29/1/2026

Heritage Impact statement and technical information

It is proposed to add 14kW of solar panels (31 off) and single 10kW inverter to the Queenscliff Station building.

These items will have minimal, if any impact, on the Queenscliff Station building as their positioning is such that the public can only see them from 2 distant locations. They have no impact on the visual amenity of the station building as seen from the Queenscliff township, travelling passengers or station visitors.

This document lists all the technical detail involved in installing the solar panels and inverter. No original drawings exist for the station building. There are some original drawings that show a mirror image of the proposed station building. Instead, actual measurements of the station have been taken, and are documented in detail below to satisfy Heritage Victoria requirements.

Photo 1 Aerial view of H1586, Queenscliff Station complex.

Photo 2 Location of Panels

1. 31 panels will be installed on the northern side of the second hip roof. Refer to photo 3. Please note that the original cost estimate allowed for 34 panels. We have reduced this to 31 panels to minimise any visual impacts.

Photo 3. Aerial view of the station with 31 solar panels installed. The blue line is the route of the underground power supply cable from the meter board, located to the west of the station building to the station building.

2. Each solar panel is 1722mm*1134mm in size[1]. They are made by WINAICO and are model number WST-435NGX-D3 Bifacial. These are N-type silicon panels with an efficiency of 22.3%. They have been locally supported since 2012.
3. There will be 14 rows of two panels installed above one another such that each two panels take by an area of 1722mm * 2268mm[2].
4. Around the two brick chimneys a single solar panel will be installed: as shown in photo 3, a total of 3 panels.
5. The total length of the 17 rows is 29600mm. The length of the station hip roof is 32100mm.
6. The 30-degree sloping hip roof is 3400mm from the roof peak to the box gutter. The solar panels will be placed centrally on this roof so that the panels are 566mm down from the ridge line and 566mm up from the box gutters. This is shown in Diagram 4, which is a mirror image of an original plan. This drawing is taken from Page 196 of the book “A Story of Stations; The architecture of Victoria’s Railways in the Nineteenth Century” written by Andrew Ward.

