area* exceeding 200m²; (h) *educational establishment*; (i) *major sport, recreation and entertainment facility*; (j) *theatre*, where having a *gross floor area* exceeding 500m²; (k) *indoor sport and recreation*, where having a *gross floor area* exceeding 500m²; and (l) *outdoor sport and recreation*. Bus parking is designed in accordance with the standards specified in the **Planning scheme policy for the transport and parking code** and				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			the **Planning scheme policy for development works**.				
PO16	Development provides for site *access* driveways to incorporate queuing provisions sufficient to ensure safe and convenient *access* without impacting on external traffic systems.	**AO16.1** **AO16.2**	Development provides for vehicle queuing in accordance with the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**. Development provides on-site queuing for a minimum of four cars where *drive-through facilities* or drop-off/pick-up services are proposed as part of the use, including the following development:- (a) *child care centre*; (b) *educational establishment*, where for a school; (c) *food and drink outlet*, where	**Will Comply A016.1-A16.2.** Stages 1a and 1b of the Valdora Solar Farm will be generally unmanned, with minimal access to the site required other than for maintenance and repairs on an ad-hoc basis, as required. Sufficient space within the internal access arrangement is accommodated for on-site queuing even though it's not expected for the operations of Stage 1.	**Complies** – Traffic Volumes identified as part of stage 1 are unlikely to result in queueing.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			including a *drive-through facility*; (d) *hardware and trade supplies*, where including a *drive-through facility*; (e) *hotel*, where including a *drive-through facility*; and (f) *service station*.				
Amenity and Environmental Impacts of Transport Infrastructure							
PO17	Development ensures that *access*, manoeuvring and parking facilities do not have adverse impacts on people, properties or activities, with regard to light, noise, emissions or stormwater run-off.	**AO17**	No acceptable outcome provided.	**Complies AO17.** The access road is to mitigate adverse impact on the surrounding area through the following: (a) limited internal lighting is proposed for the site as the site will be closed at night. (b) The nature of the solar farm activity is such that it will not generate excessive noise emissions. (c) Roads will consist of permeable crushed rock pavement on geofabric to reduce the impact of flooding.	The proposed access and manoeuvring areas are to ensure that there are no adverse impacts with regards to noise, stormwater run-off and other emissions.	Not required.	An advisory statement has been included in the Preliminary Construction Management Plan to address this issue.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
PO18	Development provides for *access* and parking areas that incorporate appropriate landscapes so as to:- (a) provide shade; (b) maximise infiltration of stormwater runoff; (c) define parking areas; (d) soften views of hardstand areas.	**AO18**	No acceptable outcome provided. Note—**Section 9.4.2 (Landscape code)** sets out requirements for landscapes.	**Will Comply PO18.** Works proposed for Stage 1 adequately provides for the construction and operation of the facility. Further construction of parking internal access treatment with soft and hard landscaping around the car parking and lay down areas is proposed as part of future Stage 2 works.	Formalised access and car parking arrangements are to be resolved in Stage 2.	Not required.	Not required.
PO19	The environmental impacts of transport *infrastructure* are minimised by appropriate design and the use of low impact construction techniques.	**AO19**	Development ensures that the environmental impacts of transport *infrastructure* are minimised by the use of low impact construction techniques, including:- (a) co-location of transport corridors within an existing or planned *infrastructure* corridor; (b) location of transport corridors within an area clear of *vegetation*, or	**Complies AO19.** The proposed access roads minimise environmental impact through the following: (d) The site has been completely cleared in line with its previous use for broad acre agriculture. The site is not subject to remnant vegetation or essential habitat. (e) Roads will consist of permeable crushed rock pavement on geofabric to reduce the impact of flooding. (f) The proposed access roads do not interfere with the two drainage lines traversing the rear and northern side boundaries of the site.	Site access is proposed in area that has been previously cleared.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			consisting of disturbed *vegetation*; (c) avoidance of clearing of native *vegetation* and provision of fauna underpasses and associated fencing, where appropriate; (d) minimisation of changes to the hydrological regime, including drainage patterns, run-off and water quality; (e) avoidance of crossing *waterways*, drainage lines and *wetlands*. Where such crossings are unavoidable, disturbed areas are reinstated and revegetated on completion of works; and/or				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
			(f) minimisation of changes to the natural landform and extensive earthworks.				
Transport Corridor Widths, Pavement, Surfacing and Verges							
PO20	Development provides external road works along the full extent of the site *frontage* appropriate to the function and amenity of the transport corridor, including, where applicable:- (a) paved roadway; (b) kerb and channel; (c) safe vehicular *access*; (d) safe footpaths, shared pathways and cycleways; (e) safe on-road cycle lanes or verges for cycling; (f) stormwater drainage; (g) conduits to facilitate the provision of street lighting systems and traffic signals; and (h) public transport priority measures, indented bays, bus shelters and	**AO20**	External street and road works are designed and constructed in accordance with the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works.**	**Will Comply AO20.** It is anticipated that the main access to the site will occur through the use of a new intersection off Yandina-Coolum Road (i.e. Yandina-Coolum Road/Site Access Road intersection). As part of this assessment, the design of this access point was determined based on existing traffic, and the anticipated traffic entering and exiting the site. The requirement for this intersection was assessed in the Traffic Impact Assessment report provided in Appendix I. Future external street and road works are to be designed and constructed in accordance with the planning scheme policy.	**Complies with Performance Outcome** – Provides frontage works suitable for the development and frontage road	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	associated *infrastructure*.						
PO21	Development provides for the reserve width, pavement, edging and streetscape and landscape treatments of a transport corridor to support the intended role, function and amenity of the transport corridor.	**AO21**	Transport corridor design and construction is undertaken in accordance with the standards specified in the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works.**	**Will Comply AO21.** Refer to comments for AO20 above.	**Complies with Performance Outcome** – Provides frontage works suitable for the development and frontage road	Not required.	Not required.
PO22	Development provides for street and road pavement and surfacing that:- (a) is sufficiently durable to carry wheel loads for design traffic; (b) provides adequate area for parked vehicles; (c) ensures the safe passage of vehicles, pedestrians and cyclists; (d) ensures appropriate	**AO22.1** **AO22.2**	Street and road pavement is designed and constructed in accordance with the standards specified in the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**. Street and road drainage is designed and constructed in	**Complies AO22.1. – AO22.2.** A temporary unsealed gravel/crushed rock construction access will be constructed, suitable for heavy vehicle and construction traffic. Maintenance access roads through the solar panel farm will consist of permeable crushed rock pavement on geofabric to reduce the impact of flooding and account for settlement issues. Refer to the Traffic Impact Assessment included in Appendix I.	**Complies** – Cardno agree with assessment.	Not required.	Advice to be given: A preliminary Construction Management Plan must be submitted with the Operational Works application and must address the following: (a) provision of sufficient construction vehicle parking facilities on site (b) appropriate traffic signage in accordance with

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	management of stormwater and maintenance of all-weather access; and (e) allows for reasonable travel comfort.		accordance with the standards specified in the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**.				the Manual of Uniform Traffic Control Devices (MUTCD) (c) provision for safe pedestrian access across the frontage of the site both during daily construction and after daily construction has ceased.
PO23	Development provides pavement edging that controls:- (a) vehicle movements by delineating the extent of the carriageway; and (b) stormwater runoff.	**AO23**	Pavement edging is designed and constructed in accordance with the standards specified in the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**.	**Not Applicable AO23.** The proposed maintenance access road will be a temporary unsealed gravel/crushed rock access and therefore no pavement edging is proposed.	Not applicable.	Not applicable.	Not applicable.
PO24	Development provides verges that:- (a) allow *access* for vehicles onto properties; (b) include an area for public utility services; (c) allow signage and line marking; and	**AO24**	Verges are designed and constructed in accordance with the standards specified in the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for**	**Not Applicable AO24.** No verges are proposed as part of this application.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	(d) contribute to the amenity of transport corridors.		**development works.**				
Intersections and Traffic Controls							
PO25	Development provides for traffic speeds and volumes to be catered for through the design and location of intersections and traffic controls so as to:- (a) reduce stop-start conditions; (b) provide for appropriate sight distances; (c) reduce increased vehicle emissions; (d) minimise unacceptable traffic noise to adjoining land uses; (e) maintain convenience and safety levels for pedestrians, cyclists and public transport; and (f) integrate traffic controls with landscape and streetscape design.	**AO25.1** **AO25.2**	Intersections are designed and constructed in accordance with the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**. Speed management is achieved in accordance with the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**.	**Will Comply AO25.1. – AO25.2.** The intersection treatment and speed management will be in accordance with the planning scheme policy for transport and parking code and the planning scheme policy for development works. Refer to the Traffic Impact Assessment included in Appendix I.	**Complies with Performance Outcome** – The development access and circulation roads are sufficient for the traffic volumes identified	Not required.	Not required.
Development Staging							
PO26	Staged development is planned, designed and	**AO26**	No acceptable outcome provided.	**Complies AO26.** The proposed development is a staged development.	**Complies** – Cardno agrees with the assessment	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Transport and Parking Code – criteria for self assessable and assessable development							
	constructed to ensure that:- (a) each stage of the development can be constructed without interruption to services and utilities provided to the previous stages; (b) transport *infrastructure* provided is capable of servicing the entire development; (c) early bus access and circulation is achieved through the connection of collector roads; and (d) materials used are consistent throughout the development.			All stages are designed to avoid interruption to services and utilities. Road access for operations and maintenance only will be provided as part of Stage 1.			

6. Works, Services and Infrastructure Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
Construction Management							
PO1	Air emissions, noise or lighting arising from construction activities and works do not adversely impact on surrounding areas.	**AO1.1** **AO1.2** **AO1.3** **AO1.4** **AO1.5**	Dust emissions do not extend beyond the boundary of the *site*. Air emissions, including odours, are not detectable at the boundary of the *site*. Works are only carried out between 7:00am to 6:00pm Monday to Saturday inclusive. Noise generating equipment is enclosed, shielded or acoustically treated in a manner which ensures the equipment does not create environmental harm. Outdoor lighting complies with *AS4282-1997 Control of the Obtrusive Effects of Outdoor Lighting.*	**Complies AO1.1. – AO1.5.** Air emissions, noise or lighting arising from construction activities and works are to be managed so that they don't adversely impact the surrounding area. The site will be closed at night. As the site will not be accessed at night, external intersection lighting is not considered necessary. Limited internal lighting will be provided for the site and will likely consist of bollard style lighting only. The proposal will not result in significant air or noise emissions due to the nature of the facility.	The development should be undertaken in such a way to ensure that site access does not have an impact on air, noise and stormwater run-off.	Not required.	This matter is addressed in the advisory comment regarding the Preliminary Construction Management Plan.
PO2	Construction activities and works provide for:- (a) the protection of the aesthetic and ecological values of retained *vegetation*; and	**AO2.1**	The health and stability of retained *vegetation* is maintained or enhanced during construction activities by:-	**Not Applicable AO2.1. – AO2.3.** The site has been completely cleared in line with its previous use for broad acre agriculture.	There is no on-site native vegetation or faunal habitat of ecological value likely to be affected significantly by construction	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
	(b) impacts on fauna to be minimised.	**AO.2.2** **AO2.3**	(a) clearly marking *vegetation* to be retained with temporary fencing and flagging tape; (b) installing temporary barrier fencing around the outer drip line and critical root zone of the *vegetation*; (c) preventing any filling, excavation, stockpiling, storage of chemicals, fuel or machinery within the fenced protection area; (d) using low impact construction techniques in the vicinity of *vegetation* to minimise interference with the *vegetation*; and (e) removing all declared noxious weeds and environmental weeds from the *site*. All works carried out in the vicinity of retained *vegetation* comply with *AS4970 Protection of Trees on Development Sites* and *AS4687 Temporary Fencing and Hoarding*. Where construction activities will result in adverse impacts upon fauna and/or the clearing	The site is not subject to remnant vegetation or essential habitat.			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
			and/or removal of fauna habitat:- (a) a suitably qualified professional fauna spotter and catcher undertakes a fauna management report, pre-clearing inspections and is present for all clearing activities; (b) all vacant hollows and nests are relocated or rendered unusable to prohibit fauna return during clearing works; (c) all fauna is suitably relocated or humanely dealt with during the pre-clearing inspections or during clearing; and (d) 'offset' nesting hollows/nest boxes are provided in adjoining *vegetation* at least 1 month prior to the clearing,				
PO3	*Vegetation* cleared from a *site* is disposed of in a manner that:- (a) maximises reuse and/or recycling; and (b) minimises impacts on public health and safety.	**AO3**	Where *vegetation* is cleared, vegetation waste is appropriately disposed of in the following order of preference:- (a) milling for commercial timber products, landscaping or firewood; (b) on-site chipping or mulching;	**Not Applicable AO3.** The site has been completely cleared in line with its previous use for broad acre agriculture.	Not applicable	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
			(c) transportation off-site and disposal in an approved green waste disposal facility; and (d) use for forest floor habitat in adjoining bushland and revegetation areas.				
PO4	Construction activities and works are managed such that all reasonable and practicable measures are taken to protect the environmental values of water and the functionality of stormwater *infrastructure* from the impacts of erosion, turbidity and sedimentation, both on and downstream of the development *site*.	**AO4**	Development is located, designed and constructed in accordance with an erosion and sediment control plan, prepared in accordance with the requirements specified in the **Planning scheme policy for development works**.	**Complies AO4.** SMEC Australia (SMEC) was engaged by SCC to undertake a Geotechnical Assessment Report for the site. The study undertook geotechnical investigation of the site to assess underlying soil conditions, collected samples for laboratory sampling and recommended geotechnical design parameters. Refer to Appendix M. Based on the findings and recommendations in SMEC's Geotechnical Study, a suitable earthworks design methodology has been adopted for the site. For further information, refer to section 5.15.3 of the Planning Report.	Stormwater from the site must be disposed of on-site without causing scour or drainage to the subject site or any adjoining property.	Not required.	A condition requiring the appropriate treatment of stormwater drainage is required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
PO5	Construction activities and works are undertaken such that existing utilities, road and drainage *infrastructure*:- (a) continue to function efficiently; and (b) can be accessed by the relevant authority for maintenance purposes.	**AO5.1** **AO5.2**	Existing utilities, road and drainage *infrastructure* are protected or relocated in accordance with the standards specified in the **Planning scheme policy for development works.** The costs of any alterations or repairs to utilities, road and drainage *infrastructure* are met by the applicant.	**Complies AO5.1. – AO5.2.** Existing utilities, road and drainage infrastructure have been identified and incorporated into the design of the proposed works.	The application has been referred to DTMR for comment.	Not required.	Not required.
PO6	Traffic and parking generated during construction activities and works is managed to minimise impacts on the amenity of the surrounding area.	**AO6**	No acceptable outcome provided.	**Complies AO6.** Section 5.15.2 of the Planning Report details traffic generation rates for the construction phase of the development. The Traffic Impact Assessment included in Appendix I has been developed to identify and manage potential traffic impacts attributed to the proposed development. The report recommends that during Stage 1 construction, traffic management is implemented to ensure the safe movement of traffic is proposed as well as advanced signage to inform drivers of the proposed traffic	Traffic operation has been assessed and Cardno agree that this impact would be dealt with by way of a traffic management plan to be completed at the operational works stage. However, further information on how the 30 construction vehicle parked on site would be accommodated.	High level response required to provide comfort that the proposed average of 30 vehicles can be accommodated on site.	Advice to be given: A preliminary Construction Management Plan must be submitted with the Operational Works application and must address the following: (a) provision of sufficient construction vehicle parking facilities on site (b) appropriate traffic signage in accordance with the Manual of Uniform Traffic

