TAFE CLC Byron Bay Sustainability Design Statement Report

For Brewster Hjorth Architects

Revision	Date	Description	Author	Reviewer
0	14/04/2021	Preliminary Issue	AS	KC
1	20/04/2021	Preliminary Issue – updated to include BHA comments	AS	-

The reader's attention is drawn to the following important information:

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Introduction

This Sustainability Design Statement report has been prepared for the TAFE Connected Learning Centre (CLC) development at Lot 12, DP1189646, Bayshore Drive, Byron Bay NSW 2481.

The intent is to outline the potential sustainability initiatives for the development in accordance to the industry recognised best practise standard and framework. In this report, sustainability initiatives were benchmarked against Australian Best Practice (i.e. 4 star Green Star Design & As-Built v1.3 rating).

Building Description

The proposed development comprises of a 1-storey proposed connected learning centre and 1-storey maker space and mobile training unit (MTU) located at Lot 12, DP1189646, Bayshore Drive, Byron Bay NSW 2481.

Reference Documents

Drawings

This report is based on the following architectural drawings received –

Architect: Brewster Hjorth Architects,
Level 01, 4-14 Foster Street,
Surry Hills NSW 2153

The relevant documents and drawings used in compiling this report are as follows:

Project Reference No.	Drawing No.	Rev.	Title
TAFE Byron Bay	BB01	BHA 25.03.21 rev4	Site Plan
TAFE Byron Bay	BB02	BHA 25.03.21	Building Plan
-	-	23.03.2020	Stormwater Report

Table 1: Reference documents

Sustainability Design Statement

TAFE NSW is committed to operation in an environmentally sustainable way and recognises the need to provide a quality environment for work and study. The project is not going for any formal certification in relation to a specific green rating tool. Rather, a benchmarking to industry best practise has been carried out with reference to Green Star – Design & As Built v1.3 rating tool to help guiding the design towards Australian Best Practice outcome (i.e. 4 star Green Star Design & As-Built v1.3 rating).

The tool is holistic and evaluates potential sustainability initiatives of design, projects and/or buildings based on a number of criteria, including energy and water efficiency, indoor environmental quality, sustainable material selection and resource conservations. This project is not going for a formal certification. Table 2 outline the sustainability initiatives for design consideration based on nine sustainability categories:

Category	Sustainability Strategy/ Approach
Management	• GSAP involvement in benchmarking exercise. • Owner to review providing a commitment to set environmental performance targets for energy and water, and monitor consumption against set targets. • Services and maintainability review during design and prior to construction stage to address the commissionability, controllability, maintainability, operability and safety of building systems and fabric design. • Operations and Maintenance (O&M) manual will be developed for all nominated building system to provide all relevant building system and operation information to the facilities management team. • A Building User Information (BUI) in digital format will be developed and made available to relevant stakeholders and building users to provide an easy to understand guidance for efficient day-to-day use. • Owner to review providing commitment to include as part of its policy or guideline to reduce demolition waste and extend the life of interior fitout and finishes to at least 10 years. • We will review the contractor adopting a formalised EMS ISO14001 certified Environmental Management Plan (EMP) or equivalent, report on all non-conformities and implement relevant corrective and preventive actions during construction. • We will review the contractor carrying out needs analysis and address at least three distinct physical and mental health issues for site workers by implementing programs and policies to promote and health and wellbeing on-site. • Easily accessible bin center provision sized according to Byron Shire Council or equivalent best practice guide to provide adequate space for separation and storage of at least 3 separate waste streams with clearly marked bins/ containers distributed throughout the building.
Indoor Environmental Quality	• Owner to review providing only low-emission equipment (i.e. printing/ photocopy machines and kitchen stoves) that comply with test standards ECMA-328, RAL-UZ171 or GGPS.003. • Flicker free lighting with minimum colour rendering index (CRI) of 80 shall be selected and installed for visual comfort • Lighting levels shall be designed to comply with best practice guidelines and we shall review light fixtures with anti-glare features (e.g. baffles, louvers, translucent diffusers to obscure direct light source from all viewing angle including upward views) shall be selected such that glare is controlled or eliminated. • Low total volatile organic compounds (TVOC) paints, adhesives, finishes and low formaldehyde engineered wood products shall be specified to provide good indoor air quality within the working and learning environment.

