



WATER | ENERGY & RESOURCES | ENVIRONMENT | PROPERTY & BUILDINGS | TRANSPORTATION

Executive summary

The Kings Beach Surf Life Saving Club building is a brick and hardiplank two storey structure approximately 25 years old on the beach front at Kings Beach, Caloundra. It is currently actively used as a life guard look out, lifeguard equipment storage facility and Nippers club house.

While structurally sound, the facility is showing the signs of deterioration to the external finishes which can be readily improved as part of programmed maintenance. The very severe corrosive environment of breaking surf will cause structurally significant damage if this preventative maintenance is not completed within the next 12 months. In particular spalling of single skin brickwork inside the boat shed and corrosion of roof tie down elements must be promptly rectified.

Subject to completing this maintenance, the structure will continue to provide useable amenity to the users for the foreseeable future.

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1. Introduction

1.1 Background

Following the request from Darren Lee from Sunshine Coast Regional Council, GHD were engaged to undertake a dilapidation review of the Kings Beach Surf Life Saving building located on the beach at Kings Beach, Caloundra. The 25 year old building is situated in a severe corrosive environment, which has had an obvious effect on the structure.

1.2 Purpose of this report

The objective of this report is to present the findings of an inspection of the facility by an experienced structural engineer. This report will catalogue the maintenance required for the building fabric to keep the building in a commercially usable state. While this report is not intended to be part of a maintenance contract documentation set, it collates the known structural maintenance requirements and can be used as a basis for scoping or packaging subcontract work.

1.3 Scope and limitations

This report: has been prepared by GHD for Sunshine Coast Council and may only be used and relied on by Sunshine Coast Council for the purpose agreed between GHD and the Sunshine Coast Council as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Sunshine Coast Council arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 1.4 of this report). GHD disclaims liability arising from any of these assumptions being incorrect.

Particular limitations of this report are:

- The inspection was visual only with no attempt made to open up or test the substrate.
- It is not intended that this report provide a complete technical specification or design of rectification methods.
- No cost estimate, value judgement, material take off or particular priority of work is provided.

1.4 Assumptions

The following assumptions were made in preparing this report:

- All of the work will be completed within 12 months of the date of this report.

- The work will be carried out by experienced licenced tradesmen who will be able to quote on the work following a site inspection based on the given a scope definition and will not require further technical definition on how to satisfactorily complete the work.
- Sunshine Coast Regional Council will maintain the in house expertise to arrange routing building maintenance.

2. Findings

2.1 General Arrangement

The Kings beach Surf Living saving building is a two storey building in the order of approximately 25 years old. The building comprises for both brick and hardiplank cladding along with both tiled and metal sheeted roofing (as shown in the below figure 1 to 3). Given the very harsh environment of being located on the beach and its frequent institutional use; it is in a reasonable good structural condition. The general layout of the building has been shown in the below images.



Figure 1 South Elevation



Figure 2 North Elevation



Figure 3 West Elevation

Based on the information obtained from Sunshine Coast City Council, the below Figure was developed to illustrate the ground floor layout. The upper floor consisting of the lookout room and balcony has not been illustrated but is located above the boathouse.

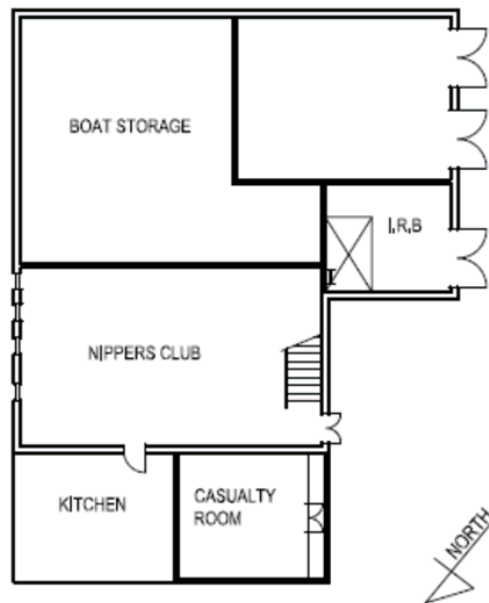


Figure 4 Ground Floor Plan

2.2 Required Maintenance

From site visit and reviewing of the structure it was found that there are a number of areas within the building that require an upgrade or maintenance. The concerns within each area and scope of works required to rectify the building have been summarized table ____.

Table 1 Scope of Works Summary

Area	Issue	Work Scope
Kitchen	No Waterproofing step inside to outside of top internal floor	Top kitchen floor with 50mm proprietary cementitious topping
Casualty Room	Internal box gutter overflows into kitchen	New gable roof to eliminate Internal box gutter
External Wall Kitchen	Corrosion to A/C unit	Replace Air conditioning condenser & brackets
External Wall Kitchen	Corrosion on external sheet wall	Paint wall sheet
Cast in-situ columns	Concrete under ground	Mound up new concrete around columns to 100mm above FGL
Observation room - top floor	Wear of floor covering	New 2 pack epoxy floor covering under desks
Boat Storage	Brick spalling	Render all brickwork to prevent spalling . Use Rockcote Render grey 4mm thick topped with Armour Membrane paint tinted to suit.
Boat Storage	Corrosion effecting triple grip, brickwork and timber rafter	Replace corridors triple grips with 316 Stainless steel and S.S nails Replace spalling top brick and render inside and out of all brick walls Etch prime & paint galv brackets
Entry to Boat storage	Crack in brickwork	Install 100dia. X 6mm galv CHS bollards outside front of garage doors
Boat Storage garage door	Heavy corrosion to garage door rail	Power wire brush etch prime and paint
IRB entry		Paint door jambs

It is apparent that routine upkeep of this building has been lacking for some time. In particular spalling is evident in the brickwork, corrosion of triple grips and garage door tracks, bringing the kitchen up to a compliant standard and installing protective bollards in front of the boat storage doors. All areas of concern have been summarized as a pictorial record in Appendix A.