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
				operations at the intersection.			Control Devices (MUTCD) (c) provision for safe pedestrian access across the frontage of the site both during daily construction and after daily construction has ceased.
PO7	Construction activities and works provide for:- (a) minimisation of waste material; (b) separation of recyclable material; (c) storage of waste and recyclable material; and (d) collection of waste and recyclable material; in a manner that minimises adverse impacts on the amenity and safety of surrounding areas.	**AO7**	No acceptable outcome provided. Editor's note—**Section 9.4.10 (Waste management code)** sets out requirements for waste management.	**Complies AO7.** To be included in construction management specification documents.	Requirements regarding waste have been addressed in the proposed Construction Management Plan.	Not required.	The proposed Construction Management Plan addresses requirements relating to waste.
PO8	Development is provided with *infrastructure*, services and utilities appropriate to its setting and commensurate with its needs.	**AO8.1**	Where development is located in an *urban zone*, appropriate connection is provided to reticulated sewerage, water supply, stormwater drainage, electricity, gas (where available in the street) and telecommunications services at no cost to the *Council*,	**Complies AO8.1.** There is currently no water supply or sewerage infrastructure on the site. Works proposed as part of this application will not require sewer or water connection.	Details to be provided with operational works application.	The current application relates only to Stages 1a and 1d which do not include the educational facility.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
			including provision by way of dedicated road, public reserve or as a minimum by way of easements to ensure continued access is available to these services in accordance with the standards specified in the **Planning scheme policy for development works**, or where applicable, the requirements of the service provider. Where development is located in a *non-urban zone* and reticulated sewerage is not available, an on-site treatment and disposal system is provided that complies with the requirements of the *Plumbing and Drainage Act 2003.* Where development is located in a *non-urban zone* and reticulated water supply is not available, development is provided with appropriate on-site rainwater collection in accordance with the relevant use code. Editor's note—**Section 9.4.6 (Stormwater management code)** sets out requirements for stormwater management.	The facility will connect directly to the Energex electricity network via the existing high voltage cabling located along the eastern frontage of the site. There are no communications located across the site frontage. Communications will need to be extended to the site from existing infrastructure located in Yandina-Coolum Road, south of the subject site, unless mobile wireless technology is adopted by Council for the development. To meet SCC's stormwater quality requirements, it is proposed to construct a stormwater treatment facility adjacent to the proposed site entrance. This will be constructed as part of future Stage 2 works. The stormwater treatment facility will likely consist of a bio-retention basin with a small sediment fore bay and will collect stormwater runoff from			
		AO8.2 **AO8.3**					

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
			Editor's note—the provision of telecommunications *infrastructure* is regulated in accordance with Federal Government legislation.	the site facilities located in the south eastern corner of the site. Refer to the Engineering Services Report included in Appendix H. **Not Applicable AO8.2. – AO8.3.**			
Infrastructure, Services and Utilities							
PO9	Development provides for *infrastructure*, services and utilities that are planned, designed and constructed in a manner which:- (a) ensures appropriate capacity to meet the current and planned future needs of the development; (b) is integrated with and efficiently extends existing networks; (c) minimises risk to life and property; (d) avoids, or where avoidance is not practicable minimises and mitigates, adverse impacts on *ecologically important areas*; (e) minimises risk of environmental harm;	**AO9.1** **AO9.2** **AO9.3**	*Infrastructure* is planned, and appropriate contributions made, in accordance with the Priority Infrastructure Plan or any other applicable infrastructure charging instrument. *Infrastructure* is planned, designed and constructed in accordance with *Council's* Priority Infrastructure Plan, and the **Planning scheme policy for development works,** or where applicable, the requirements of the service provider. Compatible public utility services are co-located in common trenching in order to minimise the land required and the costs for underground services.	**Complies AO9.1-AO9.8.** An Engineering Services Report has been prepared for the site (refer to Appendix H). The purpose of this report is to identify, address and document engineering issues associated with construction of the proposed solar farm on the subject site. The reports aims to identify how the proposed development will meet engineering objectives and outcomes outlined in SCC's Planning Scheme, as well as current planning scheme policies, design standards, guidelines	There are no ecologically important areas on site nor likely to be affected. Although the site is within a 'high value scenic area' and the adjoining road is a 'scenic route', the solar array structures will be less than 5 m in height above ground and easily screened by vegetation from the view of motorists; although they will be visible from residences in elevated positions at 1.5 to 3 km distance (and greater)	The applicant was requested to provide additional information on the proposed method of disposal of treated greywater from the development, considering the poor drainage of the site, the permeability of the in-situ soils and the high groundwater levels on the site The current application relates only to Stages 1a and 1d which do not include the educational facility.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
	(f) achieves acceptable maintenance, renewal and adaptation costs; (g) can be easily and efficiently maintained; (h) minimises potable water demand and wastewater production; (i) ensures the ongoing construction or operation of the development is not disrupted; (j) where development is staged, each stage is fully serviced before a new stage is released; (k) ensures adequate clearance zones are maintained between utilities and dwellings to protect residential amenity and health; (l) preserves visual amenity in key areas (i.e. in centres or along scenic routes); and (m) minimises interference with the passage of pedestrians in areas of high pedestrian traffic.	**AO9.4** **AO9.5** **OR** **AO9.6**	Stormwater drainage, sewerage and sullage systems are designed so that overflows do not enter residences. *Infrastructure*, services and utilities are located and aligned so as to:- (a) avoid disturbance of *ecologically important areas*; (b) minimise earthworks; and (c) avoid crossing *waterways* or *wetlands*. Where the provision of *infrastructure* has adverse impacts upon an *ecologically important area* which cannot reasonably be avoided, development provides for a biodiversity offset for the area of an *ecologically important area*, in accordance with the following:- (a) the biodiversity offset requirements specified in **Table 9.4.9.3.2 (Biodiversity offset requirements)** of **Section 9.4.9 (Vegetation management code)**; and	and engineering best practice.			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
		AO9.7	(b) the standards specified in the **Planning scheme policy for biodiversity offsets.**				
		AO9.8	Where the crossing of a *waterway* or *wetland* cannot be avoided, tunnel boring techniques are used to minimise disturbance and disturbed areas are reinstated and revegetated on completion of works. The selection of materials used in the construction of *infrastructure* is suitable, durable, easy to maintain and cost effective, taking into account the whole of life cycle cost, and achieves *best practice* environmental management and energy savings. Except where in the Rural zone, electrical and telecommunications reticulation *infrastructure* is provided underground in:- (a) greenfield developments; (b) development involving the creation of more than 5 lots; (c) development in *centre zones*; and				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
			(d) development in areas of high scenic amenity.				
Works Over or Near Sewerage, Water and Stormwater Drainage Infrastructure							
PO10	Building or operational work near or over the *Council's* stormwater *infrastructure* and/or sewerage and water *infrastructure*:- (a) protects the *infrastructure* from physical damage; and (b) allows ongoing necessary access for maintenance purposes.	**AO10**	Building or operational work near or over the *Council's* stormwater *infrastructure* and/or sewerage and water *infrastructure* complies with the **Planning scheme policy for development works** and the requirements of the water and sewerage service provider.	**Not Applicable AO10.** Building or operational work will not occur near or over Council's stormwater, sewerage or water infrastructure.	Not applicable.	Not applicable.	Not applicable.
PO11	*Filling or excavation*:- (a) does not cause environmental harm; (b) does not impact adversely on visual amenity or privacy; (c) maintains natural landforms as far as possible; (d) provides for remediated soil conditions to support the successful establishment of landscapes; and (e) is stable in both the short and long term.	**AO11**	Development provides that:- (a) on sites:- (i) with a *slope* of 15% or more, or as identified in the **Planning scheme policy for development works**, the extent of excavation (cut) and fill does not involve a total change of more than 1.5 metres relative to the *natural ground level* at any point; or (ii) in other areas, the extent of excavation (cut) and fill does not involve a total change of more than 1.0m relative to the	**Complies AO11.** The site is located west of Yandina Creek on predominantly flat, low lying coastal plains under the 5m Australian Height Datum (AHD) contour. Filling of the site will be required in the south eastern corner of the site to construct the sealed internal access road, car parking, bus set-down and ancillary equipment and support precinct. It is estimated that approximately 8,500 m^3 of fill will be required in this area. Civil engineering drawings depicting the earthworks proposed as	Complies.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
			natural ground level at any point; (b) no part of any cut or fill batter is within 1.5 metres of any property boundary, except cut and fill involving a change in ground level of less than 200mm that does not necessitate the removal of any *vegetation*; (c) retaining walls are no greater than 1.0 metre high; (d) retaining walls are constructed a minimum 150mm from property boundaries; (e) all stored material is:- (i) contained wholly within the *site*; (ii) located in a single manageable area that does not exceed 50m^2; and (iii) located at least 10 metres from any property boundary; (f) topsoil is harvested, stockpiled, remediated and reused in a manner that supports achievement of site specific vegetation performance objectives; and	part of the development have been prepared and are contained within Appendix E. No retaining walls or batters within 1.5 metres of a property boundary are proposed. Also refer to the Visual Amenity and Reflectivity Report provided in Appendix J.			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
			(g) any batter or retaining wall is structurally adequate.				
PO10	Building or operational work near or over the *Council's* stormwater *infrastructure* and/or sewerage and water *infrastructure*:- (c) protects the *infrastructure* from physical damage; and (d) allows ongoing necessary access for maintenance purposes.	**AO10**	Building or operational work near or over the *Council's* stormwater *infrastructure* and/or sewerage and water *infrastructure* complies with the **Planning scheme policy for development works** and the requirements of the water and sewerage service provider.	Not Applicable AO10. Building or operational work will not occur near or over Council's stormwater, sewerage or water infrastructure.	Not applicable.	Not applicable.	Not applicable.
Filling or Excavation							
PO11	*Filling or excavation*:- (f) does not cause environmental harm; (g) does not impact adversely on visual amenity or privacy; (h) maintains natural landforms as far as possible; (i) provides for remediated soil conditions to support the successful establishment of landscapes; and (j) is stable in both the short and long term.	**AO11**	Development provides that:- (h) on sites:- (i) with a *slope* of 15% or more, or as identified in the **Planning scheme policy for development works**, the extent of excavation (cut) and fill does not involve a total change of more than 1.5 metres relative to the *natural ground level* at any point; or (ii) in other areas, the extent of excavation (cut) and fill does not involve a total change of more than 1.0m relative to the *natural*	Complies AO11. The site is located west of Yandina Creek on predominantly flat, low lying coastal plains under the 5m Australian Height Datum (AHD) contour. Filling of the site will be required in the south eastern corner of the site to construct the sealed internal access road, car parking, bus set-down and ancillary equipment and support precinct. It is estimated that approximately 8,500 m^3 of fill will be required in this area. Civil engineering drawings depicting the	Complies.	No requirements.	No requirements.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
			ground level at any point; (i) no part of any cut or fill batter is within 1.5 metres of any property boundary, except cut and fill involving a change in ground level of less than 200mm that does not necessitate the removal of any *vegetation*; (j) retaining walls are no greater than 1.0 metre high; (k) retaining walls are constructed a minimum 150mm from property boundaries; (l) all stored material is:- (i) contained wholly within the *site*; (ii) located in a single manageable area that does not exceed 50m^2; and (iii) located at least 10 metres from any property boundary; (m) topsoil is harvested, stockpiled, remediated and reused in a manner that supports achievement of site specific vegetation performance objectives; and	earthworks proposed as part of the development have been prepared and are contained within Appendix E. No retaining walls or batters within 1.5 metres of a property boundary are proposed. Also refer to the Visual Amenity and Reflectivity Report provided in Appendix J.			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
			(n) any batter or retaining wall is structurally adequate.				
PO12	*Filling or excavation* does not result in any contamination of land or water, or pose a health or safety risk to users and neighbours of the *site*.	**AO12**	Development provides that:- (a) no contaminated material is used as fill; (b) for excavation, no contaminated material is excavated or contaminant disturbed; and (c) waste materials are not used as fill, including:- (i) commercial waste; (ii) construction/demolition waste; (iii) domestic waste; (iv) garden/vegetation waste; and (v) industrial waste.	Will Comply AO12. No contaminated material or waste materials will be used as fill.	To be addressed in the Operational Works application.	No requirements.	No requirements.
PO13	The location and extent of *filling or excavation* is consistent with the intended use of the *site*.	**AO13**	The extent of *filling or excavation* is in accordance with an existing development approval for a material change of use, reconfiguring a lot or building work (which has not lapsed).	Complies AO13. Works are to be undertaken in accordance with a current material change of use decision notice.	To be addressed in the Operational Works application.	No requirements.	Address in advisory comment for Construction Management Plan.
PO14	*Filling or excavation* does not prevent or create difficult access to the property.	**AO14**	Driveways are able to be constructed and maintained in accordance with the requirements of the **Planning scheme policy for development works**.	Complies AO14. Filling is proposed in the southeast corner of the site. Access to the site is incorporated into these works to facilitate adequate access to the site.	To be addressed in the Operational Works application.	No requirements.	Address in advisory comment for Construction Management Plan.
PO15	*Filling or excavation* does not cause significant impacts through truck movements,	**AO15**	*Filling or excavation* is undertaken in accordance with the requirements of the	Will Comply AO15. Filling will be undertaken in accordance with the			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Works, Services and Infrastructure Code							
	dust or noise, on the amenity of the locality in which the works are undertaken or along routes taken to transport the material.		**Planning scheme policy for development works**.	requirements of the planning scheme policy for development works.			
PO16	The transportation of materials in association with *filling or excavation* activities minimises adverse impacts on the road system.	**AO16**	Material is transported in accordance with the requirements of the **Planning scheme policy for development works**.	Will Comply AO16. Material for filling will be transported in accordance with the requirements of the planning scheme policy for development works.	To be addressed in the Operational Works application.	No requirements.	Address in advisory comment for Construction Management Plan.

7. Acid Sulfate Soils Overlay Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Acid Sulfate Soils Overlay Code							
Avoidance and Management of ASS							
PO1	Development:- (a) does not disturb *ASS*; or (b) is managed to avoid or minimise the release of acid and metal contaminants, where disturbance of *ASS* is unavoidable.	**AO1.1**	The disturbance of *ASS* is avoided by:- (a) undertaking an *ASS* investigation conforming to the *Queensland Sampling Guidelines*[5] and soil analysis according to the *Laboratory Methods Guidelines*[6]; (b) not excavating or otherwise removing soil or sediment containing *ASS*; (c) not permanently or temporarily extracting groundwater that results in the aeration of previously saturated *ASS*; and (d) not undertaking filling on land at or below 5 metres AHD that results in:-	**Complies AO1.1.** SMEC Australia (SMEC) was engaged by SCC to undertake a Geotechnical Assessment Report for the site. The study undertook geotechnical investigation of the site to assess underlying soil conditions, collected samples for laboratory sampling and recommended geotechnical design parameters. Refer to Appendix M. Based on the findings and recommendations in SMEC's Geotechnical Study, a suitable earthworks design methodology has been adopted for the site. For further information, refer to section 5.15.3 of the Planning Report. **Will Comply AO1.2.**	An acid sulphate solis investigation report and management plan is required.	No.	The applicant is requested to submit, with any future application for operational works approval, an acid sulphate solis investigation report and management plan which satisfies the requirements of Planning Scheme Policy SC6.4

[5] Ahern CR, Ahern MR and Powell B (1998). Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland. Department of Natural Resources Indooroopilly.

[6] Ahern CR, McElnea AE and Sullivan LA (2004). Acid Sulfate Soils Laboratory Guidelines. Department of Natural Resources and Mines, Indooroopilly.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Acid Sulfate Soils Overlay Code							
			(i) actual *ASS* being moved below the water table; or (ii) previously saturated *ASS* being aerated. **OR**	If ASS is identified it is to be managed in accordance with an ASS management plan.			
		AO1.2	The disturbance of *ASS* avoids the release of acid and metal contaminants by:- (a) undertaking an *acid sulfate soils* investigation conforming to the *Queensland Sampling Guidelines* and soil analysis according to the *Laboratory Methods Guidelines* or Australian Standard 4969; (b) neutralising existing acidity and preventing the generation of acid and metal contaminants using strategies documented in the *Soil Management Guidelines*[7]; and (c) preventing the release of surface or				

[7] Dear SE, Moore NG, Dobos SK, Watling KM and Ahern CR (2002). Soil Management Guidelines. Queensland Acid Sulfate Soils Technical Manual. Department of Natural Resources and Mines, Indooroopilly.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Acid Sulfate Soils Overlay Code							
			groundwater flows containing acid and metal contaminants into the environment. Where potential or actual *ASS* is identified, they are managed in accordance with an *ASS* management plan.				

