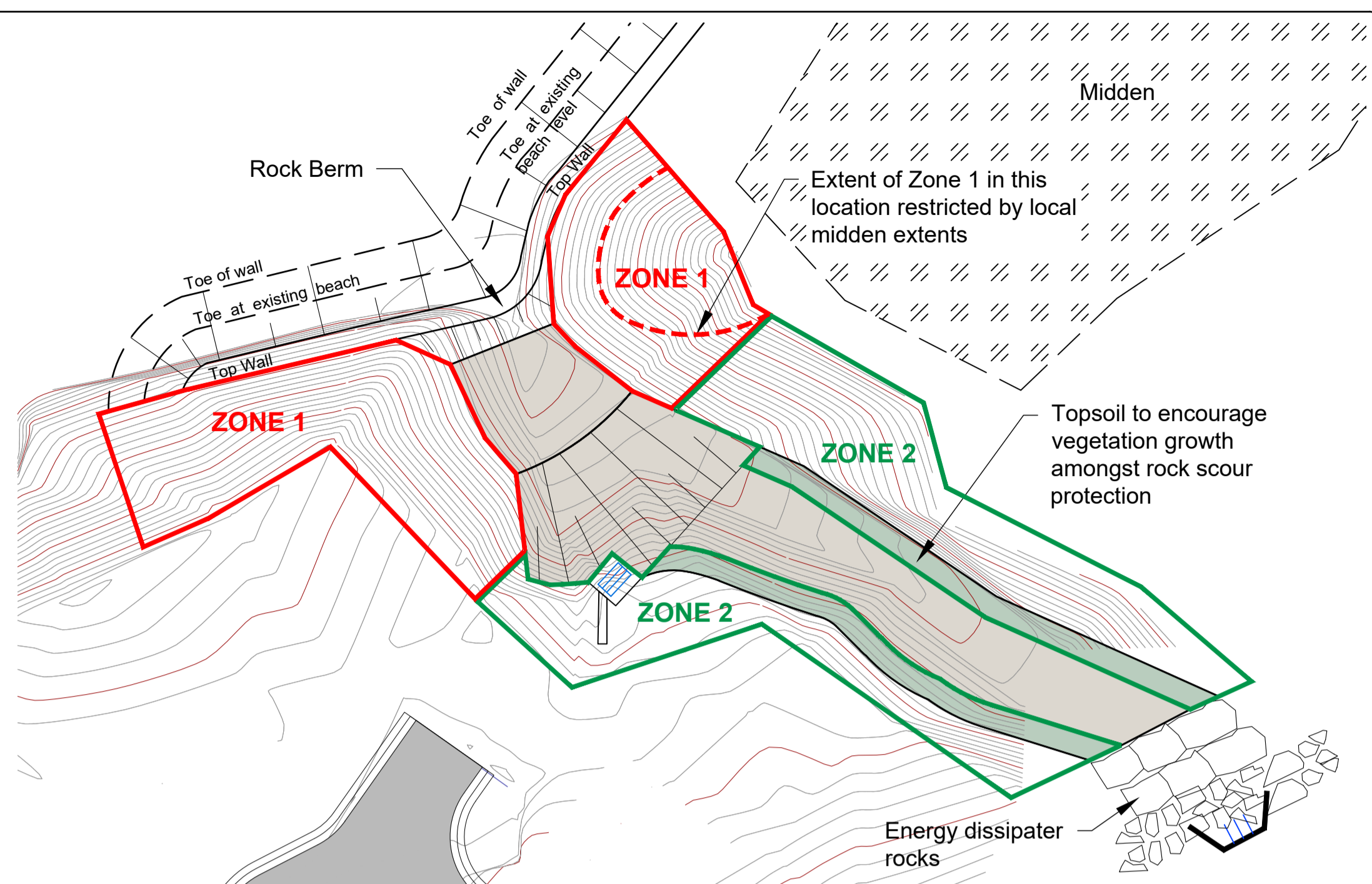


Layout Plan



Revegetation Zones

- Zone 1: Bare sand area above the proposed storm water structure with direct exposure to the ocean
- Zone 2: Shady area in the gully