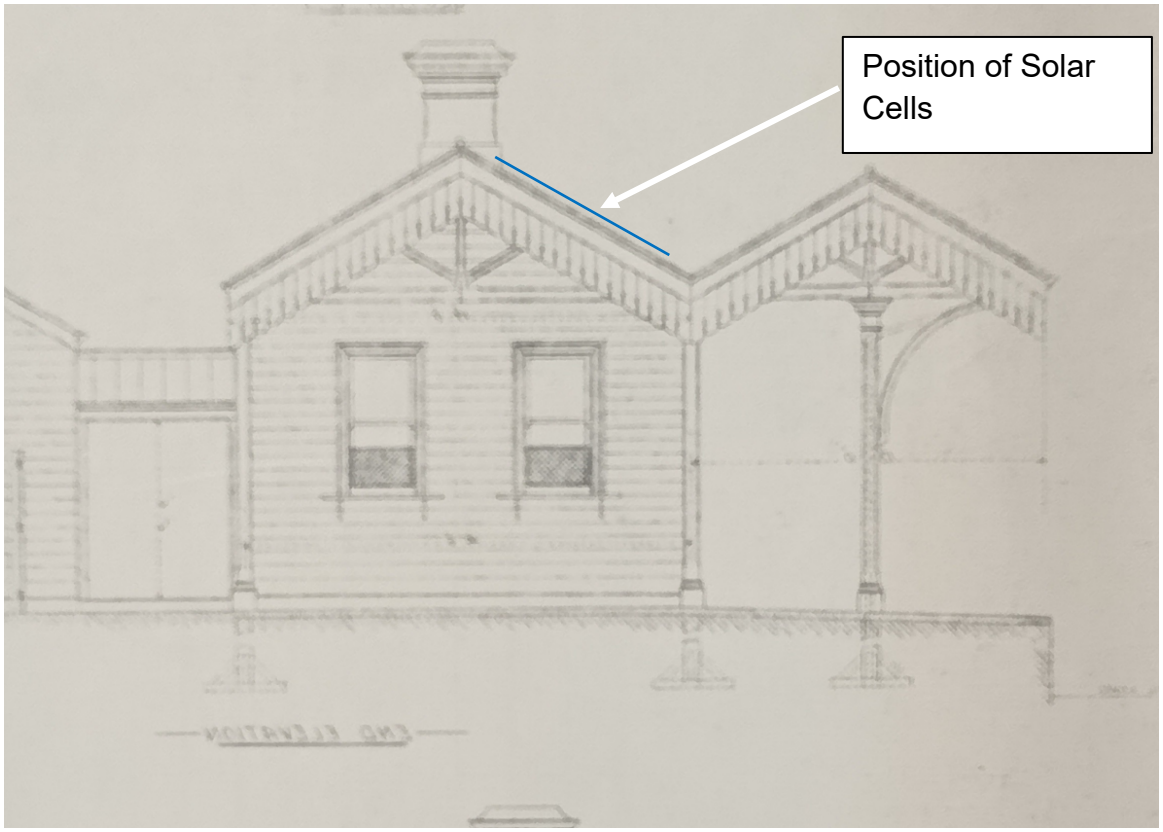

Photo 4 Mirror image of the east end of the Queenscliff station building.

[1]These are the sizes of the panels proposed. Depending on the length of the Heritage Victoria approval process these exact panels may not be obtainable in which case similar panels will be obtained which may slightly vary in size. New panels are generally smaller than older panels as technology evolves.
[2] ibid

7. The solar panels sit on mounting brackets such that they are approximately 100mm above the existing galvanised iron roof.
8. The panels are inset 1400mm from the East end of the building (where passengers enter the station) so they cannot be seen from the platform or station parking areas. The more distant areas, where some sections of western end of the panels can be seen, is shown in photo 5.