8. Airport Environs Overlay Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
PO1	Development does not cause an obstruction or hazard to the safe movement of aircraft within an airport's *operational airspace* through the temporary or permanent intrusion of physical structures into the airport's *operational airspace*, particularly take-off and approach paths.	**AO1.1** **AO1.2** **AO1.3**	Buildings, structures (both freestanding and attached to buildings, including signs, masts or antennae) and *vegetation* at its mature height do not penetrate the *obstacle limitation surface* (*OLS*) of an airport as identified on an Airport Environs Overlay Map. Cranes and other construction equipment or activities do not penetrate the *OLS* of an airport as identified on an Airport Environs Overlay Map. Uses that involve temporary or permanent aviation activities (e.g. parachuting or hot air ballooning) are not located beneath the *operational airspace* of an airport as identified on an Airport Environs Overlay Map.	**Complies AO1.1.** Buildings and structures on site are not assessed to cause an obstruction or hazard to the safe movement of aircraft within the OLS. **Complies AO1.2.** Construction equipment is to be utilised in a manner that it does not cause an obstruction or hazard to the safe movement of aircraft within the OLS. **Not Applicable AO1.3.** The proposed use does not involve temporary or permanent aviation activities.	The proposed structures will have a maximum height of approximately 5.5 metres. At this height the structures will not have an adverse impact on the operational airspace.	Not required.	An advisory statement is to be included regarding the maximum height of structures to be 8.5metres on the site in accordance with the Overlay Mapping.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			Note—the **Planning Scheme Policy for the airport environs overlay code** provides further guidance in relation to the achievement of AO1.1 and AO1.2.				
PO2	Development does not cause an obstruction or hazard to the safe movement of aircraft within an airport's *operational airspace* through the attracting of wildlife, in particular flying vertebrates such as birds or bats, in significant numbers.	**AO2.1**	Uses involving the bulk handling or disposal of putrescible waste (e.g. landfill and waste transfer facilities) are not located within the 13 kilometre airport runway separation distance contour, as identified on an Airport Environs Overlay Map. **OR** **AO2.2** Where increasing the scale or intensity of an existing use involving the bulk handling or disposal of putrescible waste within the 13 kilometre airport runway separation distance contour, as identified on an Airport Environs Overlay Map, development includes measures to reduce the potential to attract birds and bats.	**Not Applicable AO2.1. – AO2.2.** The proposed use does not involve the bulk handling or disposal of putrescible waste. The proposed development will not generate any waste. **Not Applicable AO2.3.** The proposed use is not listed in AO2.2. **Not Applicable AO2.4.** The proposed use is not for recreation and entertainment facilities and the site is not within the 3 kilometre airport runway separation distance contour. **Not Applicable AO2.5.** The site is not located within the 3 kilometre airport runway separation distance contour.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			Uses involving the following activities are not located within the 3 kilometre airport runway separation distance contour, as identified on an Airport Environs Overlay Map:- (a) *aquaculture*, except where using a recirculating aquaculture system contained within sheds; (b) *cropping*, where involving a turf farm or fruit tree farm; (c) *intensive animal industry*; (d) *animal keeping*, where involving a wildlife or bird sanctuary; and (e) industrial uses, where involving food processing plants or stock handling or slaughtering.				
		AO2.3	Where uses or activities listed in				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			AO2.2 (above) are located between the 3 kilometre and 8 kilometre airport runway separation distance contours, as identified on an Airport Environs Overlay Map:- (a) potential food and waste sources are covered or otherwise secured so they do not present a food source for domestic or other wildlife; and (b) development includes measures to reduce the potential to attract birds and bats.				
		AO2.4	Where recreation and entertainment facilities involving fair grounds, showgrounds and outdoor theatres or cinemas are located within the 3 kilometre airport runway separation distance				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			contour, as identified on an Airport Environs Overlay Map, potential food and waste sources are covered or otherwise secured so they are not accessible to wildlife. Landscape and drainage works (including artificial waterbodies) for development located within the 3 kilometre airport runway separation distance contour, as identified on an Airport Environs Overlay Map, are designed and installed to minimise bird and bat attracting potential (e.g. avoidance of fruiting and/or flowering plant species). Note—the **Planning Scheme Policy for the airport environs overlay code** provides further guidance in relation to the achievement of AO2.5.				
		AO2.5					
PO3	Development does not cause an obstruction or hazard to the safe	**AO3**	An *extractive industry* is not located in the vicinity of that part of	**Not Applicable AO3.**	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
	movement of aircraft within an airport's *operational airspace* through vibration from blasting associated with an *extractive industry*.		the runway approach within the 13 kilometre airport runway separation distance contour. **OR** An *extractive industry* located within the 13 kilometre airport separation distance contour is conducted in accordance with a management plan agreed with the airport operator that takes account of aircraft take-off and landing times and the potential for vibration from blasting to impact upon the safety of aircraft using the airport.	The proposed renewable energy facility is not an extractive industry.			
PO4	Development does not cause an obstruction or hazard to the safe movement of aircraft within an airport's *operational airspace* through the installation of external lighting that could distract or interfere with a pilot's vision, or confuse the visual identification of runway, approach or	**AO4**	Outdoor lighting (including street lighting and security lighting) located within the 6 kilometre airport runway separation distance contour, as identified on an Airport Environs Overlay Map, does not involve:- (a) lighting that shines, projects	**Not Applicable AO4.** The site is not within the 6 kilometre airport runway separation distance contour.	Solar panels will have a low-reflectivity surface treatment and are not expected to cause any greater glare (as seen from the air) than would arise from, for example, a water body.	Not required.	Visible support structures and associated equipment should be low in reflectivity where possible.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
	navigational lighting from the air.		or reflects light above a horizontal plane; (b) coloured, flashing or sodium lighting; (c) flare plumes; or (d) configurations of lights in straight parallel lines 500 metres to 1,000 metres in length. Note—the **Planning Scheme Policy for the airport environs overlay code** provides further guidance in relation to the achievement of AO4.				
PO5	Development does not cause an obstruction or hazard to the safe movement of aircraft within an airport's *operational airspace* through the emission of particulates, gases or other materials that may cause air turbulence, reduce visibility or affect aircraft engine performance.	**AO5**	Development does not release the following emissions into *operational airspace*:- (a) gaseous plumes with a velocity exceeding 4.3m/s; (b) smoke, dust, ash or steam; or (c) emissions with depleted oxygen content.	**Complies AO5.** The proposed development is to be carried out in a manner to not release emissions into operational airspace that cause obstruction or hazard.	Complies.	Not required.	Not required.
Aircraft Noise							
PO6	Development and land uses that are sensitive to	**AO6.1**	The following uses, or the creation of additional lots to	**Not Applicable AO6.1. – AO6.2.**	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
	noise interference or noise nuisance:- (a) avoid noise affected areas surrounding the airport; and (b) are sited, designed and constructed to mitigate noise nuisance to acceptable levels.	**AO6.2**	accommodate these uses, are not located on land identified on an Airport Environs Overlay Map as being subject to the nominated *Australian Noise Exposure Forecast* (*ANEF*) contour:- (a) permanent forms of residential accommodation within the 20 *ANEF* contour (or greater); (b) visitor or temporary accommodation uses including *hotel*, *short-term accommodation* and *tourist park* within the 25 *ANEF* contour (or greater); (c) community activities including *child care centre*, *community care centre*, *educational establishment*, *health care services* and	The proposed use is not for any of the uses listed and the site is not within an ANEF contour.			

Performance Outcomes	Acceptable Outcomes	GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code					
	place of worship within the 20 *ANEF* contour (or greater); (d) business or entertainment activities including *food and drink outlet*, *function facility*, *service industry*, *shop*, *shopping centre*, *showroom* and *tourist attraction* within the 25 *ANEF* contour (or greater); and (e) industry uses including *low impact industry* and r*esearch and technology industry* within the 30 *ANEF* (or greater). Development located within the *ANEF* contours referred to above is designed and constructed to attenuate aircraft noise in accordance with *Australian Standard AS2021: Acoustics-*				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			Aircraft noise intrusion-Building siting and construction. Note—AS2021 considers aircraft noise impacts on indoor spaces only. Noise impacts on outdoor use areas will require separate assessment to determine whether noise levels can be mitigated to be within acceptable limits. This is of significant importance on the Sunshine Coast where the sub-tropical climate supports and encourages an outdoor orientated lifestyle.				
Public Safety Areas							
PO7	Development within the *public safety areas* located at the end of airport runways avoids:- (a) a significant increase in the number of people living, working or congregating in those areas; and (b) the use or storage of hazardous materials.	**AO7**	Development within a *public safety area*, as identified on an Airport Environs Overlay Map, does not introduce or intensify the scale of:- (a) any residential, business, industrial, community and sport and recreation activity; or (b) any use involving the manufacture, use or storage of flammable,	**Not Applicable AO7.** The site is not located within a public safety area.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			explosive, hazardous or noxious materials.				
On-airport Aviation Facilities (NDB, DME, CVOR, VHF)							
PO8	Development does not interfere with the safe and continued functioning of *aviation facilities* through:- (a) the temporary or permanent intrusion of buildings or structures that enter an *aviation facility sensitive area*; or (b) the introduction of buildings, structures or devices that emit electrical or electromagnetic radiation or incorporate reflective surfaces that adversely impact on the functioning of navigation or communication facilities.	**AO8.1** **AO8.2**	**For NDB** Development involving any of the following buildings, structures or works is not located within the *aviation facility sensitive area* of the NDB (non-directional beacon) facility, as identified on an Airport Environs Overlay Map:- (a) buildings, structures or other works within 60 metres of the facility; (b) metallic buildings or structures between 60 and 150 metres of the facility; (c) buildings or structures with a size greater than 2.5 metres in any dimension between 60 and 150 metres of the facility;	**Not Applicable AO8.1. – AO8.4.** The site is not located within the aviation facility sensitive area of the NDB, DME, CVOR or VHF facility.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
		AO8.3 **AO8.4**	(d) other works between 60 and 150 metres of the facility which exceed 3 metres in height; or (e) buildings, structures or other works between 150 and 500 metres of the facility which exceed 8 metres in height. **For DME** Development involving any of the following buildings, structures or works is not located within the *aviation facility sensitive area* of the DME (distance measuring equipment) facility, as identified on an Airport Environs Overlay Map:- (a) buildings, structures or other works within 115 metres of the facility which exceed 8 metres in height;				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			(b) buildings, structures or other works between 115 and 230 metres of the facility which exceed 9 metres in height; (c) buildings, structures or other works between 230 and 500 metres of the facility which exceed 10 metres in height; (d) buildings, structures or other works between 500 and 1,000 metres of the facility which exceed 12 metres in height; or (e) buildings, structures or other works between 1,000 and 1,500 metres of the facility which exceed 16.5 metres in height. **For CVOR**				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			Development involving any of the following buildings, structures or works is not located within the *aviation facility sensitive area* of the CVOR (conventional omnidirectional range) facility, as identified on an Airport Environs Overlay Map:- (a) buildings, structures or works within 300 metres of the facility; or (b) buildings, structures or works between 300 and 1,000 metres of the facility for:- (i) a fence exceeding 2.5 metres in height; (ii) overhead lines exceeding 5 metres in height; (iii) a metallic structure exceeding				

Performance Outcomes	Acceptable Outcomes	GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code					
	8 metres in height; (iv) a tree or open lattice tower exceeding 10 metres in height; or (v) a wooden structure exceeding 13 metres in height. **For VHF** Development located within the *aviation facility sensitive area* of the VHF (communication) facility. As identified on an Airport Environs Overlay Map does not create:- (a) permanent or temporary physical obstructions in the line of sight between antennas; (b) an electrical or electromagnetic field that will interfere with				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			signals transmitted by the facility; or (c) reflective surfaces that could deflect or interfere with signals transmitted by the facility.				
Off-airport Aviation Facilities (Maleny VOR)							
PO9	Development and land use does not interfere with the safe and continued functioning of *aviation facilities* through:- (a) the temporary or permanent intrusion of buildings or structures that enter an *aviation facility sensitive area*; or (b) the introduction of buildings, structures or devices that emit electrical or electromagnetic radiation or incorporate reflective surfaces that adversely impact on the functioning of navigation or communication facilities.	**AO9**	Development involving any of the following buildings, structures or works is not located within the *aviation facility sensitive area* of the Maleny VOR (VHF omnidirectional range) facility, as identified on an Airport Environs Overlay Map:- (a) buildings, structures or works within 150 metres of the facility; (b) buildings, structures or works between 150 and 300 metres of the facility for:- (i) overhead lines;	**Not Applicable AO9.** The site is not located within the aviation facility sensitive area of the Maleny VOR.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code							
			(ii) a fence exceeding 2.5 metres in height; (iii) a metallic structure exceeding 5 metres in height; (iv) a tree or open lattice tower exceeding 10 metres in height; or (v) a wooden structure exceeding 13 metres in height; or (c) buildings, structures or works between 300 and 1,000 metres of the facility for:- (i) a fence exceeding 5 metres in height; (ii) a metallic structure exceeding 10 metres in height;				

Performance Outcomes	Acceptable Outcomes	GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Airport Environs Overlay Code					
	(iii) overhead lines exceeding 16 metres in height; (iv) a tree or open lattice tower exceeding 20 metres in height; or (v) a wooden structure exceeding 26 metres in height.				

9. Flood Hazard Overlay Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Flood Hazard Overlay Code							
Dual Occupancy and Dwelling House							
PO1	A *dual occupancy* or *dwelling house* is sited and designed such that risk to people and property from flooding and storm tide inundation is avoided or minimised.	**AO1**	The finished floor level of all habitable rooms is at least 500mm above the *defined flood event* (*DFE*) and *defined storm tide event* (*DSTE*). **OR** Where the *DFE* and *DSTE* has not been modelled for the area, the finished floor level of all habitable rooms is at least 600mm above the highest recorded flood or storm tide inundation level. **OR** Where located on a *site* in a drainage deficient area, as identified **on Figure 8.2.7 (Drainage deficient areas)**, the finished floor level of	**Not Applicable AO1.** The proposed use it not a dual occupancy or dwelling house.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Flood Hazard Overlay Code							
			all habitable rooms is in accordance with the minimum floor level specified in a current drainage deficient area flood information certificate issued by the *Council* for the *site*. **OR** Where involving a minor extension to an existing *dwelling house* that is situated below the *DFE* or *DSTE* (or below the highest recorded flood or storm tide inundation level where the *DFE* and *DSTE* has not been modelled for the area):- (a) the extension has a *gross floor area* not exceeding 20m²; and (b) the finished floor level of any new habitable room is not less than the floor level of existing habitable rooms.				

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Flood Hazard Overlay Code							
PO2	A *dual occupancy* or *dwelling house* is sited and designed such that enclosed car parking and manoeuvring areas do not obstruct the drainage of flood waters or create a health hazard after flood and storm tide inundation events.	**AO2**	Enclosed car parking and manoeuvring areas situated below the *DFE* or *DSTE* (or below the highest recorded flood or storm tide inundation level where the *DFE* and *DSTE* has not been modelled for the area) are constructed at a level that permits the parking area to drain from the site by gravity means, without the need for mechanical pumping.	**Not Applicable PO2.** The proposed use is not a dual occupancy or dwelling house.	Not applicable.	Not applicable.	Not applicable.
PO3	Essential network *infrastructure* (e.g. on-site electricity, water supply, sewerage and telecommunications) maintains effective functioning during and immediately after flood and storm tide inundation events.	**AO3**	Essential network *infrastructure* necessary to service the *dual occupancy* or *dwelling house* is:- (a) located above the *DFE* and *DSTE* (or where the *DFE* and *DSTE* has not been modelled for the area, above the highest recorded flood or storm tide inundation level for the area); or	**Not Applicable AO3.** The proposed use is not a dual occupancy or dwelling house.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Flood Hazard Overlay Code							
			(b) designed and constructed to exclude floodwater or storm tide intrusion and resist hydrostatic and hydrodynamic forces as a result of inundation by the *DFE* or *DSTE*.				
PO4	A *dual occupancy* or *dwelling house* does not directly, indirectly or cumulatively change flood characteristics which may cause adverse impacts external to the development *site*.	**AO4.1**	Filling of areas outside of the plan area of all buildings and driveway areas does not exceed 50m³ and does not result in net filling on the *site*. **OR** Where located on a *site* in a drainage deficient area, as identified on **Figure 8.2.7 (Drainage deficient areas)**, filling is undertaken in accordance with a current drainage deficient area flood information certificate issued by the *Council* for the *site*.	**Not Applicable AO4.1. – AO4.2.** The proposed use is not a dual occupancy or dwelling house.	Not applicable.	Not applicable.	Not applicable.
		AO4.2					

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Flood Hazard Overlay Code							
			Any building, structure or site *access* does not restrict overland flow.				

