

Construction Methodology Statement

Geo-bag wall extension

	Name	Company	Date
Prepared By	Darryl Harding	Lockyer Valley Quarry Solutions	27/5/2022
Revised	Darryl Harding	Lockyer Valley Quarry Solutions	18/6/2024
Site Management	Jeremy Holmes	Elements	24/06/2024

Project Summary

This construction methodology has been developed for the extension of the existing geo-bag seawall at Elements of Byron Resort, Belongil. Works are to be constructed as per report & drawings prepared by Greg Britton c/- Royal Haskoning DHV 29th May 2023

Construction Methodology and Staging

Stage 1 – Pre-planning Activities and Install Environmental Controls

- A staging area is to be established, landward of the proposed seawall extension, within Lot 1 DP215893. See Figure 1.
- Flagging, fencing & safety signage to be installed around the perimeter of the works zone.
- Elements of Byron Resort will close the workzone & staging area throughout the period of construction works and this will limit public interaction with the works site.
- Sediment management controls are to be implemented throughout works.
- All excavators that are accessing the site are to be clean prior to reaching site. Spill kits to be kept on site.
- The alignment of the extension is to be set out prior to construction activities starting and located using RTK GPS.

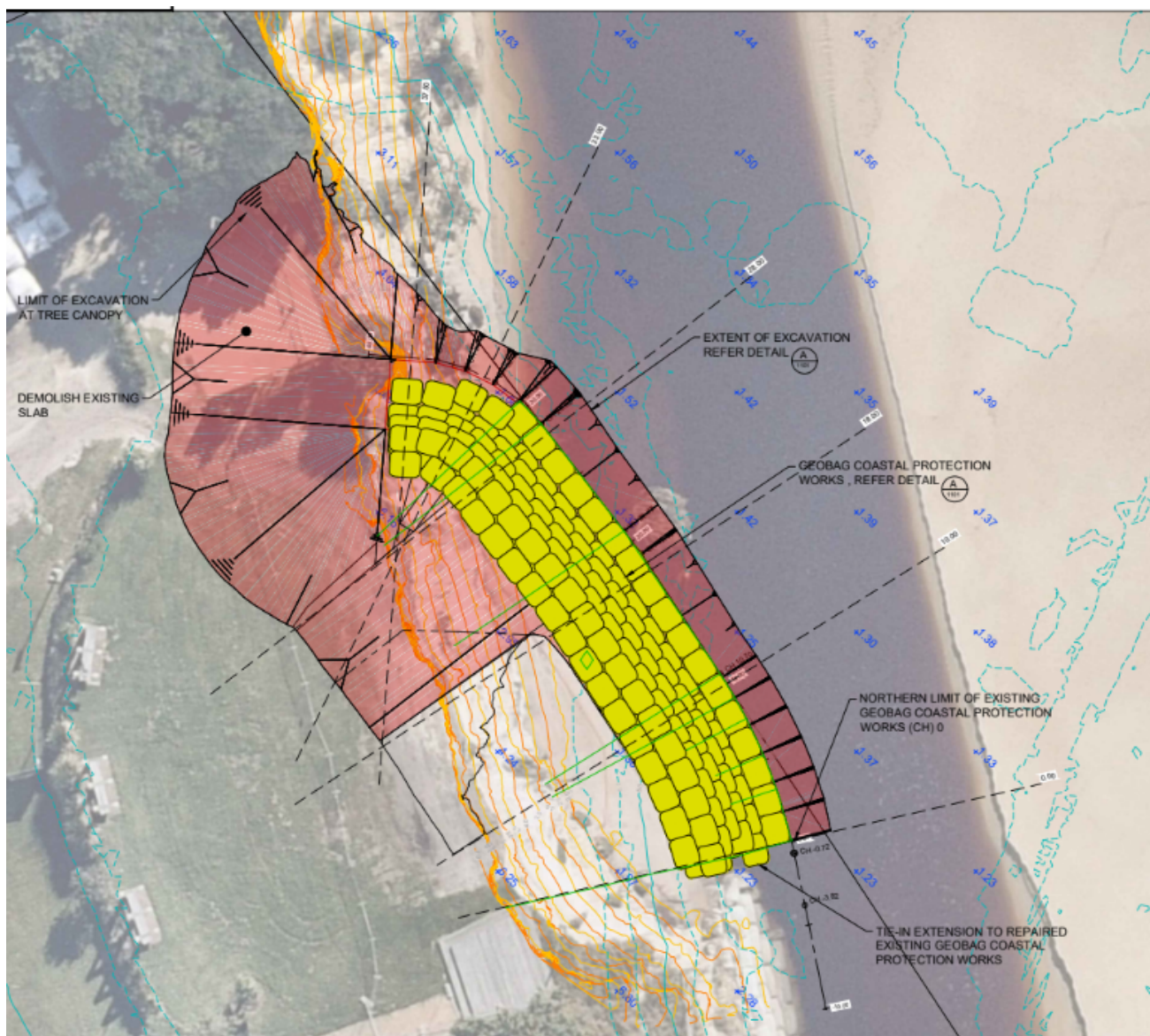


Figure 1. Works Zone constructed from above proposed geobag wall and the already existing Staging Area seen in top left corner of this picture is the geobag stockpile. (Date of aerial photo 16-07-2022

Stage 2 – Excavation of seawall construction batter