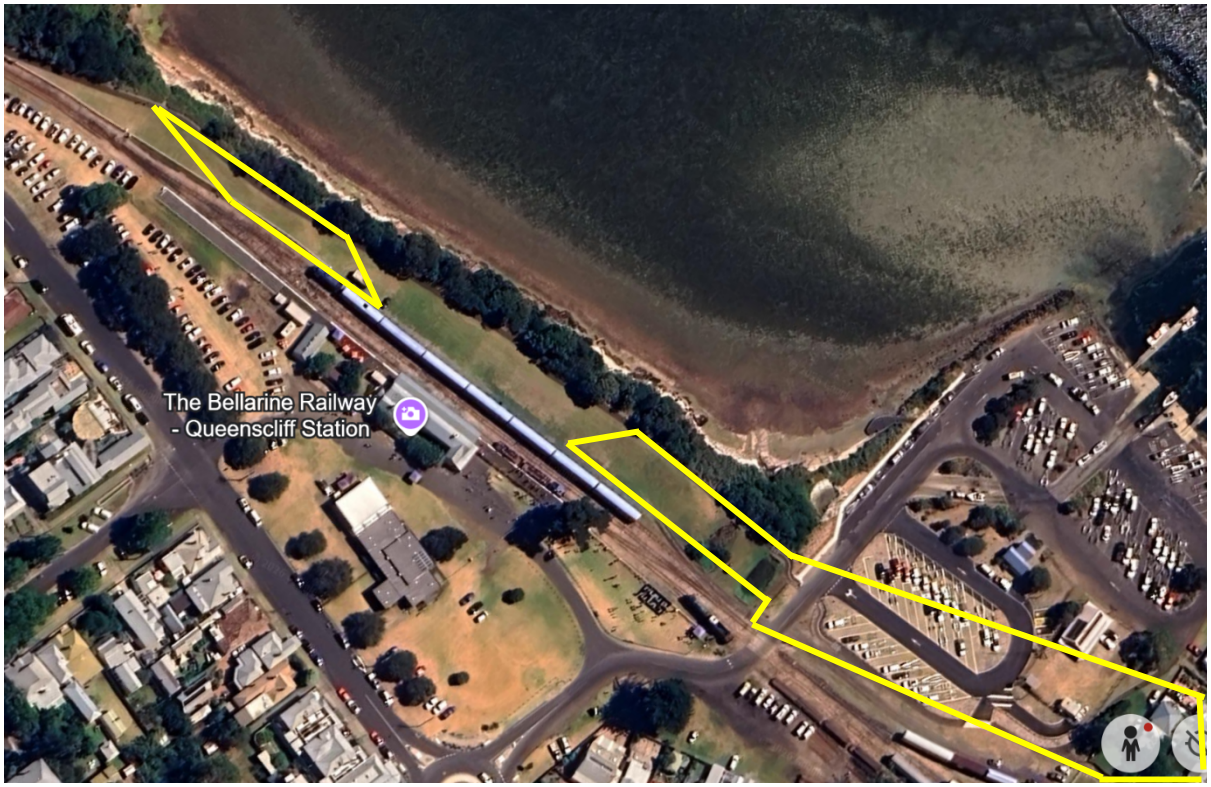

Photo 5. Locations where sections of the panels can be seen by the public are inside the yellow shapes. The east end of the solar panels can be seen from the boat ramp car parking area and a small section of rail trail to the north of the station. The western end can be seen from a small section of rail trail to the north of the station. Note that the panels cannot be seen by the town of Queenscliff, passengers or station visitors.

9. The panels are set 1100mm in from the west end of the building. As there are a series of buildings at this end of the station the solar panels cannot be seen from people on the station or park to the west. Photo 5 shows a small section of the rail trail to the northwest of the station where they can be seen.
10. The solar panels are light weight (less than 16kg) and securely attached to existing roof beams. The roof and supporting structure is in excellent condition as the station was renovated by VicTrack under the direction of Heritage Victoria approximately 9 years ago. The maximum load is only 9kg/m^2 which is far less than the weight of a plumber inspecting or working on the roof(100+kg/m2).
11. The electrical cables connecting each of the 31 solar panels are run under the panels and cannot be seen.

12. The single DC cable that connects the 31 solar panels to an inverter is run through the roof and into the roof cavity of the station building to an opening on the south wall of the station. An external 35mm diameter conduit then runs approximately 1000mm down the south wall to the inverter which is mounted on the wall above the existing electricity supply cable and termination box. Refer to Photo 6.