Table 8.2.7.3.2 Criteria for assessable development

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Flood Hazard Overlay Code							
Floodplain Protection							
PO1	Development is undertaken in a manner that ensures:- (a) natural hydrological systems are protected; (b) natural landforms and drainage lines are maintained to protect the hydraulic performance of *waterways*; and (c) development integrates with the natural landform of the *floodplain* rather than modifying the landform to suit the development	**AO1**	Not acceptable outcome provided.	**Complies PO1** The following key points assist with the achievement of PO1: • the proposed development plans position the solar array on the highest sections of the site toward the southern boundary (refer to Appendix E) • minimal earthworks are proposed by having the solar panels on structures	No significant changes to existing landforms.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
				as opposed to earth fill (refer to Appendix H) • no works are proposed within or in close proximity to the drainage lines around the north and western boundaries (refer to Appendix H) • Flood model results show that the proposed development has no significant impact on peak flood levels for all flood events that have been assessed, up to and including the 0.05% AEP design flood event (refer to Appendix N)			
PO2	In a flood and inundation area, as identified on a	**AO2**	Not acceptable outcome provided.	**Complies PO2** Section 2.2 of the town planning report	Acceptable outcomes provided.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
	Flood Hazard Overlay Map, or in areas otherwise determined as being subject to the *defined flood event* (*DFE*) or *defined storm tide event* (*DSTE*):- (a) any development involving physical alteration to land does not occur; or (b) urban and rural residential development, and other development involving the erection of a building or structure or significant earthworks satisfies at least one of the following criteria:- (i) the development is on land that is already committed to urban or rural residential development by an approval granted prior to the commencement of the planning scheme; (ii) the development is on land identified in a structure plan as an area intended for urban development; (iii) the development is redevelopment or infill development within an existing developed area;			demonstrates a community need in the public interest that warrants approval of the development despite its occurrence within an area subject to flooding. In line with this benefit, the site is zoned for community facility and annotated renewable energy facility which is considered infrastructure and is identified on the planning scheme maps. The proposed plans of development with the accompanying technical reports demonstrate flood immunity and no significant impact on peak flood levels (refer to Appendix N).			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
	(iv) an overriding community need in the public interest has been demonstrated that warrants approval of the development despite its occurrence within an area subject to flooding; or (v) the development is for the *infrastructure* identified on the planning scheme maps; and (c) achieving flood immunity for the development minimises physical alteration to the *floodplain*.						
Flood and Storm Tide Inundation Immunity and Safety – Development Siting and Design							
PO3	Development provides that for all flood and storm tide inundation events up to and including the *DFE* and *DSTE*:- (a) the safety of people on the *site* is protected; and (b) the risk of damage to property on the *site* is avoided or minimised as far as practicable.	**AO3.1**	Finished surface and floor levels of urban lots, and buildings and *infrastructure* comply with the flood immunity requirements specified in **Table 8.2.7.3.3 (Flood levels and flood immunity requirements for development and infrastructure)**. Note—the finished surface levels referred to in **Table 8.2.7.3.3** relate to regional/riverine flooding and do not override the freeboard requirements	**Complies AO3.1** Section 4.2 of the Engineering Report included in Appendix H and Section 2.2.3 of Appendix N – Flood Study, details the rationale of site levels in relation to compliance and applicability of the Table 8.2.7.3.3 requirements.	Minimum levels for electrical infrastructure and other facilities to be in accordance with Table 8.2.7.3.3 of the Flood Overlay Code.	Not required.	The following condition is required: The minimum level of the Ancillary Equipment and Maintenance Support Precinct (and any other areas required for the storage of batteries and hazardous or bulky materials) must be provided

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
			for smaller catchments and local drainage specified in QUDM which continue to apply for local area flooding (overland flow paths and roads)/master drainage plans.				in accordance with the requirements of the Flood Hazard Overlay Code Table 8.2.7.3.3, i.e. the minimum design level is the 1% AEP flood level incorporating Climate Change to the Year 2050 plus 0.5 metres. Based on the information provided in Final Report, Flood Study: 909 Yandina Coolum Rd, Valdora (Lot 3 SP219490) (BMT WBM, October 2014), the minimum design level is therefore 4.24m AHD. The minimum level of all other electrical equipment (e.g. solar panels, inverters, switchboards, etc.) can be either: (a) above the 1% AEP flood level incorporating Climate Change to
		AO3.2	A lot in the Rural residential zone has a building envelope or *development footprint* at least 1,000m² in area that is generally rectangular in shape and has a finished surface level that complies with the criteria for residential development in **Table 8.2.7.3.3**.	**Not Applicable AO3.2**			
		AO3.3	A lot in the Rural zone has a building envelope or *development footprint* at least 3,000m2 in area that is generally rectangular in shape and has a finished surface level that complies with the criteria for residential development in **Table 8.2.7.3.3**.	**Not Applicable AO3.3**			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
							the Year 2050, i.e. 3.74m AHD; or (b) designed and constructed to exclude floodwater or storm tide intrusion or infiltration and resist hydrostatic and hydrodynamic forces as a result of inundation by the 1% AEP flood event incorporating Climate Change to the Year 2050 (given appropriate flood modelling demonstrating an acceptable outcomes with respect to flood impacts).
PO4	Development does not compromise the safety of people resulting from the residual flood or storm tide inundation risk associated with events exceeding the *DFE* or *DSTE*, up to and including the *probable maximum flood* (*PMF*) or *probable maximum storm tide* (*PMST*).	**AO4**	Development provides an effective evacuation route that remains passable, with sufficient flood warning time, to enable people to progressively evacuate to areas above the *PMF* or *PMST* in the face of advancing flood or storm tide waters for events exceeding the *DFE* or *DSTE*.	Since access to the site for Yandina-Coolum Road is only available in less than a 1 in 20 year ARI event, it is proposed to develop a Flood Management Plan for the site. The aim of the Flood Management Plan would be to ensure that all people and vehicles had been evacuated	Site will not be used for residential purposes.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
			OR Development incorporates building floor levels or surface levels within each lot, as adequate *safe refuges*, that are above the *PMF* or *PMST*.	from the site prior to any significant flooding of Yandina-Coolum Road. The site will be gated so access to the site can be restricted and managed through the Flood Management Plan. The Flood Management Plan will be prepared through the detailed design phase of the project.			
Building Design and Built Form							
PO5	Development ensures that building design and built form:- (a) maintains a functional and attractive street front address appropriate to the intended use; and (b) ensures that building materials used have high water resistance and will improve the resilience of a building during and after a flood or storm tide event.	**AO5.1** **AO5.2**	Buildings incorporate appropriate screening to ensure that any under-storey is not visible from the street, where such screening does not impede flood water flows. Building materials and surface treatments used below the *DFE* or *DSTE* are resilient to water damage and do not include wall cavities that may be susceptible to the intrusion of water and sediment. Editor's note—the use of flood resilient building materials is also encouraged in areas above the *DFE*/*DSTE* (up to the *PMF*/*PMST*) to reduce the	**Complies AO5.1 and 5.2** Buffer planting is proposed along the southern and eastern boundaries (refer to Appendix K – Landscape Concept Plans). Building materials for the structures contained within the ancillary equipment and maintenance precinct are to be of a type resilient to water damage.	Building design is acceptable.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
			consequences of flooding associated with events larger than the *DFE*/*DSTE*. Note—the **Planning scheme policy for the flood hazard overlay code** provides further advice in relation to building design and built form in flood hazard areas.				
Essential Network Infrastructure							
PO6	Essential network *infrastructure* within a *site* (e.g. electricity, water supply, sewerage and telecommunications) maintains effective function during and immediately after flood and storm tide inundation events.	**AO6**	Any components of essential network *infrastructure* that are likely to fail to function or may result in contamination when inundated by flood water (e.g. electrical switchgear and motors, water supply pipeline air valves and the like) are:- (a) located above the *DFE* and *DSTE* (or where the *DFE* and *DSTE* has not been modelled for the area, above the highest recorded flood or storm tide inundation level for the area); or (b) designed and constructed to exclude floodwater or storm tide intrusion or infiltration and resist hydrostatic and hydrodynamic forces as a result of inundation by the *DFE* or *DSTE*.	**Not Applicable AO6** The solar farm is not considered essential network infrastructure as the ENERGEX electricity trunk supply network does not rely on the solar farm to provide essential electricity to customers. The flood immunity of infrastructure is accounted for and Section 4.2 of the Engineering Report included in Appendix H and Section 2.2.3 of Appendix N – Flood Study details the rationale of site levels in relation to compliance and applicability of the flood immunity requirements.	No essential network infrastructure in site.	Not required.	Not required.
Essential Community Infrastructure							

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
PO7	Essential community infrastructure is able to function effectively during and immediately after flood events.	**AO7.1**	*Essential community infrastructure* is located in accordance with the *recommended flood level* (*RFL*) and other flood immunity requirements for that *infrastructure* specified in **Table 8.2.7.3.3 (Flood levels and flood immunity requirements for development and infrastructure)**.	**Not Applicable AO7.1 and AO7.2** The solar farm is not considered essential network infrastructure as the ENERGEX electricity trunk supply network does not rely on the solar farm to provide essential electricity to customers. The flood immunity of infrastructure is accounted for and Section 4.2 of the Engineering Report included in Appendix H and Section 2.2.3 of Appendix N – Flood Study, details the rationale of site levels in relation to compliance and applicability of the flood levels and immunity requirements.	No essential community infrastructure in site.	Not required.	Not required.
		AO7.2	*Essential community infrastructure* which is located below the *RFL*:- (a) is designed and constructed to function effectively during and immediately after the *RFL* flood event; and (b) has an emergency rescue area above the *PMF* or *PMST* if it is for *emergency services* (including emergency shelters, police facilities, hospitals and associated facilities).				
Hazardous and Other Materials							
PO8	Development ensures that public safety and the environment are not adversely affected by the	**AO8**	The *site* on which the hazardous materials are manufactured or stored in bulk complies with the flood immunity requirements	**Not Applicable AO8.** No hazardous materials are to be manufactured or stored in bulk on site as part of Stage 1a and 1b. Future battery	Hazardous material to be stored at minimum level in accordance with Table 8.2.7.3.3 of the Flood Overlay Code.	Not required.	Yes – refer to PO3.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
	detrimental impacts of floodwater on hazardous and other materials manufactured or stored in bulk during the *DFE* or *DSTE*.		specified in **Table 8.2.7.3.3 (Flood levels and flood immunity requirements for development and infrastructure)**. **OR** Materials stored on the *site*:- (a) are those that are readily able to be moved in a flood or storm tide event; (b) are not hazardous or noxious, or otherwise comprise materials that may cause a detrimental impact on the environment if discharged in a flood or storm tide event; and (c) where at risk of creating a safety hazard by being shifted by flood waters, are contained in order to minimise movement in times of flood or inundation.	storage areas are accounted for in the ancillary equipment and maintenance precinct to temporarily store electrical charge generated by the solar array. Materials that comprise these batteries could be hazardous to people and the environment if they became dislodged and uncontained. Consequently, the recommendations in Section 2.2.5 of Appendix N specific to hazardous materials are to be adhered to. Pollutants that may become entrained in surface runoff are to be contained on-site by way of appropriate bunding and/or incorporation of adequate water sensitive urban design.			
Flood Impacts							
PO9	Development does not directly, indirectly or cumulatively alter the flooding characteristics external to the development *site* for all flood events up to and including the *DFE*	**AO9**	In a flood and inundation area, as identified on a Flood Hazard Overlay Map, or in areas otherwise determined as being subject to the *DFE* or *DSTE*:- (a) there is no loss of on-site flood storage capacity;	**Complies AO9** Appendix N – Flood Study details the assessment for the range of flood event magnitudes and peak flood levels at the Site from regional flooding	The flood study has addressed all required flood events, in accordance with the Planning scheme policy for the flood hazard overlay Code.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
	or *DSTE*, based on:- (a) current climate conditions; and (b) incorporating an appropriate allowance for the predicted impacts of climate change.		(b) any changes to level, depth, duration and velocity of floodwaters are contained within the *site* for all flood events up to and including the *DFE* or *DSTE* based on:- (i) current climate conditions; and (ii) incorporating an allowance for the predicted impacts of climate change at the year 2100; (iii) catchment conditions relevant at the time of upstream or downstream development; (c) no earthworks (including filling of land or reduction of flood storage capacity) occurs, unless:- (i) such earthworks result in the rehabilitation and repair of the hydrological network and riparian ecology of a *waterway*; and (ii) an assessment undertaken by a competent person demonstrates that reforming of the land does not negatively impact on the overall hydrology, hydraulics and flood capacity of the *waterway* and does not, in any way, result in the reduction of flood storage capacity on the *site*; or (iii) such earthworks relate to improving drainage in a drainage deficient area, as	(combined flood and storm tide). Flood model results show that the proposed development has no significant impact on peak flood levels for all flood events that have been assessed, up to and including the 0.05% AEP design flood event. The potential solar array fence blockage scenarios that have been modelled (25%, 75% and 100% fence blockage) also results in a minimal impact on the peak 1% AEP flood level of less than 0.01 m (refer to Appendix N).			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
			identified on **Figure 8.2.7 (Drainage deficient areas)**, and are undertaken in accordance with a current drainage deficient area flood information certificate issued by the *Council*.				
PO10	Development does not increase the severity of storm tide related impacts for off-site property for all storm tide events up to and including the DFE or DSTE, based on:- (a) current climate conditions; and (b) incorporating an appropriate allowance for the predicted impacts of climate change at the end of the design life of the development.	**AO10**	Development does not involve any physical alteration to the storm tide inundation area, including vegetation clearing. OR Development avoids or, where avoidance is not possible, minimises alterations to the site that would result in:- (a) acceleration or redirection of flows towards neighbouring infrastructure and development; (b) increased local water levels; or (c) increased breaking wave heights.	**Complies AO10** Appendix N – Flood Study details the assessment for the range of flood event magnitudes and peak flood levels at the Site from regional flooding (combined flood and storm tide). Flood model results show that the proposed development has no significant impact on peak flood levels for all flood events that have been assessed, up to and including the 0.05% AEP design flood event. The potential solar array fence blockage scenarios that have been modelled (25%, 75% and 100% fence blockage) also results in a minimal impact on the peak 1% AEP flood level of less than 0.01 m (refer to Appendix N).	Development will not significantly affect storm tide events.	Not required.	Not required.

10. Regional Infrastructure Overlay Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Regional Infrastructure Overlay Code							
PO1	Development provides and maintains adequate separation between the use or works and the gas pipeline corridor identified on a Regional Infrastructure Overlay Map, so as to minimise risk of harm to people and property.	**AO1**	Buildings and structures are setback a minimum of 40 metres from a gas pipeline as identified on a Regional Infrastructure Overlay Map. Editor's note—should a lesser setback distance be proposed, it is recommended that the applicant consult with the relevant gas pipeline manager prior to the lodgement of a development application to determine how compliance with the performance outcome can be achieved.	**Not Applicable AO1.** The site is not within a gas pipeline corridor.	Not applicable.	Not applicable.	Not applicable.
PO2	Development, including uses and works are constructed and operated to avoid:- (a) compromising the viability of the gas pipeline corridor; or (b) damaging or adversely affecting the existing or future operation of the gas pipeline and the supply of gas.	**AO2**	No acceptable outcome provided. Editor's note—it is recommended that an applicant consult with the relevant gas pipeline manager prior to the lodgement of a development application in the vicinity of a gas pipeline corridor.	**Not Applicable AO2.** The site is not within a gas pipeline corridor.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Regional Infrastructure Overlay Code							
PO3	Development does not adversely impact on existing or planned high voltage electricity transmission *infrastructure*.	**AO3**	Urban residential lots and buildings and structures are not located within an easement for, or an area otherwise affected by, a high voltage electricity transmission line as identified on a Regional Infrastructure Overlay Map.	**Complies AO3.** Overhead high voltage electricity is located along the eastern frontage of the site. The proposed solar farm will be directly connected to the ENERGEX grid via the existing high voltage cabling. Aside from connection of the solar farm to the existing electricity network, no other works are proposed on the existing network. Refer to section 6 of the Planning Report for further information.	The proposal does not involve residential lots or structures.	Not applicable.	Not applicable.
PO4	*Sensitive land uses* are not located close to high voltage electricity transmission lines.	**AO4**	Buildings and outdoor use areas associated with a *sensitive land use* are setback from the closest boundary of an easement for, or an area otherwise affected by, a high voltage electricity transmission line, in accordance with the following:- (a) 20 metres for transmission lines up to 132kV; (b) 30 metres for transmission lines between 133kV and 275kV; and	**Not Applicable AO4.** The proposed renewable energy facility use is not a sensitive land use.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Regional Infrastructure Overlay Code							
			(c) 40 metres for transmission lines exceeding 275kV.				
PO5	Development within a water supply pipeline and buffer identified on a Regional Infrastructure Overlay Map:- (a) is located, designed and constructed to protect the integrity of the water supply pipeline; and (b) maintains adequate access for any required maintenance or upgrading work to the water supply pipeline.	**AO5**	Buildings and structures are setback a minimum of 20 metres from a water supply pipeline as identified on a Regional Infrastructure Overlay Map. Editor's note—should a lesser setback distance be proposed, it is recommended that an applicant consult with the relevant water entity, to determine how compliance with the performance outcome can be achieved.	**Not Applicable AO5.** The development is not within a water supply pipeline and buffer.	Not applicable.	Not applicable.	Not applicable.
PO6	Residential activities and other *sensitive land uses* are not adversely affected by odour emissions from existing or planned sewage treatment plants.	**PO6.1** **PO6.2**	A *sensitive land use* involving a residential activity is not located or intensified within a sewage treatment plant buffer as identified on a Regional Infrastructure Overlay Map. A *sensitive land use* (other than a residential activity) located within a sewage treatment plant buffer, as identified on a Regional Infrastructure Overlay Map, demonstrates that occupants and users will not be adversely affected by odour	**Not Applicable PO6.1. – PO6.3.** The proposed renewable energy facility use is not a sensitive land use and the application does not involve reconfiguring a lot.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Regional Infrastructure Overlay Code							
			emissions from the sewage treatment plant. Reconfiguring a lot within a sewage treatment plant buffer, as identified on a Regional Infrastructure Overlay Map:- (a) does not result in the creation of additional lots used or capable of being used for residential activities; and (b) where rearranging boundaries, does not worsen the existing situation with respect to the distance between available dwelling sites and the sewage treatment plant.				
PO7	*Sensitive land uses* are located and designed to ensure that noise emissions from existing or planned *major road* and railway corridors do not adversely affect:- (a) the development's primary function; and (b) the wellbeing of occupants including their ability to sleep, work or otherwise	**AO7**	No acceptable outcome provided. Editor's note—Part 4.4 of the *Queensland Development Code* provides requirements for residential buildings in a designated transport corridor.	**Not Applicable AO7.** The proposed renewable energy facility use is not a sensitive land use.	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Regional Infrastructure Overlay Code							
	undertake quiet enjoyment without unreasonable interference from road traffic noise.						
PO8	Development within a *major road* or railway corridor buffer, as identified on a Regional Infrastructure Overlay Map, maintains and, where practicable, enhances the safety, efficiency and effectiveness of the corridor.	**AO8**	No acceptable outcome provided.	**Complies AO8.** The site is located within a major road corridor and buffer according to the Regional Infrastructure Overlay Map. The number of access points to the major road (Yandina-Coolum Road) will not increase. Refer to Traffic Impact Assessment Report included in Appendix I of the Planning Report.	Complies – Cardno agrees with the assessment.	Not applicable.	Not applicable.
PO9	Development retains and enhances existing *vegetation* between the intended location of the development and a *major road* or railway corridor, so as to provide dense screening to potential noise, dust, odour and visual impacts emanating from the corridor.	**AO9**	No acceptable outcome provided.	**Complies AO9.** Landscaping works in Stage 1a and 1b of the development will comprise a 10m vegetated buffer along the frontage of the site, around the ancillary equipment and support precinct and the internal and external access. Landscape Concept Plans for Stage 1a are included in Appendix K of the Planning Report.	Landscaping requirements are addressed under the Landscape Code.	Not applicable.	Not applicable.
PO10	Development adjacent to an existing or planned	**AO10**	No acceptable outcome provided.	**Not Applicable AO10.**	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION ASSESSMENT	CARDNO CONDITIONS
Regional Infrastructure Overlay Code							
	dedicated public transport corridor and buffer, as identified on a Regional Infrastructure Overlay Map, is:- (a) compatible with the nature and function of the corridor; and (b) does not compromise the operational efficiency of the corridor.			The site is not adjacent to an existing or planned dedicated public transport corridor and buffer.			