Zone 1 Revegetation List

Botanical Name	Common Name	Revegetation Method	Spacing
Shrubs			
<i>Acacia sophorae</i>	Coastal Acacia	Planting	2m
<i>Scaevola calendulacea</i>	Beach Fan Flower	Planting	3m
<i>Monotoca elliptica</i>	Monotoca		4m
Groundcovers			
<i>Canavalia rosea</i>	Beach Bean	Cuttings/Transplant	5 m
<i>Carpobrotus glaucescens</i>	Pig Face	Cuttings/Transplant	3m
<i>Dianella caerulea</i>	Dianella	Planting	2m
<i>Ficinia nodosa</i>	Knobby Club Rush	Planting	2m
<i>Ipomoea pes caprae</i>	Goat's Foot	Cuttings/Transplant	5m
<i>Melanthera biflora</i>	Melanthera	Cuttings/Transplant	5m
<i>Spinifex sericeus</i>	Spinifex	Direct seeding	1 m
		Cuttings/Transplant	5m
<i>Vigna marina</i>	Yellow Beach Bean	Cuttings/Transplant	5m

Zone 2 Revegetation List

Botanical Name	Common Name	Revegetation Method	Spacing
Shrubs			
<i>Acacia sophorae</i>	Coastal Acacia	Planting	1.5m
<i>Alectryon coriaceous</i>	Beach Alectryon	Planting	3m
Groundcovers			
<i>Dianella caerulea</i>	Dianella	Planting	1.5m
<i>Ficinia nodosa</i>	Knobby Club Rush	Planting	1.5m
<i>Lomandra longifolia</i>	Lomandra	Planting	1.5 m

This plan is NOT to be used for construction purposes unless it carries the approval stamp of the local authority.

Issue	Date	Description	App'd
E	13/02/19	Eastern rock wall reduced to 10m	BP
D	06/11/18	Ref Issue	BP
C	03/08/18	Preliminary Issue	BP
B	31/07/18	Preliminary Issue	BP
A	07/07/2017	First Issue	ME

Client: NSW Crown Holiday Park Trust

Project: Clarke's Beach Stormwater Management and Midden Protection Works

Title: Gully Protection Works Layout & Revegetation Plan

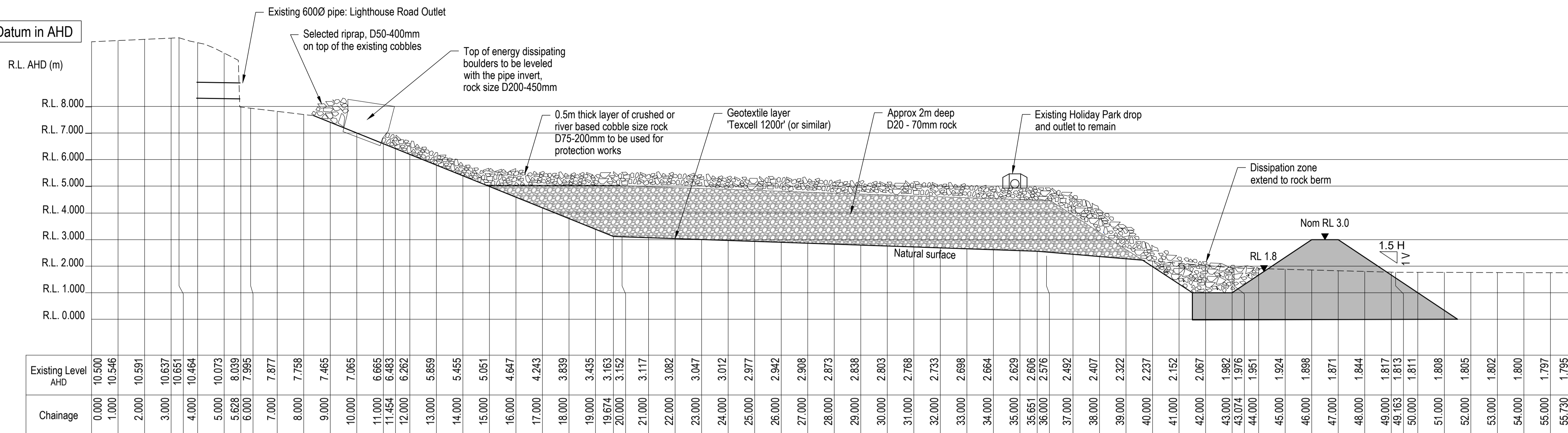
ARDILL PAYNE
 & PARTNERS
 ENGINEERS PLANNERS SURVEYORS
 ENVIRONMENTAL PROJECT MANAGEMENT



Designed: BP
 Drawn: SN
 Checked: BP
 Approved: BP
 Job No: 8122
 Dwg No: SW01
 Issue: E
 Scale: 1:200 @ A1, 1:400 @ A3
 File Name: 8122 Stormwater Management RevE.dwg
 Date: 07/07/2017
 Datum: AHD