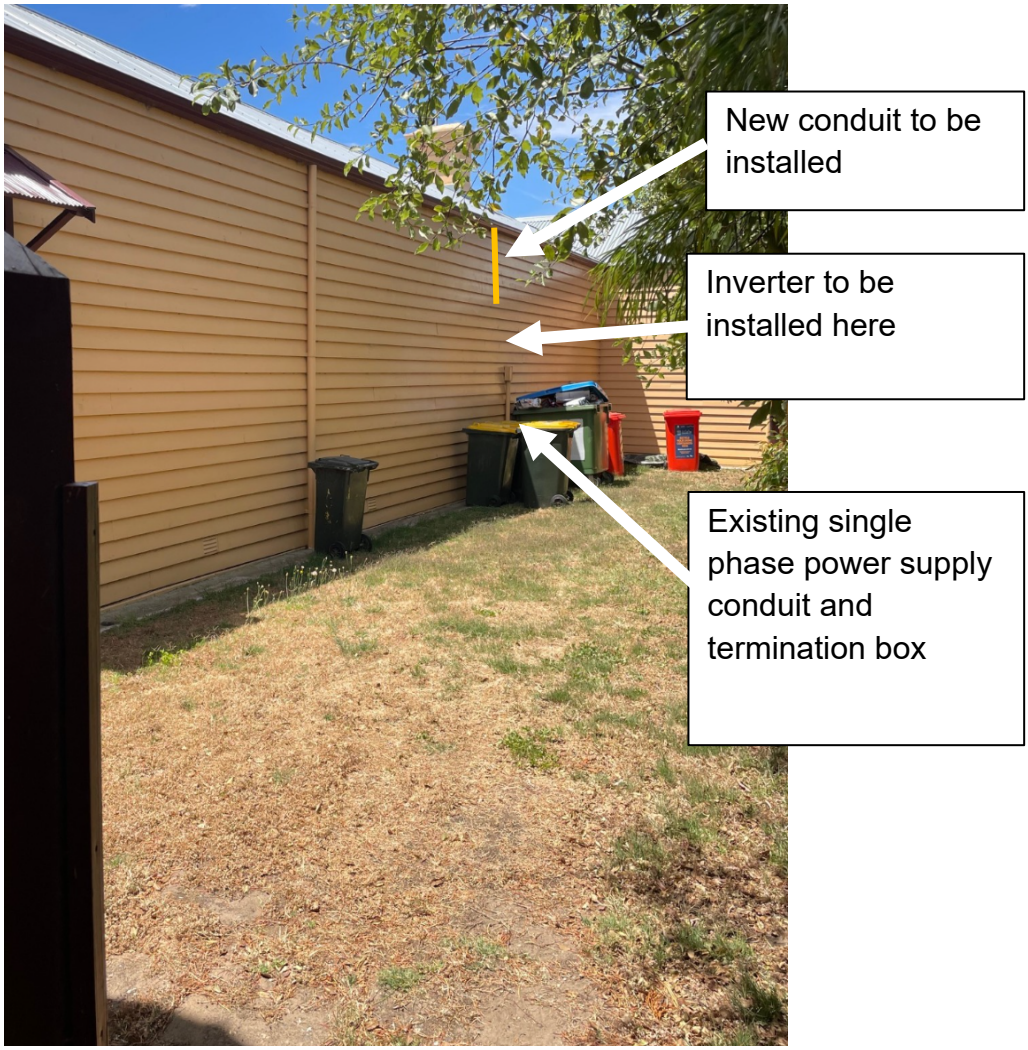

Photo 6. South wall of Station building and service courtyard. This courtyard area is surrounded by the station building and 1800mm timber fence. It is not accessible nor seen by the public.

13. The inverter to be used is housed in a grey box 480mm high by 370mm wide by 225 mm deep.[3] Refer to Photo 7,

[3] These are the dimensions of the Sungrow inverter proposed to be used. Depending on time taken to process this application, and supply chain issues, a similar inverter maybe used.

Photo 7. Photo of an identical inverter. This one is mounted on a wall of the Queenscliff Railway Workshops.

14. The inverter cannot be seen by the public as the station south wall and railway equipment storage courtyard is hidden by a 1800mm wooden paling fence and a dense planting of trees and bushes. Refer to Photo 8.

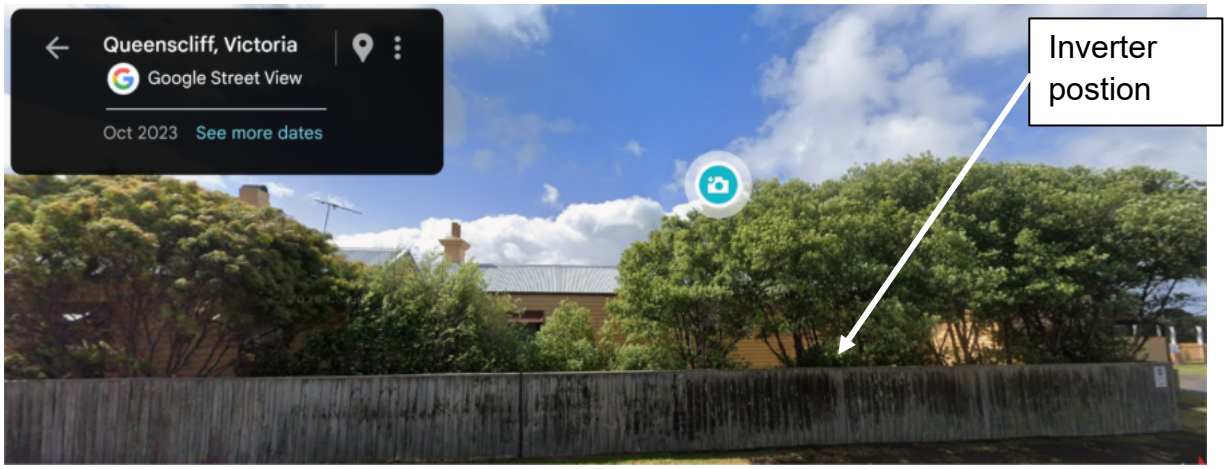

Photo 8 Street view of the south side of Queenscliff Railway Station.

15. The existing single phase underground electricity cable from the Meter box (located away from the station building) will be upgraded to a three-phase cable to accommodate the solar panel generation. This work has no visual impact on the station. The underground cable is shown as a blue line in Photo 3.

Ross Clark

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