11. Scenic Amenity Overlay Code

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Scenic Amenity Overlay Code							
Scenic Routes							
PO1	Development does not detract from the visual amenity of a scenic route and:- (a) is visually unobtrusive, relative to its urban or non-urban setting and surroundings, when viewed from the scenic route; (b) maintains or enhances important view corridors or distance views from the scenic route to significant landscape features; and (c) is low key, both visually and in scale, so as not to detract from the scenic amenity offered from the scenic route.	**AO1**	Development on land adjoining a scenic route, as identified on a Scenic Amenity Overlay Map:- (a) retains existing *vegetation* and incorporates landscape treatments to visually screen and soften built form elements, whilst not impeding distance views or view corridors from the scenic route; (b) incorporates building materials and external finishes that are compatible with the visual character and the landscape or townscape setting of the scenic route; and (c) minimises visual impacts on the scenic route in terms of:- (i) the scale, height and *setback* of buildings; (ii) the location and configuration of	**Complies AO1.** The site adjoins a scenic route as identified on the Scenic Amenity Overlay. The site has been completely cleared in line with its previous use for broad acre agriculture. Landscaping works will comprise a 10m vegetated buffer along the frontage of the site, around the ancillary equipment and support precinct and the internal and external access. Based on the observations in Appendix J, it can be seen that the proposal (taking into account the proposed landscaping) would generally be of a scale and appearance that is compatible	Although the proposal will change the experience of a scenic route for a limited section, and some residents in elevated locations will see the solar array at distances of 1.5km or greater, the views to Mt Ninderry or Mt Coolum will not be affected. The proposed solar array, vegetated buffer and ancillary buildings are visually compatible with the rural landscape, and for some visitors are likely to be a source of visual interest.	Sightline section from solar array through Valdora Road to Ocean Vista Drive to the west	Vegetation buffers to be a minimum of 10 m wide and include several rows of multi-layered native plants capable (at maturity) of providing visual screening from 1.5m to at least 15 m height, including along western boundary as shown on the Stages 1A & 1B Landscape Concept Plan.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Scenic Amenity Overlay Code							
			access roads and driveways; and (iii) the scale, extent and visual prominence of signage.	(noting that the requirement is for compatibility, not for consistency) with development in adjacent zones; that amenity is maintained; that significant landscape elements and features, as well as significant views and vistas are protected; and that the visual amenity of a scenic route is appropriately maintained. Refer to the Visual Amenity and Reflectivity Assessment in Appendix J and the Landscape Concept Plans included in Appendix K.			
Regional Inter-urban Break							
PO2	Urban and rural residential development does not occur within the regional inter-urban break.	**AO2**	No acceptable outcome provided.	**Not Applicable AO2.** The subject site is not considered to be within a regional inter-urban break.	Not applicable.	Not applicable.	Not applicable.
PO3	Development protects and enhances the landscape values of the regional inter-urban break as a non-	**AO3**	No acceptable outcome provided.	**Not Applicable AO3.** The subject site is not considered to be within	Not applicable.	Not applicable.	Not applicable.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Scenic Amenity Overlay Code							
	urban land area, free of urban elements and *infrastructure*, that maintains the continuity of separation between the Sunshine Coast and the Brisbane to Caboolture metropolitan area.			a regional inter-urban break.			
Sub-regional Inter-urban Breaks							
PO4	Urban and rural residential development does not occur within a sub-regional inter-urban break.	**AO4**	No acceptable outcome provided.	**Complies AO4.** The proposed Solar Farm is a utility and can be associated with urban development and can equally be associated with a rural setting as infrastructure commonly spans urban and rural areas. Refer to AO5 comment below, demonstrating that the proposal is in-keeping to a large degree with the surrounding uses and hence maintains a sub-regional inter-urban break.	A solar array does not confer an 'urban' character and is not incompatible with an inter-urban break; provided the ancillary buildings and future education centre remain small-scale.	Not required.	Not required.
PO5	Development protects the function of a sub-regional inter-urban break in providing physical and visual separation between urban areas, individual places and communities within the Sunshine Coast.	**AO5**	No acceptable outcome provided.	**Complies AO5.** Typically, the site is a small part of these wide views and is seldom the focus of the view. Further, the majority of elevated vantage points are a	As above, a solar array is not incompatible with an inter-urban break; provided the ancillary buildings and future education centre remain small-scale.	Not required.	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Scenic Amenity Overlay Code							
				reasonable distance from the subject site. Visual impacts obviously diminish with distance and in this instance it appears unlikely that significant impacts would be experienced from any viewpoint further than 4km away. Views from lower elevations and the valley floor are far more limited, with intervening vegetation significantly limiting views to the site. For all views from Yandina-Coolum Road the solar array and proposed structures would be visible, but would not be prominent - the panels would be fairly low to the ground and the structures would appear as typical structures in the rural landscape. Based on these observations and the findings within Appendix J, it can be			

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Scenic Amenity Overlay Code							
				seen that the proposal (taking into account the proposed landscaping) would generally be of a scale and appearance that is compatible (noting that the requirement is for compatibility, *not* for consistency) with development in adjacent zones; that amenity is maintained; that significant landscape elements and features, as well as significant views and vistas are protected; and that the visual amenity of a scenic route is appropriately maintained. Refer to the Visual Amenity and Reflectivity Assessment in Appendix J and the Landscape Concept Plans included in Appendix K.			
Significant Views and Vistas							
PO6	Impact assessable development, or other development that exceeds	**AO6**	Development maintains or enhances the significant views	**Not Applicable AO6.** The proposed development does not	The proposed solar array with panels up to 5 m above ground (when fully 'erect') is	The requested information has been provided and	Not required.

Performance Outcomes		Acceptable Outcomes		GHD Comments	CARDNO COMMENTS	CARDNO INFORMATION REQUEST	CARDNO CONDITIONS
Scenic Amenity Overlay Code							
	the maximum height specified on a Height of Buildings and Structures Overlay Map, does not adversely impact upon significant views. Note—the Height of buildings and structures overlay code provides that certain types of development may exceed the height limits specified for a *site* on the applicable Height of Buildings and Structures Overlay Map.		identified in **Table 8.2.12.3.2 (Significant views)**.	proposed buildings or structures that exceed the maximum height specified on a Height of buildings and Structures Overlay Map.	below the maximum height specified on the relevant Overlay Map, and will not affect any significant views.	satisfactorily confirms that the solar panels per se will be <5 m above ground.	

12. State Development Assessment Provisions

1.1 Managing noise and vibration impacts from transport corridors state code

Table 1.1.1: Building work and material change of use

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
Residential buildings near a state-controlled road or type 1 multi modal corridor					
PO1 Development involving an accommodation activity that is a residential building achieves acceptable noise levels for residents and visitors by mitigating adverse impacts on the development from noise generated by a state-controlled road or a type 1 multi-modal corridor.	**AO1.1** All facades of a residential building exposed to noise from a state-controlled road or type 1 multi-modal corridor meet the following external noise criteria^#: (1) ≤60 dB(A) L_{10} (18 hour) facade corrected (measured L_{90} (8 hour) free field between 10 pm and 6 am ≤40 dB(A)) (2) ≤63 dB(A) L_{10} (18 hour) facade corrected (measured L_{90} (8 hour) free field between 10 pm and 6 am >40 dB(A)). AND	**N/A**	The proposal does not comprise development involving residential buildings near a State-controlled road.	Not applicable.	Not applicable.
	AO1.2 Every private open space* in an accommodation activity exposed to noise from a state-controlled road or type 1 multi-modal corridor meet the following external noise criteria^#: (1) ≤57 dB(A) L_{10} (18 hour) free field (measured L_{90} (18 hour) free field between 6 am and 12 midnight ≤45 dB(A)) (2) ≤60 dB(A) L_{10} (18 hour) free field (measured L_{90} (18 hour) free field between 6 am and 12 midnight >45 dB(A)). AND	**N/A**	Refer to comments for AO1.1 above.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	AO1.3 Every passive recreation area* in an accommodation activity exposed to noise from a state-controlled road or type 1 multi-modal corridor meets the following external noise criteria^#: (1) 63 dB(A) L_{10} (12 hour) free field (between 6 am and 6 pm). AND	**N/A**	Refer to comments for AO1.1 above.	Not applicable.	Not applicable.
	AO1.4 Every habitable room in an accommodation activity (other than a residential building), exposed to noise from a state-controlled road or type 1 multi-modal corridor meet the following internal noise criteria^#: (1) ≤35 dB(A) L_{eq} (1 hour) (maximum hour over 24 hours). Note: Noise levels from a state-controlled road or type 1 multi-modal corridor are to be measured in accordance with *AS1055.1–1997 Acoustics – Description and measurement of environmental noise*. Editor's note: Habitable rooms of residential buildings located within a transport noise corridor must comply with t*he Queensland Development Code MP4.4 Buildings in a transport noise corridor*, Queensland Government, 2010. Transport noise corridors are mapped on the Department of Housing and Public Works website.	**N/A**	Refer to comments for AO1.1 above.	Not applicable.	Not applicable.
Accommodation buildings near a railway with more than 15 passing trains per day or a type 2 multi modal corridor					
PO2 Development involving an accommodation activity that is a residential building achieves acceptable noise levels for residents and visitors by mitigating adverse impacts on the	**AO2.1** All facades of a residential building exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following external noise criteria^#:	**N/A**	The proposal does not comprise development involving accommodation	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
development from noise generated by a railway with more than 15 passing trains per day or a type 2 multi-modal corridor.	(1) ≤65 dB(A) L_{eq} (24 hour) facade corrected (2) ≤87 dB(A) (single event maximum sound pressure level) facade corrected. AND		buildings near a railway.		
	AO2.2 Every private open space and passive recreation area* exposed to noise from a railway with more than 15 passing trains per day or type 2 multi-modal corridor meet the following external noise criteria^#: (1) ≤62 dB(A) L_{eq} (24 hour) free field (2) ≤84 dB(A) (single event maximum sound pressure level) free field. AND	**N/A**	Refer to comments for AO2.1 above.	Not applicable.	Not applicable.
	AO2.3 Every habitable room in an accommodation activity exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following internal noise criteria^#: (1) ≤45 dB(A) single event maximum sound pressure level (railway). Note: Noise levels from railways or type 2 multi-modal corridors are to be measured in accordance with *AS1055.1–1997 Acoustics – Description and measurement of environmental noise.*	**N/A**	Refer to comments for AO2.1 above.	Not applicable.	Not applicable.
Accommodation activities or residential care facilities near a busway or light rail					
PO3 Development involving an accommodation activity or residential care facility achieves acceptable noise levels for residents and visitors by	**AO3.1** All facades of an accommodation activity or residential care facility (other than a residential building) exposed to	**N/A**	The proposal does not comprise accommodation facilities or	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
mitigating adverse impacts on the development from noise generated by a busway or light rail.	noise from a busway or light rail meet the following external noise criteria^#: (1) ≤55 dB(A) L_{eq} (1 hour) facade corrected (maximum hour between 6 am and 10 pm) (2) ≤50 dB(A) L_{eq} (1 hour) facade corrected (maximum hour between 10 pm and 6 am) (3) ≤64 dB(A) L_{max} facade corrected (between 10 pm and 6 am). AND		residential care facilities near a busway or light rail.		
	AO3.2 Every private open space and passive recreation area* in an accommodation activity or residential care facility (other than a residential building) exposed to noise from a busway or light rail meet the following external noise criteria^#: (1) ≤52 dB(A) L_{eq} (1 hour) free field (maximum hour between 6 am and 10 pm) (2) ≤66 dB(A) L_{max} free field. AND	**N/A**	Refer to comments for AO3.1 above.	Not applicable.	Not applicable.
	AO3.3 Every habitable room of an accommodation activity or residential care facility (other than a residential building) exposed to noise from a busway or light rail meet the following internal noise criteria^#: (1) ≤35 dB(A) L_{eq} (1 hour) (maximum hour over 24 hours). Note: Noise levels from a busway or light rail are to be measured in accordance with *AS1055.1–1997 Acoustics – Description and measurement of environmental noise*.	**N/A**	Refer to comments for AO3.1 above.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
Particular development near a state-controlled road or type 1 multi modal corridor					
PO4 Development involving a: (1) child care centre, or (2) educational establishment achieves acceptable noise levels for workers and patrons by mitigating adverse impacts on the development from noise generated by a state-controlled road or a type 1 multi-modal corridor.	**AO4.1** All facades of buildings for a child care centre or educational establishment exposed to noise from state-controlled roads or type 1 multi-modal corridors meet the following external noise criteria#: (1) ≤58 dB(A) L10 (1 hour) facade corrected (maximum hour during normal opening hours). AND	**Not applicable.**	The proposal comprises development involving a renewable energy facility. The solar farm itself would not be considered any of the listed forms of 'particular development' in PO4.	Not applicable.	Not applicable.
	AO4.2 Every outdoor education area and passive recreation area* for the particular development exposed to noise from a state-controlled road or type 1 multi-modal corridor meet the following external noise criteria^#: (1) ≤63 dB(A) L_{10} (12 hours) free field (between 6 am and 6 pm). AND	**P/S**	Refer to comments for AO4.1 above.	Not applicable for this stage of the development.	Not applicable.
	AO4.3 A childcare centre, health care service, hospital, educational establishment, library and place of worship exposed to noise from a state-controlled road or type 1 multi-modal corridor meet the following internal noise criteria^#: (1) ≤35 dB(A) L_{eq} (1 hour) (maximum hour during opening hours). AND	**P/S**	Refer to comments for AO4.1 above.	Not applicable for this stage of the development.	Not applicable.
	AO4.4 A community use (except for a library) and office exposed to noise from a state-controlled road or type 1 multi-modal	**P/S**	Refer to comments for AO4.1 above.	Not applicable for this stage of the development.	