- A construction batter area of 1v:2h, or suitable equivalent benching area, is to be prepared for safe work access from behind the seawall. See Figure 1 & Figure 2.
- Excavated sand is to be suitably stockpiled within Lot 1 DP215893
- Working around suitable low tides for installation of toe geo-bags will be used as a means of avoiding dewatering.
- **Note; Royal Haskoning DHV report** dated 29th May 2023 noted some key requirements of the Code of Practice to adhered to, including but not limited to the following:
 - *sandbags comprising the works must be placed and maintained in a manner that minimizes the likelihood of the collapse of the escarpment.*
 - *excavation of the escarpment for the placement of the works is not permitted with the exception that, when placing sandbags, limited excavation of the beach (other than the escarpment) may be undertaken to enable the bottom layer of sandbags to be placed approximately horizontally. Any excavated sand is to be placed elsewhere on the beach.*

- the height of the works must not exceed 1.5m from the base (or toe) of the escarpment.
- the works must be placed against the seaward side of the escarpment and be within 4m of the escarpment; • the slope of the face of the works must not exceed 34 degrees from the horizontal plane (1 Vertical : 1.7 Horizontal, or 1V:1.7H);
- emergency coastal protection works must not be placed at any location where other coastal protection works (whether lawfully placed or not) exist.
- works damaged by tides or waves during a storm are to be repaired or removed as soon as practicable after the storm conditions cease.

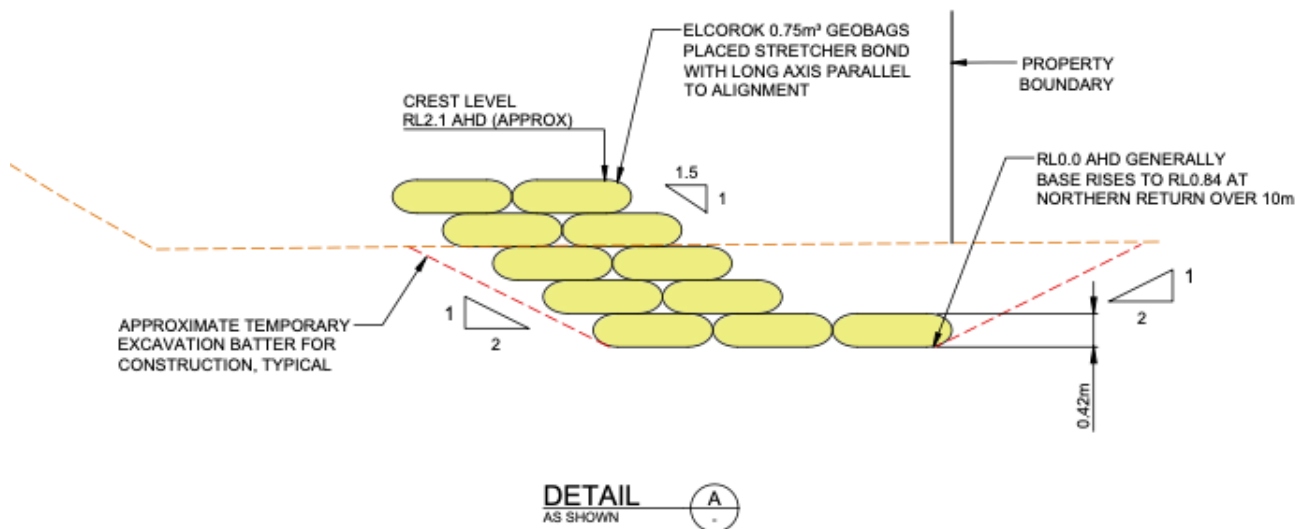


Figure 2. Typical section showing proposed seawall extension and temporary excavation batter / benching area.