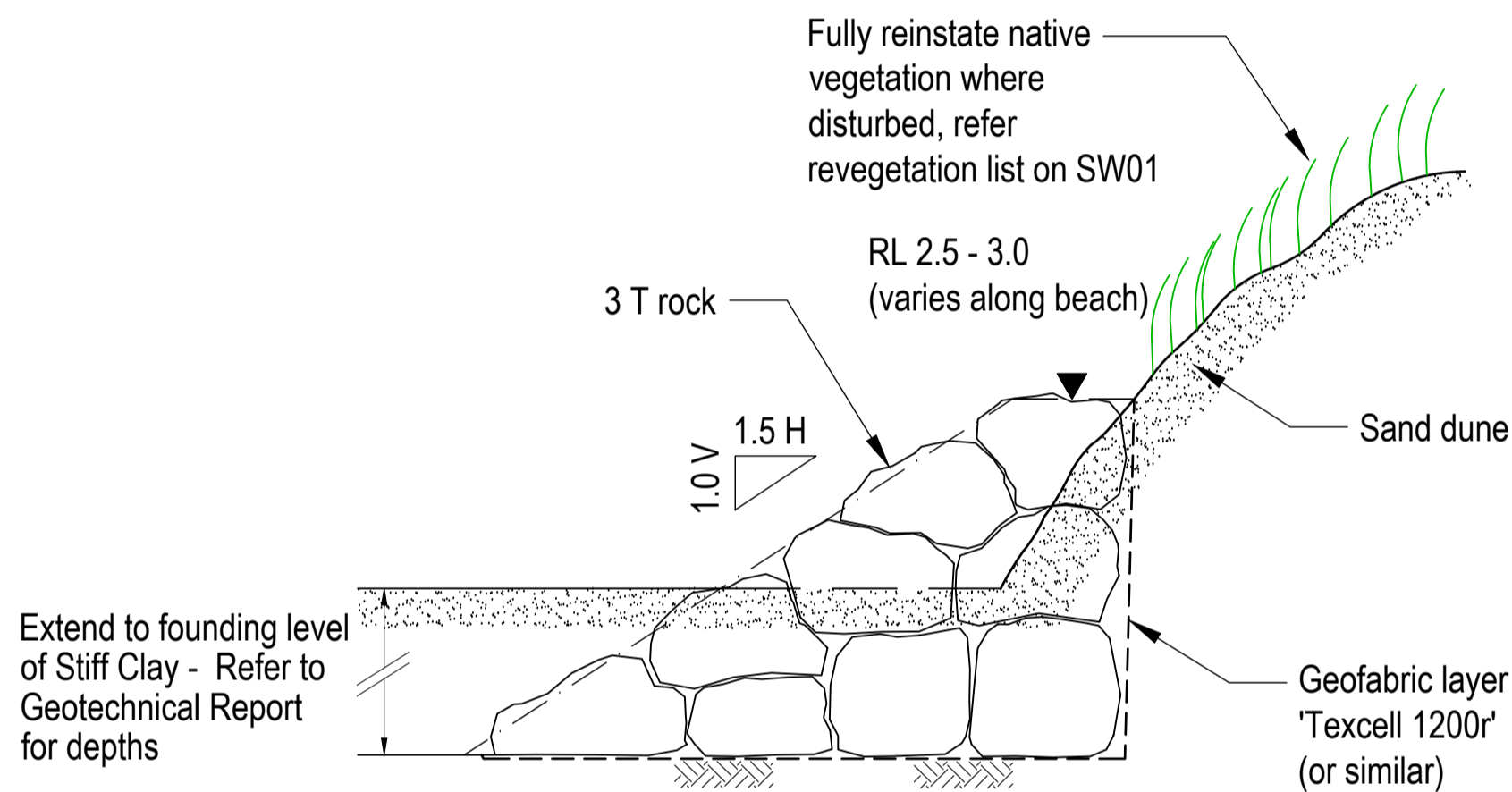
Do not scale drawing. Use written dimensions only. This plan is copyright © All rights reserved.