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	corridor meet the following internal noise criteria^#: (1) ≤45 dB(A) L_{eq} (1 hour) (maximum hour during opening hours). Note: Noise levels from state-controlled roads or type 1 multi-modal corridors are to be measured in accordance with *AS1055.1–1997 Acoustics – Description and measurement of environmental noise.*				
Particular development near a railway (with more than 15 passing trains per day) or a type 2 multi modal corridor					
PO5 Development involving a: (1) child care centre, or (1) community use, or (2) educational establishment, or (3) health care service, or (4) hospital, or (5) office, or (6) place of worship achieves acceptable noise levels for workers and patrons by mitigating adverse impacts on the development from noise generated by a railway with more than 15 passing trains per day or a type 2 multi-modal corridor.	**AO5.1** All facades of buildings for the particular development exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following external noise criteria^#: (1) ≤65 dB(A) L_{eq} (1 hour) facade corrected (maximum hour during normal opening hours) (2) ≤87 dB(A) (single event maximum sound pressure level) facade corrected. AND	**N/A**	The development site is not located near a railway or a type 2 multi modal corridor.	Not applicable.	Not applicable.
	AO5.2 Every outdoor education area and passive recreation area* exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following external noise criteria^#: (1) ≤62 dB(A) L_{eq} (12 hour) free field (between 6 am and 6 pm) (2) ≤84 dB(A) (single event maximum sound pressure level) free field. AND	**N/A**	Refer to comments for AO5.1 above.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	AO5.3 Sleeping areas in a child care centre, health care service or hospital exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following internal noise criteria^#: (1) ≤45 dB(A) single event maximum sound pressure level. AND	**N/A**	Refer to comments for AO5.1 above.	Not applicable.	Not applicable.
	AO5.4 Other rooms in a child care centre, health care service or hospital exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following internal noise criteria^#: (1) ≤50 dB(A) single event maximum sound pressure level. AND	**N/A**	Refer to comments for AO5.1 above.	Not applicable.	Not applicable.
	AO5.5 An educational establishment, library or place of worship exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following internal noise criteria^#: (1) ≤50 dB(A) single event maximum sound pressure level. AND	**N/A**	Refer to comments for AO5.1 above.	Not applicable.	Not applicable.
	AO5.6 A community use (except library) or office exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meet the following internal noise criteria^#: (1) ≤55 dB(A) single event maximum sound pressure level.	**N/A**	Refer to comments for AO5.1 above.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	Note: Noise levels from railways or type 2 multi-modal corridors are measured in accordance with *AS1055.1–1997 Acoustics – Description and measurement of environmental noise.*				
Particular development near a busway or light rail					
PO6 Development involving a: (1) child care centre, or (2) community use, or (3) educational establishment, or (4) health care service, or (5) hospital, or (6) office, or (7) place of worship achieves acceptable noise levels for workers and patrons by mitigating adverse impacts on the development from noise generated by a busway or light rail.	**AO6.1** All facades of buildings for the particular development exposed to noise from a busway or light rail meet the following external noise criteria^#: (1) ≤55 dB(A) L_{eq} (1 hour) facade corrected (maximum hour during normal opening hours). AND	**N/A**	The development site is not located near a busway or light rail.	Not applicable.	Not applicable.
	AO6.2 Every outdoor education area and passive recreation area* exposed to noise from a busway or light rail meet the following external noise criteria^#: (1) ≤52 dB(A) L_{eq} (1 hour) free field (maximum hour during normal opening hours) (2) ≤66 dB(A) L_{max} free field (during normal opening hours). AND	**N/A**	Refer to comments for AO6.1 above.	Not applicable.	Not applicable.
	AO6.3 Every childcare centre, health care service, hospital, educational establishment, library and place of worship exposed to noise from a busway or light rail meet the following internal noise criteria^#: (1) ≤35 dB(A) L_{eq} (1 hour) (maximum hour during opening hours). AND	**N/A**	Refer to comments for AO6.1 above.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	AO6.4 A community use (except library) or office exposed to noise from a busway or light rail meet the following internal noise criteria^#: (1) ≤45 dB(A) L_{eq} (1 hour) (maximum hour during opening hours). Note: Areas exposed to noise from a busway or light rail are measured in accordance with *AS1055.1–1997 Acoustics – Description and measurement of environmental noise.*	**N/A**	Refer to comments for AO6.1 above.	Not applicable.	Not applicable.
Noise barriers or earth mounds					
PO7 Noise barriers or earth mounds erected to mitigate noise from transport operations and infrastructure are designed, sited and constructed to ensure: (1) adequate clearances to state transport infrastructure to incorporate safety requirements and facilitate maintenance requirements (2) privacy, security and amenity of surrounding properties are not significantly impacted (3) appropriate colour schemes, textures and landscaping are used in barrier design (4) design of noise barriers complements existing terrain (5) fauna movement is maintained along appropriate corridors (6) noise barriers are durable and fit for purpose.	**AO7.1** Where adjacent to a state-controlled road or type 1 multi-modal corridor, noise barriers and earth mounds are designed, sited and constructed in accordance with Chapter 7 Integrated Noise Barrier *Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise*, Department of Transport and Main Roads, 2013. Design of the. OR	**N/A**	The nature of the facility and the volumes of traffic along Yandina-Coolum Road (refer to the Traffic Impact Assessment included in Appendix I of the Planning Report) would not necessitate the mitigation of adverse noise impacts including noise barriers or earth mounds.	Not applicable.	Not applicable.
	AO7.2 Where adjacent to a railway or type 2 multi-modal corridor, noise barriers and earth mounds are designed, sited and constructed in accordance with *Civil Engineering Technical Requirement — CIVIL-SR-014 Design of noise barriers adjacent to railways*, Queensland Rail, 2011. OR	**N/A**	Refer to comments for AO7.1 above.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	GHD Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	AO7.3 No acceptable outcome is prescribed for noise barriers and earth mounds adjacent to a busway or light rail.	**N/A**	Refer to comments for AO7.1 above.	Not applicable.	Not applicable.
Vibration					
PO8 Development mitigates adverse impacts on the development from vibration generated by transport operations and infrastructure.	No acceptable outcome is prescribed.	**N/A**	The nature of the facility and the volumes of traffic along Yandina-Coolum Road (refer to the Traffic Impact Assessment included in Appendix J of the Planning Report) would not necessitate the mitigation of adverse vibration impacts.	Not applicable.	Not applicable.

Table 1.1.2: Reconfiguring a lot

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
Future anticipated accommodation activity near a state controlled road or type 1 multi-modal corridor					
PO1 Development involving land where a future anticipated accommodation activity is made exempt or self-assessable development under a local planning instrument is to achieve acceptable noise levels for residents and visitors by mitigating adverse impacts on the development site from noise generated by a state-controlled road or a type 1 multi-modal corridor.	**AO1.1** Land for a future anticipated accommodation activity exposed to noise from a state-controlled road or type 1 multi-modal corridor meets the following external noise criteria at the building envelope or if the building envelope is unknown, the deemed-to-comply setback distance for buildings stipulated by the local planning instrument or relevant building regulations#: (7) ≤57 dB(A) L_{10} (18 hour) free field (measured L_{90} (18 hour) free field between 6 am and 12 midnight ≤45 dB(A)) (8) ≤60 dB(A) L_{10} (18 hour) free field (measured L_{90} (18 hour) free field between 6 am and 12 midnight >45 dB(A)).	**N/A**	The proposal is for a Material Change of Use and does not comprise Reconfiguring a Lot.	Not applicable.	Not applicable.
Future anticipated accommodation activity near a railway with more than 15 passing trains per day or a type 2 multi-modal corridor					
PO2 Development involving land where a future anticipated accommodation activity is made exempt or self-assessable development under a local planning instrument is to achieve acceptable noise levels for residents and visitors by mitigating adverse impacts on the development site from noise generated by a railway with more than 15 passing trains per day or a type 2 multi-modal corridor.	**AO2.1** Land for a future anticipated accommodation activity exposed to noise from a railway with more than 15 passing trains per day or a type 2 multi-modal corridor meets the following external noise criteria at the building envelope or if the building envelope is unknown, the deemed-to-comply setback distance for buildings stipulated by the local planning instrument or relevant building regulations#: (1) ≤62 dB(A) L_{eq} (24 hour) free field	**N/A**	The proposal is for a Material Change of Use and does not comprise Reconfiguring a Lot.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	≤84 dB(A) (single event maximum sound pressure level) free field.				
Future anticipated accommodation activity near a busway or light rail					
PO3 Development involving land where a future anticipated accommodation activity is made exempt or self-assessable development under a local planning instrument is to achieve acceptable noise levels by mitigating adverse impacts on the development site from noise generated by a busway or light rail.	**AO3.1** Land for a future anticipated accommodation activity exposed to noise from a busway or light rail meets the following external noise criteria at the building envelope or if the building envelope is unknown, the deemed-to-comply setback distance for buildings stipulated by the local government planning instrument or building regulations#: (1) ≤52 dB(A) L_{eq} (1 hour) free field (maximum hour between 6 am and 10 pm) (2) ≤47 dB(A) L_{eq} (1 hour) free field (maximum hour between 10 pm and 6 am) ≤66 dB(A) L_{max} free field.	**N/A**	The proposal is for a Material Change of Use and does not comprise Reconfiguring a Lot.	Not applicable.	Not applicable.
Noise barriers or earth mounds					
PO4 Noise barriers or earth mounds erected to mitigate noise from transport operations and infrastructure are designed, sited and constructed to ensure: (1) adequate clearances to state transport infrastructure to incorporate safety requirements and facilitate maintenance requirements (2) privacy, security and amenity of surrounding properties are not significantly impacted	**AO4.1** Where adjacent to a state-controlled road or a type 1 multi-modal corridor, noise barriers and earth mounds are designed, sited and constructed in accordance with Chapter 7 Integrated Noise Barrier Design of the *Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise*, Department of Transport and Main Roads, 2013. OR	**N/A**	The proposal is for a Material Change of Use and does not comprise Reconfiguring a Lot.	Not applicable.	Not applicable.
	AO4.2 Where adjacent to a railway or a type 2 multi-modal corridor, noise barriers and earth mounds are	**N/A**	The proposal is for a Material Change of Use and does not	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
(3) appropriate colour schemes, textures and landscaping are used in barrier design (4) design of noise barriers complements existing terrain (5) fauna movement is maintained along appropriate corridors	designed, sited and constructed in accordance with the *Civil Engineering Technical Requirement — CIVIL-SR-014 Design of noise barriers adjacent to railways*, Queensland Rail, 2011. OR		comprise Reconfiguring a Lot.		
(3) noise barriers are durable and fit for purpose.	**AO4.3** No acceptable outcome is prescribed for noise barriers and earth mounds adjacent to a busway or light rail.	**N/A**	The proposal is for a Material Change of Use and does not comprise Reconfiguring a Lot.	Not applicable.	Not applicable.

1.2 Managing air and lighting impacts from transport corridors state code

Table 1.2.1: Building work, material change of use and reconfiguring a lot

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
Air quality					
PO1 Development involving sensitive development achieves acceptable levels of air quality for occupiers or users of the development by mitigating adverse impacts on the development from air emissions generated by state transport infrastructure.	**AO1.1** Every private open space and passive recreation area of an accommodation activity or residential care facility (other than a residential building) meet the air quality objectives in the *Environmental Protection (Air) Policy 2008* for the following indicators: (6) carbon monoxide (7) nitrogen dioxide (8) sulphur dioxide (9) photochemical oxidants (10) respirable particulate matter (PM10) (11) fine particulate matter (PM2.5)	**N/A**	The proposal does not comprise sensitive development such as an accommodation activity or residential care.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	(12) lead (13) toluene (14) formaldehyde (15) xylenes. AND				
	AO1.2 Every outdoor education area and passive recreation area of an educational establishment, childcare centre, health care service, hospital, community use, place of worship and office meet the air quality objectives in the *Environmental Protection (Air) Policy 2008* for the following indicators: (16) carbon monoxide (17) nitrogen dioxide (18) sulphur dioxide (19) photochemical oxidants (20) respirable particulate matter (PM10) (21) fine particulate matter (PM2.5) (22) lead (23) toluene (24) formaldehyde (25) xylenes.	**N/A**	Refer to comments for AO1.1 above.	Not applicable.	Not applicable.
Lighting impacts					
PO2 Development involving an accommodation activity, residential care facility, health care service or hospital achieves acceptable levels of amenity for residents and patients by mitigating lighting impacts from state transport infrastructure.	**AO2.1** Buildings for an accommodation activity, residential care facility (other than a residential building), health care service and hospital are designed, sited and constructed to incorporate treatments to attenuate ingress of artificial lighting from state transport infrastructure during the hours of 10 pm – 6 am.	**N/A**	The proposal does not comprise sensitive development such as an accommodation activity, residential care facility, health care service or hospital.	Not applicable.	Not applicable.