Energy	Where feasible and practical, energy efficiency measures as follows shall be considered: • The roof and ceiling design target to allow for 10% increase on the minimum required by J1.3 and J1.6. • Roof upper surface solar absorptance shall allow for at least 0.05 less than maximum allowable value in Part J1.3. • Wall-glazing construction overall U-value at least 10% less than the allowable in J1.5. • For wall exceed 80%, achieve 10% increase beyond J1.5 requirement (i.e. from R1.4 to R1.54) • LED lighting design to achieve 10% reduction in lighting power density from the maximum allowable in Table J6.2a and be linked to automatic lighting control with daylight adjustment. • Installed fan motor power and pump power is ≤ 15% and ≤ 10% respective lower than the maximum fan motor power and pump power in Specification J5.2a and Part J5, Table J5.2; • Minimum energy efficient ratio (EER) for cooling ≥ 5% than the required minimum specified in Specification J5.2e. • We will review owner's commitment for purchase of green power when development is ready to be occupied.
Transport	• We will review provision of at least 15% of dedicated parking (colour marking and highly visible signage) for fuel-efficient vehicles (rated fuel efficiency of 5L/100km or 115gCO2/km • Amenities is easily accessible to occupants i.e. site location is surrounded by at least 8 amenities within 400m radius.

<table>
<tr><td>Water</td><td>

All sanitary fixtures to meet the following WELS rating stated below:

<table>
<tr><th>Fixture / Equipment Type</th><th>WELS Rating</th></tr>
<tr><td>Taps</td><td>6 Star</td></tr>
<tr><td>Urinals</td><td>6 Star</td></tr>
<tr><td>Toilet</td><td>5 Star</td></tr>
<tr><td>Showers</td><td>3 Star (> 4.5 but <= 6.0)**</td></tr>
<tr><td>Clothes Washing Machines</td><td>5 Star</td></tr>
<tr><td>Dishwashers</td><td>6 Star</td></tr>
</table>

Provision of rainwater tank to be installed to collect and reuse rainwater within the project's site boundary. Mains water top up provided with sub meter to monitor potable water consumption during periods of sustained dry weather.
Irrigation to be controlled via timer to operate at early morning and late evening to limit water loss due to evaporation.
No water-based heat rejection used on the project.

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<tr><td>Materials</td><td>

We will review if at least 30% of the Portland cement content can be used in all concrete used to be replaced with supplementary cementitious materials (e.g. flyash, ggbs) when compared against a reference case (reference case strength grade as defined in AS1379).
We will review if at least 50% (measured in L) of all mix water in all concrete mix (m3) can be used is captured or reclaimed water (e.g. rainwater, blackwater, greywater).
We will review if at least 90% of PVC products (by cost) can be used in the project including those in all formwork, pipes, flooring, blinds and cables shall meet the Best Practice Guidelines for PVC in the Built Environment, published by the Green Building Council of Australia, or no PVC products will be used.
We will review if a significant amount of construction waste can be diverted from going to landfill.

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<tr><td>Land Use & Ecology</td><td>

There will be minimal negative impacts on the site's current ecological value as the project site is previously a depot and a managed land.

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<tr><td>Emissions</td><td>

We will review implementing stormwater strategy to minimise peak storm water outflows and reduce pollutants entering the public stormwater (minimally Total Suspended Solids of 80%, Gross Pollutants of 85%, Total Nitrogen of 30%, Total Phosphorus of 30%, Total Petroleum Hydrocarbons of 60% and Free Oils of 90%).
Exterior lighting shall be carefully selected to ensure reduction in light pollution either by installing external light that achieve compliance with 5% upward light output ratio (ULOR) relative to its mounting orientation or by control of direct illuminance (0.1 lux to site boundary and 0.1 lux to 4.5 metres beyond the site into the night sky when calculated in accordance with AS4282:1997.
HVAC system proposed comprises of waterless heat rejection systems and hence minimise the impacts associated with harmful microbes in building systems.

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<tr><td>Innovation</td><td>

Ultra Low VOC Paints: At least 50% (by cost) of the paints specified in the buildings shall have a maximum TVOC content of 5g/L and shall be verified by one of the approved paint test methods.
Financial Transparency: We will review that the contractor provide disclosure of project cost incurred equivalent to Green Star requirements if required.

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Table 2: TAFE CLC Byron Bay Sustainability Initiatives

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Level 1,
15 Atchison Street
St Leonards NSW 2065
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