Stage 3 –Filling of Geo sand bags

- Filling of geo-bags were previously made in the Staging Area (See white geobags top left corner of figure 1)
- Geo-bags to be filled using cradles as per manufacturers installation guidelines
<https://www.geofabrics.co/sites/default/files/safetydata/Elcorock-75m3-containers-installation-guide-2015.pdf>
- Sand for existing onsite filled geo-bags was sourced and imported from Kingscliff Sands and have provided relevant accredited documentation previously.

Stage 4 – Placement of Geo sand bags.

- One x 19m 58 tonne Hyundai Longreach Excavator will be used for minimal disturbance of the site.
- One x ASV RT120 Posi-track Loader & One Komatsu 26 tonne Excavator (to lift down existing stacked geobags and placed on ground for ease of Positrack Loader to collect) will transport pre filled geo-bags to the Longreach Excavator which will be sitting above proposed seawall position.
- The bags are lifted & placed with a 2m wide tilting sieve bucket attachment on the Longreach Excavator
- Location to be confirmed for geobags (vertical and horizontal) using RTK GPS Rover.

- Coastal Engineer to provide supervision throughout works to ensure construction is in accordance with the Drawings.

Stage 5 – Backfill and revegetation.

- Where seawall is exposed, backfill using stockpiled sand from footing to achieve a safe profile of 1v:2h, sloping landward from the property boundary. (Figure 3)
- Where seawall footprint was previously buried under existing dune is to be re established. (Figure 3)
- Revegetation of dune areas to be undertaken using suitable plant and dune species as advised by specialist.

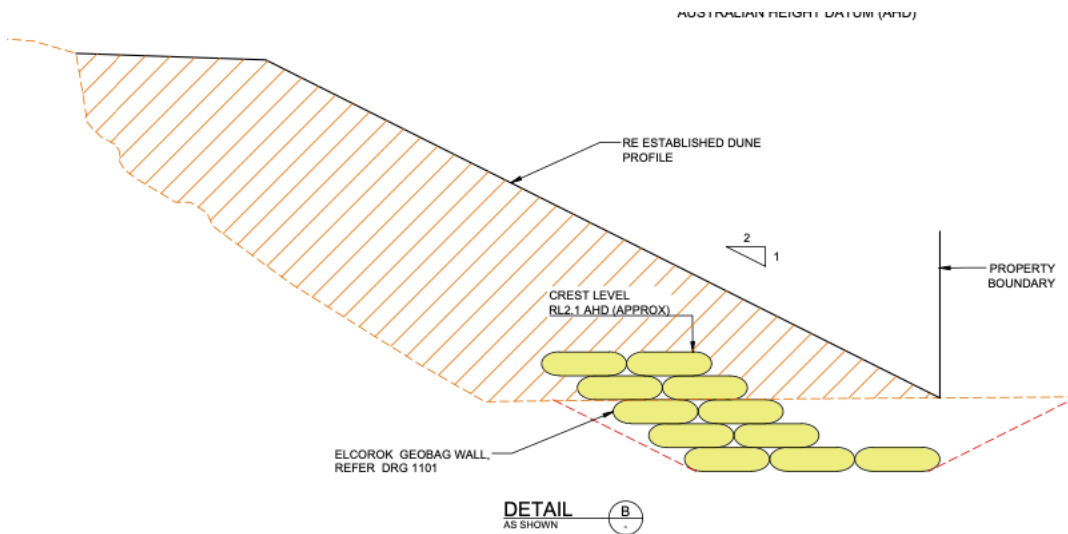


Figure 3. Seawall buried into dune

Stage 6 – End of Job and Site Clean Up.

- Removal and tidy up of work zone back to original condition.