18.1 Filling, excavation and structures state code

Table 18.1.1: All development

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
All development					
PO1 Buildings, services, structures and utilities do not adversely impact on the safety or operation of: (1) state transport corridors (2) future state transport corridors (3) state transport infrastructure	**AO1.1** Buildings, structures, services and utilities are not located in a railway or future railway land. AND	☑	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Complies.	Complies.
	AO1.2 Buildings and structures are set back horizontally a minimum of three metres from overhead line equipment. Editor's note: *Part A.10 – Clearances* and *Part B.1 Setbacks* of the *Guide for development in a railway environment*, Department of Infrastructure and Planning, 2010, provides guidance on how to comply with this acceptable outcome. AND	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.
	AO1.3 Construction activities do not encroach into a railway. AND	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.
	AO1.4 The lowest part of development in or over a railway or future railway land is to be a minimum of: (1) 7.9 metres above the railway track where the proposed development extends along the railway for a distance of less than 40 metres, or	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	(2) 9.0 metres above the railway track where the development extends along the railway for a distance of between 40 and 80 metres. Editor's note: *Part A.10 – Clearances* of the *Guide for development in a railway environment*, Department of Infrastructure and Planning, 2010, provides guidance on how to comply with this acceptable outcome. AND				
	AO1.5 Existing authorised access points and access routes to state transport corridors for maintenance and emergency works are maintained. AND	☑	The proposed new site access constructed will allow for existing authorised access points and access routes to state transport corridors for maintenance and emergency works to be maintained. As discussed in sections 5.5 and 5.6 of the Planning Report, a Traffic Impact Assessment (TIA) report has been prepared for the Valdora Solar Farm in order to assess the impact of the proposal upon Yandina-Coolum Road. A copy of the TIA	Complies – Cardno agree with assessment	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
			report is contained within Appendix I.		
	AO1.6 Pipe work, services and utilities can be maintained without requiring access to the state transport corridor. AND	☑	Details of infrastructure requirements to service the proposed Valdora Solar Farm are provided in section 5.14 of the Planning Report. These services can effectively be implemented without adversely impacting on the safety or operation of PO1(1-3).	Complies.	Not required.
	AO1.7 Pipe work, services and utilities are not attached to rail transport infrastructure. AND	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.
	AO1.8 Buildings and structures are set back a minimum of three metres from a railway viaduct. Editor's note: *Part A.14 – Viaducts* and *Part B.11 Viaducts* of the *Guide for development in a railway environment*, Department of Infrastructure and Planning, 2010, provides guidance on how to comply with this acceptable outcome. AND	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.
	AO1.9 Development below or abutting a railway viaduct is to be clear of permanent	**N/A**	The buildings, structures, services	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	structures or any other activity that may impede emergency access or works and maintenance of rail transport infrastructure. Editor's note: Temporary activities below or abutting a railway viaduct could include, for example, car parking or outdoor storage.		and utilities located on site are not located in a railway or future railway land.		
PO2 Development prevents unauthorised access to: (1) state transport corridors, (2) future state transport corridors, (3) state transport infrastructure, by people, vehicles and projectiles.	**AO2.1** Fencing is provided along the property boundary with the railway. Editor's note: Where fencing is provided it is to be in accordance with the railway manager's standards. AND	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.
	AO2.2 Accommodation activities with a publicly accessible area located within 10 metres from the boundary of a railway or 20 metres from the centreline of the nearest railway track (whichever is the shorter distance), include throw protection screens for the publicly accessible area as follows: (1) openings of no greater than 25 mm x 25 mm (2) height of 2.4 metres vertically above the highest toe hold if see-through, or 2 metres if non see-through. Editor's note: Expanded metal is considered see-through. AND	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.
	AO2.3 Development in a railway or future railway land includes throw protection screens. Editor's note: Throw protection screens in a railway or future railway land designed in	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	accordance with the relevant provisions of the *Civil Engineering Technical Requirement CIVIL-SR-005 Design of buildings over or near railways*, Queensland Rail, 2011, and the *Civil Engineering Technical Requirement CIVIL-SR-008 Protection screens*, Queensland Rail, 2011, comply with this acceptable outcome. AND		or future railway land.		
	AO2.4 Built to boundary walls and solid fences abutting a railway are protected by an anti-graffiti coating. AND	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.
	AO2.5 Road barriers are installed along any proposed roads abutting a railway. Editor's note: Road barriers designed in accordance with Queensland Rail *Civil Engineering Technical Requirement CIVIL-SR-007 Design and selection criteria for road/rail interface barriers* comply with this acceptable outcome. AND	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.
	AO2.6 Proposed vehicle manoeuvring areas, driveways, loading areas or carparks abutting a railway include rail interface barriers. Editor's note: A Registered Professional Engineer of Queensland (RPEQ) certified barrier design complies with this acceptable outcome.	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
PO3 Buildings and structures in, over or below a railway or future railway land are able to sustain impacts to their structural integrity in the event of an impact from a derailed train.	**AO3.1** Buildings and structures, including piers or supporting elements, located in, over or below a railway or future railway land are designed and constructed in accordance with *AS5100 Bridge design*, *AS 1170 Structural design actions* and *Civil Engineering Technical Requirement CIVIL-SR-012 Collision protection of supporting elements adjacent to railways*, Queensland Rail, 2011. Editor's note: *Part A.9 – Collision protection* of the *Guide for development in a railway environment*, Department of Infrastructure and Planning, 2010, provides guidance on how to comply with this acceptable outcome.	**N/A**	The buildings, structures, services and utilities located on site are not located in a railway or future railway land.	Not applicable.	Not applicable.
PO4 Buildings and structures in, over, below or within 50 metres of a state-controlled transport tunnel or a future state-controlled transport tunnel have no adverse impact on the structural integrity of the state-controlled transport tunnel.	**AO4.1** Development in, over, below or within 50 metres of a state-controlled transport tunnel or future state-controlled transport tunnel ensures that the tunnel is: (1) not vertically overloaded or affected by the addition or removal of lateral pressures (2) not adversely affected as a result of directly or indirectly disturbing groundwater or soil. Editor's note: To demonstrate compliance with this acceptable outcome, it is recommended that a Registered Professional Engineer of Queensland (RPEQ) certified geotechnical assessment, groundwater assessment and structural engineering assessment be prepared and submitted with the application.	**N/A**	The development site is not located in, over, below or within 50 metres of a state-controlled transport tunnel or future state-controlled transport tunnel.	Not applicable.	Not applicable.
PO5 Development involving dangerous goods adjacent to a railway or future railway land does not adversely impact on the safety of a railway.	**AO5.1** Development involving dangerous goods, other than hazardous chemicals below the threshold quantities listed in table 5.2 of the *State Planning Policy guideline: State interest – emissions and hazardous activities, Guidance on*	**N/A**	The development does not involve the storage of dangerous goods adjacent to a	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	development involving hazardous chemicals, Department of State Development, Infrastructure and Planning, 2013, ensures that impacts on a railway from a fire, explosion, spill, gas emission or dangerous goods incident can be appropriately mitigated. Editor's note: To demonstrate compliance with this acceptable outcome, it is recommended that a risk assessment be undertaken in accordance with *Attachment 1: Risk assessment guide* of the *Guide for development in a railway environment*, Department of Infrastructure and Planning, 2010.		railway or future railway land.		
PO6 Any part of the development located within 25 metres of a state-controlled road or future state-controlled road minimises the potential to distract drivers and cause a safety hazard.	**AO6.1** Advertising devices proposed to be located within 25 metres of a state-controlled road or future state-controlled road are designed to meet the relevant standards for advertising outside the boundaries of, but visible from, a state-controlled road, outlined within the *Roadside advertising guide*, Department of Transport and Main Roads, 2013.	**N/A**	The proposal does not require advertising devices proposed to be located within 25 metres of a state-controlled road or future state-controlled road. Refer to the Visual Amenity and Reflectivity Report included in Appendix J of the Planning Report.	Not required – subject to separate application for Operational Works.	Not required.
PO7 Filling, excavation and construction does not adversely impact on or compromise the safety or operation of: (1) state transport corridors, (2) future state transport corridors, (3) state transport infrastructure.	**AO7.1** Filling and excavation does not undermine, cause subsidence of, or groundwater seepage onto a state transport corridor or future state transport corridor. Editor's note: To demonstrate compliance with this acceptable outcome for a state-controlled road, it is recommended that a filling and excavation report assessing the proposed filling and excavation be prepared in accordance with the requirements of the *Road planning and*	**N/A**	Civil engineering drawings depicting the earthworks proposed as part of the development have been prepared and are contained within Appendix E of the Planning Report. Filling and/or excavation are	As per DTMR Referral Agency Response – this issue is to be addressed in the detailed design phase.	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	design manual, Department of Transport and Main Roads, 2013. Editor's note: If a development involves filling and excavation within a state-controlled road, an approval issued by the Department of Transport and Main Roads under section 33 of the *Transport Infrastructure Act 1994* may be required. AND		designed to avoid undermining, cause subsidence of, or groundwater seepage onto a state transport corridor or future state transport corridor.		
	AO7.2 Development within 25 metres of a railway and involving excavation for basement levels or structural piling does not result in vibration impacts during construction which would compromise the safety and operational integrity of the railway. Editor's note: To demonstrate compliance with this acceptable outcome it is recommended that an RPEQ certified geotechnical report be prepared and submitted with the application. Editor's note: Development within 25 metres of a railway may require an RPEQ certified vibration monitoring plan for the construction phase of development as a condition of approval.	**N/A**	The development site is not located within 25 metres of a railway.	Not applicable.	Not applicable.
PO8 Filling and excavation does not interfere with or impact on existing or future planned services or public utilities on a state-controlled road.	**AO8.1** Any alternative service and public utility alignment must satisfy the standards and design specifications of the service or public utility provider, and any costs of relocation are borne by the developer. Editor's note: An approval issued by the Department of Transport and Main Roads under section 33 of the *Transport Infrastructure Act 1994* may be required.	**N/A**	Filling and excavation does not interfere with or impact on existing or future planned services or public utilities on a state-controlled road.	As per DTMR Referral Agency Response – this issue is to be addressed in the detailed design phase.	Not required.
	AO9.1 Retaining or reinforced soil structures (including footings, rock anchors	**N/A**	Any retaining or reinforced soil	No structures are proposed within a	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
PO9 Retaining or reinforced soil structures required to contain fill and excavation: (1) do not encroach on a state transport corridor (2) are capable of being constructed and maintained without adversely impacting a state transport corridor (3) are constructed of durable materials which maximise the life of the structure.	and soil nails) are not located in a state transport corridor or future state transport corridor. AND		structures to contain fill and/or excavation (if required) are not located in a state transport corridor or future state transport corridor.	state controlled transport corridor.	
	AO9.2 Retaining or reinforced soil structures in excess of an overall height of one metre abutting a state transport corridor are to be designed and certified by a structural RPEQ. Editor's note: To demonstrate compliance with this acceptable outcome a RPEQ report should demonstrate that the works will not destabilise state transport infrastructure or the land supporting this infrastructure. AND	**N/A**	Refer to comments for AO9.1 above.	No retaining structures are proposed abutting a state controlled transport corridor.	Not required.
	AO9.3 Retaining or reinforced soil structures that are set back less than 750 millimetres from a common boundary with a state-controlled road are certified by a structural RPEQ and designed to achieve a low maintenance external finish. AND	**N/A**	Refer to comments for AO9.1 above.	Response is satisfactory. No retaining structures are proposed abutting a state controlled transport corridor.	Not required.
	AO9.4 Retaining or reinforced soil structures adjacent to a state-controlled road, and in excess of an overall height of two metres, incorporate design treatments (such as terracing or planting) to reduce the overall height impact. AND	**N/A**	Refer to comments for AO9.1 above.	Response is satisfactory. No retaining structures are proposed abutting a state controlled transport corridor.	Not required.
	AO9.5 Construction materials of all retaining or reinforced soil structures have a design life exceeding 40 years, and	**N/A**	Refer to comments for AO9.1 above.	Response is satisfactory. No retaining structures are proposed abutting	

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	comply with the specifications approved by a RPEQ. AND			a state controlled transport corridor.	
	AO9.6 Temporary structures and batters do not encroach into a railway.	**N/A**	Refer to comments for AO9.1 above.	Not applicable.	Not applicable.
PO10 Filling and excavation does not cause siltation and erosion run-off from the property, or wind blown dust nuisance onto a state-controlled road.	**AO10.1** Compaction of fill is carried out in accordance with the requirements of *AS 1289.0 2000 – Methods of testing soils for engineering purposes*.	☑	Filling of the site will be required in the south eastern corner of the. It is estimated that approximately 8,500m^3 of fill will be required in this area. The civil works have been designed to not adversely impact on the state-controlled road (Yandina-Coolum Road). An Engineering Services Report has been prepared that provides a summary of various engineering constraints and addresses those requirements. Refer to Appendix I of the Planning Report.	As per DTMR Referral Agency Response – this issue is to be addressed in the detailed design phase.	Not required.
PO11 Where the quantity of fill or excavated spoil material being imported or exported for a development exceeds 10 000 tonnes, and haulage will be on a state-controlled road, any impact on the infrastructure is identified and mitigation measures implemented.	**AO11.1** The impacts on the state-controlled road network are identified, and measures are implemented to avoid, reduce or compensate the effects on the asset life of the state-controlled road. Editor's note: It is recommended that a pavement impact assessment report be prepared to address this acceptable outcome.	**N/A**	The state-controlled road network is considered sufficient to accommodate the proposed haulage of fill to the site.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	Guidance for preparing a pavement impact assessment is set out in *Guidelines for assessment of road impacts of development (GARID)*, Department of Transport and Main Roads, 2006.				
PO12 Filling and excavation associated with providing a driveway crossover to a state-controlled road does not compromise the operation or capacity of existing drainage infrastructure.	**AO12.1** Filling and excavation associated with the design of driveway crossovers complies with the relevant Institute of Public Works Engineering Australia Queensland (IPWEAQ) standards. Editor's note: The construction of any crossover requires the applicant to obtain a permit to work in the state-controlled road corridor under section 33 of the *Transport Infrastructure Act 1994* and a section 62 approval under the *Transport Infrastructure Act 1994* for the siting of the access and associated works.	☑	The filling associated with providing site access from the state-controlled road (Yandina-Coolum Road) is designed to not compromise the operation or capacity of existing drainage infrastructure.	Condition required.	Can be conditioned as part of operational works approval.
PO13 Fill material does not cause contamination from the development site onto a state-controlled road.	**AO13.1** Fill material is free of contaminants including acid sulphate content, and achieves compliance with *AS 1289.0 – Methods of testing soils for engineering purposes* and *AS 4133.0-2005 – Methods of testing rocks for engineering purposes*.	☑	Any fill material imported to site is to not cause contamination from the development site onto the state-controlled road (Yandina-Coolum Road).	Condition required.	Can be conditioned as part of operational works approval.
PO14 Vibration generated through fill compaction does not result in damage or nuisance to a state-controlled road.	**AO14.1** Fill compaction does not result in any vibrations beyond the site boundary, and is in accordance with *AS 2436–2010 – Guide to noise and vibration control on construction, demolition and maintenance sites*.	☑	Fill compaction is to not result in any vibrations beyond the site boundary.	Condition required.	Can be conditioned as part of operational works approval

18.2 Stormwater and drainage impacts on state transport infrastructure state code

Table 18.2.1: All development

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
Stormwater and drainage management					
PO1 Stormwater management for the development must ensure there is no worsening of, and no actionable nuisance in relation to peak discharges, flood levels, frequency or duration of flooding, flow velocities, water quality, ponding, sedimentation and scour effects on an existing or future state transport corridor for all flood and stormwater events that exist prior to development, and up to a 1 per cent annual exceedance probability.	**AO1.1** The development does not result in stormwater or drainage impacts or actionable nuisance within an existing or future state transport corridor. Editor's note: It is recommended that basic stormwater information is to be prepared to demonstrate compliance with AO1.1. OR	☑	As discussed in section 4.5 of the Planning Report, the drainage channel located along the western boundary of the site flows in a northerly direction. This drain currently collects stormwater runoff from the southern adjoining cane farms and discharges to the existing drain located along the northern boundary of the site. It is proposed to retain the existing drainage network on site where possible. Although the existing drainage network is flat or almost flat and outfall is controlled by flap gates, this is considered to be the best solution for the site. Any upgrading of the	Flood report indicates no worsening of flooding along Yandina Coolum Road.	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
			drainage system such as re-grading of drains, filling or construction of permanent water bodies will increase site disturbance, affect existing stormwater runoff rates and could have an impact on the surrounding low lying properties. Stormwater Management aspects assessing the development's compliance with water quality and quantity requirements along with lawful points of discharge has been prepared and is included in Appendix H.		
	AO1.2 A stormwater management statement certified by an RPEQ demonstrates that the development will achieve a no worsening impact or actionable nuisance on an existing or future state transport corridor. OR	☑	Stormwater Management aspects assessing the development's compliance with water quality and quantity requirements along with lawful points of discharge has been prepared and is included in Appendix H.	Flood study is signed by RPEQ (Neil Collins).	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	AO1.3 A stormwater management plan certified by an RPEQ demonstrates that the development will achieve a no worsening impact or actionable nuisance on a state-controlled road. OR	☑	Stormwater Management aspects assessing the development's compliance with water quality and quantity requirements along with lawful points of discharge has been prepared and is included in Appendix H.	Flood study is signed by RPEQ (Neil Collins). .	Not required.
	AO1.4 For development on premises within 25 metres of a railway, a stormwater management plan certified by an RPEQ demonstrates that: (1) the development will achieve a no worsening impact or actionable nuisance on the railway (2) the development does not cause stormwater, roofwater, ponding, floodwater or any other drainage to be directed to, increased or concentrated on the railway (3) the development does not impede any drainage, stormwater or floodwater flows from the railway (4) stormwater or floodwater flows have been designed to: (a) maintain the structural integrity of the light rail transport infrastructure (b) avoid scour or deposition (5) additional railway formation drainage necessitated by the development is located within the	**N/A**	The development is not located on premises within 25 metres of a railway.	Not applicable.	Not applicable.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	premises where the development is carried out (6) retaining structures for excavations abutting the railway corridor provide for drainage.				
Lawful point of discharge					
PO2 Stormwater run-off and drainage are directed to a lawful point of discharge to avoid adverse impacts on a future or existing state transport corridor.	**AO2.1** Where stormwater run-off is discharged to a state transport corridor, the discharge is to a lawful point of discharge in accordance with section 1.4.3 of the *Road drainage manual*, Department of Transport and Main Roads, 2010 and section 3.02 of *Queensland urban drainage manual*, Department of Natural Resources and Mines, 2013. OR	**N/A**	As per comments for AO1.1 above, the drainage channel located along the western boundary of the site flows in a northerly direction. This drain currently collects stormwater runoff from the southern adjoining cane farms and discharges to the existing drain located along the northern boundary of the site.	Acceptable outcome provided.	Not required.
	AO2.2 For development on premises within 25 metres of a railway, approval from the relevant railway manager for the railway, as defined in the *Transport Infrastructure Act 1994,* schedule 6 has been gained to verify the lawful point of discharge for stormwater onto the railway. AND	**N/A**	The development is not located on premises within 25 metres of a railway.	Not applicable.	Not applicable.
	AO2.3 Development does not cause a net increase in or concentration of stormwater or floodwater flows discharging onto the	**N/A**	As per comments for AO1.1 above, the drainage channel located	Acceptable outcome provided.	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	state transport corridor during construction or thereafter. AND		along the western boundary of the site flows in a northerly direction. This drain currently collects stormwater runoff from the southern adjoining cane farms and discharges to the existing drain located along the northern boundary of the site. This outcome will not result in discharge to the state transport corridor (Yandina-Coolum Road), nor will it create any additional points of discharge.		
	AO2.4 Development does not create any additional points of discharge or changes to the condition of an existing lawful point of discharge to the state transport corridor.	**N/A**	Refer to comments for AO2.3 above.	Acceptable outcome provided.	Not required.
Sediment and erosion management					
PO3 Run-off from upstream development is managed to ensure that sedimentation and erosion do not cause siltation of stormwater infrastructure in the state transport corridor.	**AO3.1** Development with a moderate to high risk of erosion incorporates erosion and sediment control measures. Editor's note: For a state-controlled road where a development has a moderate to high risk of erosion as per section 13.5 of the *Road drainage manual*, Department of Transport and Main Roads, 2010, an erosion and sedimentation control plan should be provided to support either	☑	The site is located west of Yandina Creek on predominantly flat, low lying coastal plains under the 5m Australian Height Datum (AHD) contour.	As per DTMR Referral Agency Response –this issue is to be addressed in the detailed design phase.	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	a stormwater management statement or stormwater management plan.		Accordingly, the site is not considered to have a moderate to high risk of erosion. Notwithstanding this, SMEC Australia (SMEC) was engaged by SCC to undertake a Geotechnical Assessment Report for the site. The study undertook geotechnical investigation of the site to assess underlying soil conditions, collected samples for laboratory sampling and recommended geotechnical design parameters. Refer to Appendix M of the Planning Report. Based on the findings and recommendations in SMEC's Geotechnical Study, a suitable earthworks design methodology has been adopted for the site. For further information, refer to section 5.15.3 of the Planning Report.		