The main area within the building that requires the most work is the kitchen area, which appears to be an ad hoc addition. While it would appear to serve a worthy and needed community purpose, it does require some additional work to make its structural amenity conform to acceptable building standards. The additional work includes floor toppings to make water tight and changing the roof layout of the casualty room to eliminate the internal box gutter. This area is likely to also require some architectural fit out work including skirting tiles, new benches, and electrical ELCB and bench tops, to make it compliant as a commercial food serving area.

The ad hoc kitchen area is illustrated in Figure 2, positioned on the left-hand side underneath the roof vents.

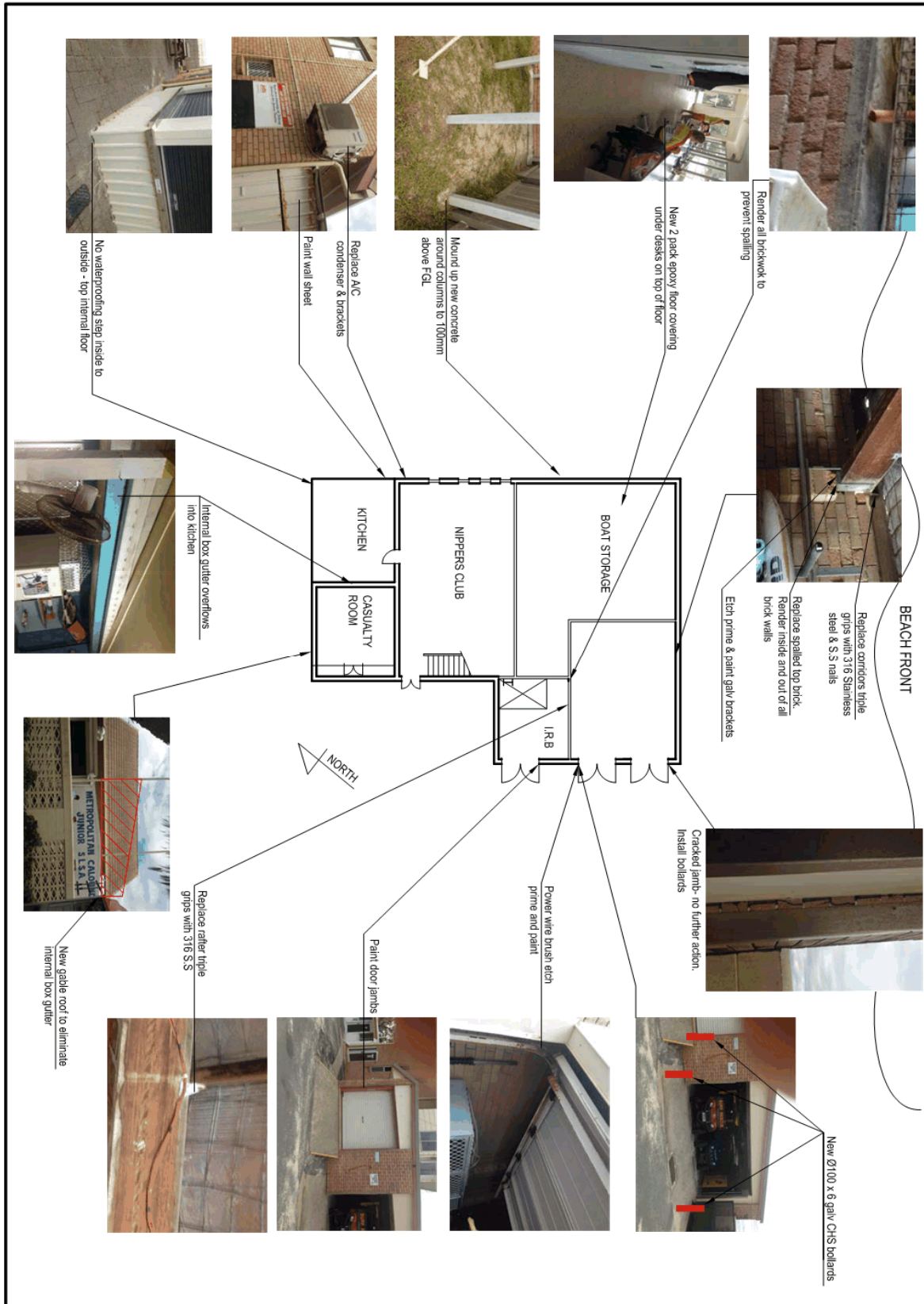
The particular area of concern is the spalling of the inside face of the beachside brick walls. Spalling can be described as severe deterioration of the brick face due to erosion and harsh environment of the beach. The mechanism causing this is considered to be recrystallising of airborne dissolved salt from the breaking surf. The salt is carried through the material from moisture and crystallizes inside the material under the surface as the water evaporates. The expanding salt crystals build up stresses on the surface of the brick; breaking away spall from the surface.

While none of the maintenance issues found would be considered urgent, the scope of works recommended should be completed before these areas become in high demand next summer season.



Appendices

Appendix A – Pictorial Record of Required Maintenance



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