Note: Datum in AHD

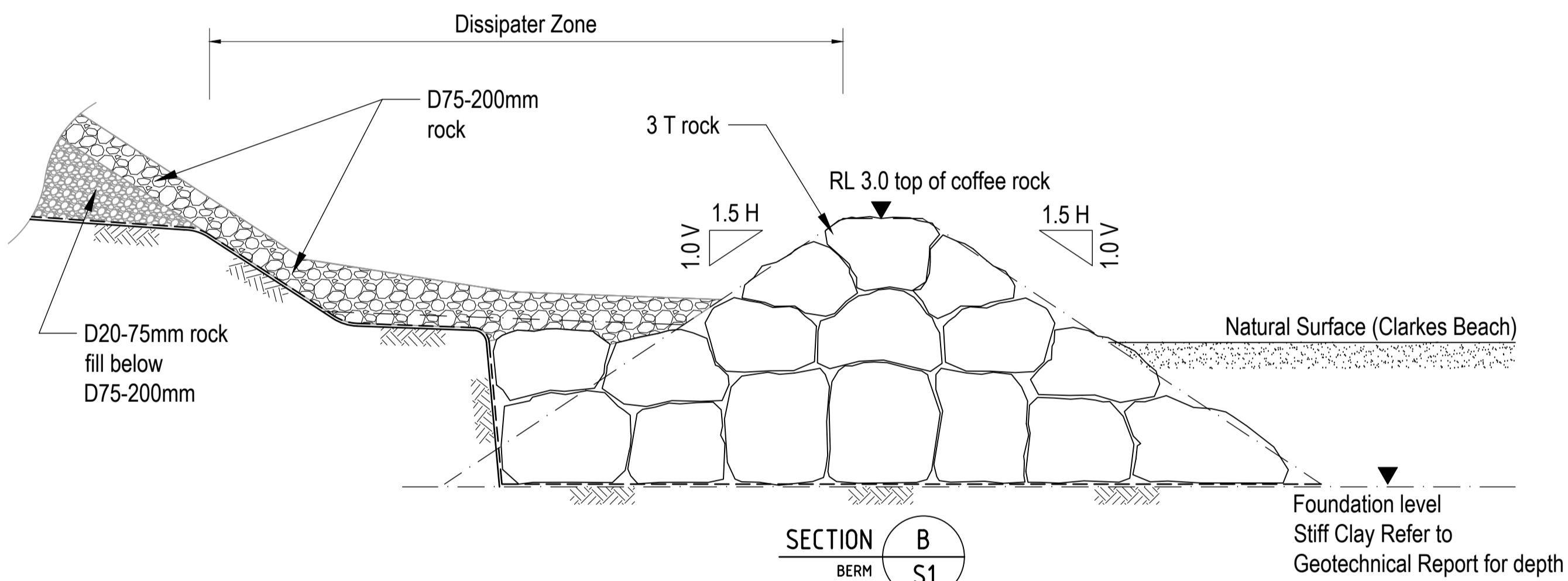


Longitudinal Section Through Gully Invert

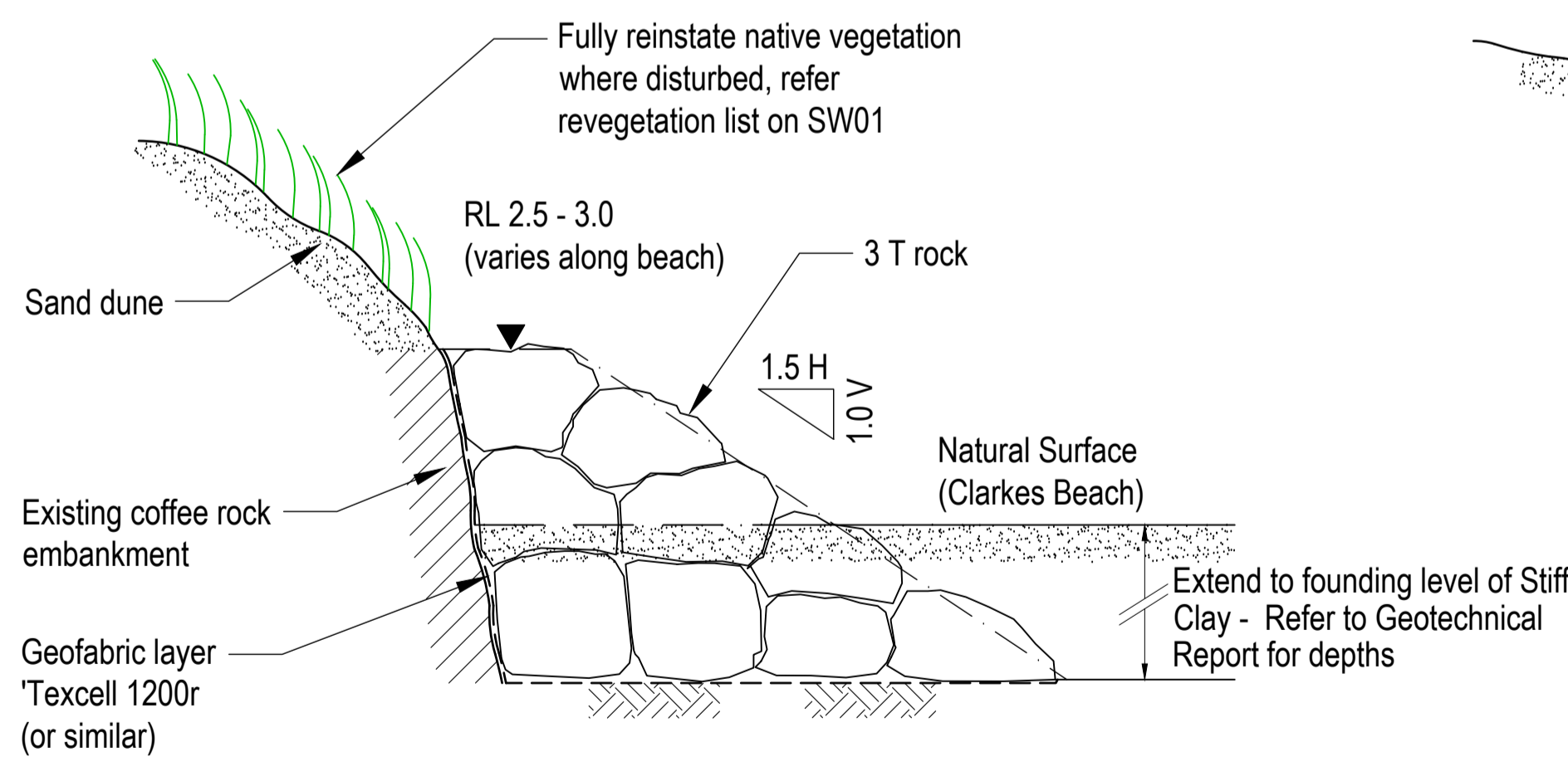