19.1 Access to state-controlled roads state code

Table 19.1.1: All development

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
Location of the direct vehicular access to the state-controlled road					
PO1 Any road access location to the state-controlled road from adjacent land does not compromise the safety and efficiency of the state-controlled road.	**AO1.1** Any road access location to the state-controlled road complies with a decision under section 62 of the TIA. OR	**N/A**	Refer to comments for AO1.4 below.	Complies with Performance Outcome – TIA illustrates that the development does not compromise the safety or efficiency of the state controlled road system.	Not required.
	AO1.2 Development does not propose a new or temporary road access location, or a change to the use or operation of an existing permitted road access location to a state-controlled road. OR	**N/A**	Refer to comments for AO1.4 below.	Complies with Performance Outcome – TIA illustrates that the development does not compromise the safety or efficiency of the state controlled road system	Not required.
	AO1.3 Any proposed road access location for the development is provided from a lower order road where an alternative to the state-controlled road exists. OR all of the following acceptable outcomes apply	**N/A**	Refer to comments for AO1.4 below.	Complies with Performance Outcome – TIA illustrates that the development does not compromise the safety or efficiency of the state controlled road system	Not required.
	AO1.4 Any new or temporary road access location, or a change to the use or operation of an existing permitted road access location, demonstrates that the development:	☑	External access to the site will be gained directly from Yandina-Coolum Road. Whilst the number of access points to the State-	Complies with Performance Outcome – TIA illustrates that the development does not compromise the safety or efficiency of	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	(1) does not exceed the acceptable level of service of a state-controlled road (2) meets the sight distance requirements outlined in Volume 3, parts 3, 4, 4A, 4B and 4C of the Road planning and design manual, 2nd edition, Department of Transport and Main Roads, 2013 (3) does not exceed the acceptable operation of an intersection with a state-controlled road, including the degree of saturation, delay, queuing lengths and intersection layout (4) is not located within and/or adjacent to an existing or planned intersection in accordance with Volume 3, parts 4, 4A, 4B and 4C of the Road planning and design manual, 2nd edition, Department of Transport and Main Roads, 2013 (5) does not conflict with another property's road access location and operation Editor's Note: To demonstrate compliance with this acceptable outcome, it is recommended a traffic impact assessment be developed in accordance with Chapters 1, 4, 6, 7, 8 and 9 of the Guidelines for assessment of road impacts of development (GARID), Department of Main Roads, 2006, and the requirements of Volume 3, parts 4, 4A, 4B and 4C of the Road planning and design manual, 2nd edition, Department of Transport and Main Roads, 2013, SIDRA analysis or traffic modelling.		controlled road will not increase, the location of the proposed access point will be further north from its current location. The current access point in front of the existing shed will no longer be used. This redundant access will be removed as part of the construction works and reinstatement work carried out as required. A Traffic Impact Assessment (TIA) report has been developed to identify and manage potential traffic impacts attributed to the proposed Valdora Solar Farm (refer to Appendix I of the Planning Report).	the state controlled road system.	

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	AND				
	AO1.5 Development does not propose a new road access location to a limited access road. Editor's note: Limited access roads are declared by the chief executive under section 54 of the TIA. Details can be accessed by contacting the appropriate DTMR regional office.	**N/A**	The development does not propose a new road access location to a limited access road.	Complies with Performance Outcome – TIA illustrates that the development does not compromise the safety or efficiency of the state controlled road system.	Not required.
Number of road accesses to the state-controlled road					
PO2 The number of road accesses to the state-controlled road maintains the safety and efficiency of the state-controlled road.	**AO2.1** Development does not increase the number of road accesses to the state-controlled road. AND	**N/A**	The proposed does not increase the number of road accesses to the state-controlled road.	Complies with Performance Outcome – TIA illustrates that the development does not compromise the safety or efficiency of the state controlled road system.	Not required.
	AO2.2 Where multiple road accesses to the premises exist, access is rationalised to reduce the overall number of road accesses to the state-controlled road. AND	**N/A**	External access to the site will be gained directly from Yandina-Coolum Road. The number of access points to the State-controlled road will not increase.	Complies with Performance Outcome – TIA illustrates that the development does not compromise the safety or efficiency of the state controlled road system.	Not required.
	AO2.3 Shared or combined road accesses are provided for adjoining land having similar uses to rationalise the overall number of direct accesses to the state-controlled road. Editor's note: Shared road accesses may require easements to provide a legal point of	**N/A**	The proposal does not involve shared or combined road accesses from adjoining land.	Complies with Performance Outcome – TIA illustrates that the development does not compromise the safety or efficiency of	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	access for adjacent lots. If this is required, then the applicant must register reciprocal access easements on the titles of any lots for the shared access.			the state controlled road system?	
Design vehicle and traffic volume					
PO3 The design of any road access maintains the safety and efficiency of the state-controlled road.	**AO3.1** Any road access meets the minimum standards associated with the design vehicle. Editor's note: The design vehicle to be considered is the same as the design vehicle set under the relevant local government planning scheme. AND	☑	The construction of the access road for operations and maintenance purposes only will occur as part of Stage 1b works. As part of future Stage 2 works, this access road will allow for connectivity to the visitor car park and lay down areas. The layout of these areas will consider the required vehicle turning paths for both buses and cars. The internal connectivity for the site is illustrated on the Overall Layout Plan and Site Facilities Layout Plans provided in Appendix E of the Planning Report.	Complies – Cardno agrees with the assessment	Not required.
	AO3.2 Any road access is designed to accommodate the forecast volume of vehicle movements in the peak periods of operation or conducting the proposed use of the premises.	☑	As discussed in section 5.4 of the Planning Report, the visitor and information centre	Complies – Cardno agrees with the assessment.	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	AND		proposed as part of future Stage 2 works will primarily cater for interested residents, tourists, local schools and other educational institutions such as universities and industry businesses. The daily traffic generation for future Stage 2 are detailed in Table 4 of the Planning Report. It is anticipated that the main access to the site will occur through the use of a new intersection off Yandina-Coolum Road (i.e. Yandina-Coolum Road/Site Access Road intersection). As part of this assessment, the design of this access point was determined based on existing traffic, and the anticipated traffic entering and exiting the site. The requirement for this intersection was assessed in the Traffic Impact		

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
			Assessment report provided in Appendix I of the Planning Report.		
	AO3.3 Any road access is designed to accommodate 10 year traffic growth past completion of the final stage of development in accordance with GARID. AND	☑	The road access is designed to accommodate 10 year traffic growth past completion of the final stage of development in accordance with GARID. For further detail on traffic generation rates, refer to section 2.5 of the Traffic Impact Assessment report provided in Appendix I of the Planning Report.	Complies – Cardno agrees with the assessment.	Not required.
	AO3.4 Any road access in an urban location is designed in accordance with the relevant local government standards or IPWEAQ R-050, R-051 , R-052 and R-053 drawings. AND	☑	The road access will be in an urban location. As such, it will be designed in accordance with the relevant local government standards.	Complies – Cardno agrees with the assessment	Not required.
	AO3.5 Any road access not in an urban location is designed in accordance with Volume 3, parts 3, 4 and 4A of the Road planning and design manual, 2nd edition, Department of Transport and Main Roads, 2013.	**N/A**	The road access will be in an urban location.	Not applicable.	Not applicable.
Internal and external manoeuvring associated with direct vehicular access to the state-controlled road					

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
PO4 Turning movements for vehicles entering and exiting the premises via the road access maintain the safety and efficiency of the state-controlled road.	**AO4.1** The road access provides for left in and left out turning movements only. AND	☑	Traffic volumes for Stage 1 are low given the un-manned nature of the use with limited maintenance as required. For Stage 1 (subject this application only) vehicle movements will occur as they currently do.	Complies with Performance Outcome – The traffic impact assessment and engineering report illustrate that the design vehicles can be accommodated with the design of the access	Not required.
	AO4.2 Internal manoeuvring areas on the premises are designed so the design vehicle can enter and leave the premises in a forward gear at all times. Editor's note: The design vehicle to be considered is the same as the design vehicle set under the relevant local government planning scheme.	☑	As part of future Stage 2 works, this access road will allow for connectivity to the visitor car park and lay down areas. The layout of these areas will consider the required vehicle turning paths for both buses and cars. The internal connectivity for the site is illustrated on the Overall Layout Plan and Site Facilities Layout Plans provided in Appendix E of the Planning Report.	Complies with Performance Outcome – The traffic impact assessment and engineering report illustrate that the design vehicles can be accommodated with the design of the access	Not required.
PO5 On-site circulation is suitably designed to accommodate the design vehicle associated with the proposed land use, in order to ensure that there is	**AO5.1** Provision of on-site vehicular manoeuvring space is provided to ensure the flow of traffic on the state-controlled road is not compromised by an overflow of traffic queuing to access the site in	☑	Refer to comments for AO4.2 above. Due to the low-turnover of traffic entering the site,	Complies – Cardno Agrees with the assessment	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
no impact on the safety and efficiency of the state-controlled road**.**	accordance with *AS2890 – Parking facilities*. AND		vehicle queuing of traffic and flow of traffic onto Yandina-Coolum Road is not expected to be an issue.		
	AO5.2 Mitigation measures are provided to ensure that the flow of traffic on the state-controlled road is not disturbed by traffic queuing to access the site.	☑	Refer to comments for AO4.2 above. Due to the low-turnover of traffic entering the site, vehicle queuing of traffic and flow of traffic onto Yandina-Coolum Road is not expected to be an issue.	Complies – Cardno Agrees with the assessment	Not required.
Vehicular access to local roads within 100 metres of an intersection with a state-controlled road					
PO6 Development having road access to a local road within 100 metres of an intersection with a state-controlled road maintains the safety and efficiency of the state-controlled road.	**AO6.1** The road access location to the local road is located as far as possible from where the road intersects with the state-controlled road and accommodates existing operations and planned upgrades to the intersection or state-controlled road. AND	**N/A**	The development site directly fronts onto Yandina-Coolum road and does not involve vehicular access to local roads within 100 metres of an intersection with a state-controlled road.	Complies – Cardno Agrees with the assessment	Not required.
	AO6.2 The road access to the local road network is in accordance with Volume 3, parts 3, 4 and 4A of the Road planning and design manual, 2nd edition, Department of Transport and Main Roads, 2013, and is based on the volume of traffic and speed design of both the local road and intersecting state-controlled road for a	**N/A**	The development site directly fronts onto Yandina-Coolum road and does not involve vehicular access to local roads within 100 metres of an intersection with a	Complies – Cardno Agrees with the assessment	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
	period of 10 years past completion of the final stage of development. AND		state-controlled road.		
	AO6.3 Vehicular access to the local road and internal vehicle circulation is designed to remove or minimise the potential for vehicles entering the site to queue in the intersection with the state-controlled road or along the state-controlled road itself.	**N/A**	The development site directly fronts onto Yandina-Coolum road and does not involve vehicular access to local roads within 100 metres of an intersection with a state-controlled road.	Complies – Cardno Agrees with the assessment	Not required.

19.2 Transport infrastructure and network design state code

Table 19.2.1: All development

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
All state transport infrastructure – except state-controlled roads					
PO1 Development does not compromise the safe and efficient management or operation of state transport infrastructure or transport networks. Editor's note: To demonstrate compliance with this performance outcome, it is recommended that a traffic impact assessment be prepared. A traffic impact assessment should identify any upgrade works required to mitigate impacts on the safety and operational integrity of the state transport corridor, including any impact on a railway crossing. An impact on a level crossing may require an Australian Level Crossing Assessment Model (ALCAM) assessment to be undertaken.	No a cceptable outcome is prescribed.	**N/A**	The development site fronts a State-controlled road (Yandina-Coolum Road). This is addressed in PO3 onwards.	Not applicable.	Not applicable.
PO2 Development does not compromise planned upgrades to state transport infrastructure or the development of future state transport infrastructure in future state transport corridors. Editor's note: Written advice from DTMR advising that there are no planned upgrades of state transport infrastructure or future state transport corridors that will be compromised by the development, will assist in addressing this performance outcome.	**AO2.1** The layout and design of the proposed development accommodates planned upgrades to state transport infrastructure. AND	**N/A**	The development site fronts a State-controlled road (Yandina-Coolum Road). This is addressed in PO3 onwards.	Complies – the development does not compromise any upgrades that Cardno is aware of .	Not required.
	AO2.2 The layout and design of the development accommodates the delivery of state transport infrastructure in future state transport corridors . Editor's note: To demonstrate compliance with this acceptable outcome, it is recommended that a traffic impact assessment be prepared.	**N/A**	The development site fronts a State-controlled road (Yandina-Coolum Road). This is addressed in PO3 onwards.	Not applicable.	Not applicable.
State-controlled roads					

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
PO3 Development does not compromise the safe and efficient management or operation of state-controlled roads. Editor's note: A traffic impact assessment will assist in addressing this performance outcome.	No acceptable outcome is prescribed.	☑	A Traffic Impact Assessment (TIA) report has been developed to identify and manage potential traffic impacts attributed to the proposed Valdora Solar Farm (refer to Appendix I of the Planning Report). Conclusions of this report detail that the internal traffic provisions for the site are suitable to cater for the expected operation of the proposed development.	Complies – Cardno agrees with the assessment	Not required.
PO4 Development does not compromise planned upgrades of the state-controlled road network or delivery of future state-controlled roads. Editor's note: Written advice from DTMR that there are no planned upgrades of state-controlled roads or future state-controlled roads which will be compromised by the development will assist in addressing this performance outcome.	**AO4.1** The layout and design of the development accommodates planned upgrades of the state-controlled road AND	☑	It is anticipated that the main access to the site will occur through the use of a new intersection off Yandina-Coolum Road (i.e. Yandina-Coolum Road/Site Access Road intersection). As part of this assessment, the design of this access point was determined based	Complies – Cardno agrees with the assessment	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
			on existing traffic, and the anticipated traffic entering and exiting the site. The requirement for this intersection was assessed in the Traffic Impact Assessment report provided in Appendix J of the Planning Report.		
	AO4.2 The layout and design of the development accommodates the delivery of future state-controlled roads. Editor's note: To demonstrate compliance with this acceptable outcome, it is recommended that a traffic impact assessment be prepared.	☑	Refer to comments for AO4.1 above.	Complies – Cardno agrees with the assessment	Not required.
PO5 Upgrade works on or associated with, the state-controlled road network are undertaken in accordance with applicable standards.	**AO5.1** Upgrade works for the development are consistent with the requirements of the *Road planning and design manual*, 2nd edition, Department of Transport and Main Roads, 2013. AND	☑	It is anticipated that the main access to the site will occur through the use of a new intersection off Yandina-Coolum Road (i.e. Yandina-Coolum Road/Site Access Road intersection). As part of this assessment, the design of this access point was determined based on existing traffic,	Complies – Cardno agrees with the assessment	Not required.

Performance outcomes	Acceptable outcomes	Response	Comment	CARDNO COMMENTS	CARDNO CONDITIONS
			and the anticipated traffic entering and exiting the site. The requirement for this intersection was assessed in the Traffic Impact Assessment report provided in Appendix I of the Planning Report.		
	AO5.2 The design and staging of upgrade works on or associated with the state-controlled road network are consistent with planned upgrades.	☑	Refer to comments for AO5.1 above. The design and staging of upgrade works will be subject to a separate approval process. Refer to the Traffic Impact Assessment report provided in Appendix I of the Planning Report.	Complies – Cardno agrees with the assessment	Not required.
PO6 Development does not impose traffic loadings on the state-controlled road network which could be accommodated on the local road network.	**AO6.1** New lower order roads do not connect directly to a state-controlled road. AND	**N/A**	The development directly fronts a State-controlled road, Yandina-Coolum Road.	Not applicable.	Not applicable.
	AO6.2 The layout and design of the development directs traffic generated by the development to use lower order roads.	**N/A**	The development directly fronts a State-controlled road, Yandina-Coolum Road.	Not applicable.	Not applicable.