Scale 1:10 at A1



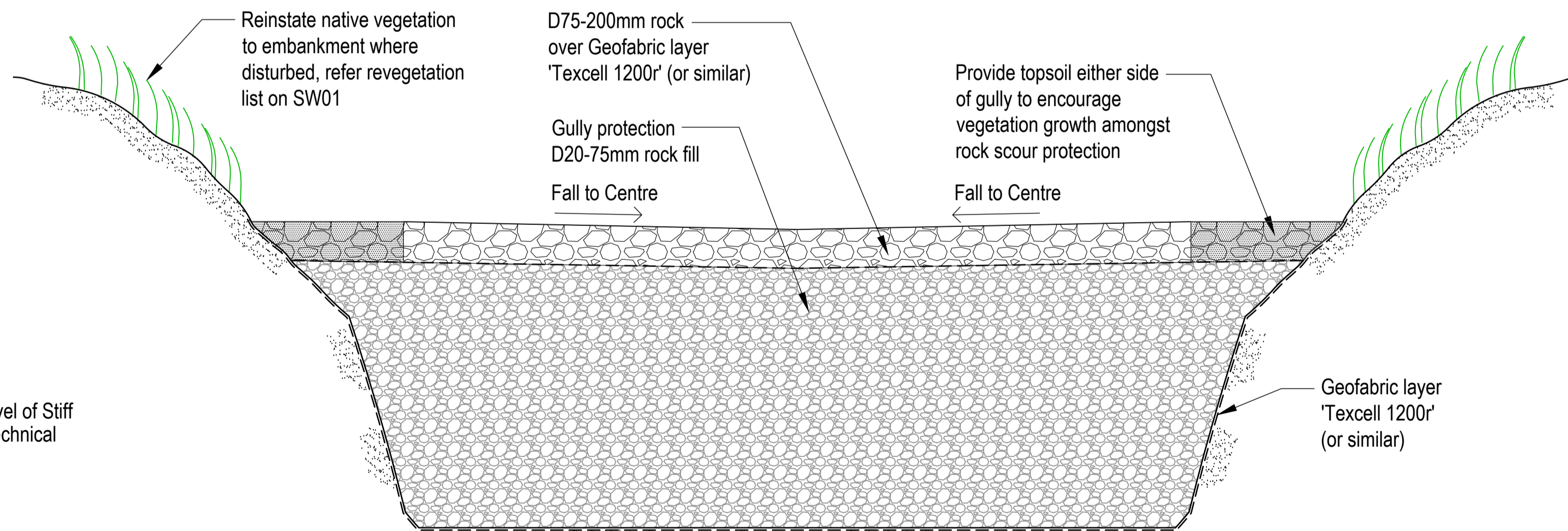
SECTION A S1
BEACHSIDE ESCARPMENT PROTECTION
SCALE 1:50 at A1



SECTION B S1
BERM
SCALE 1:50 at A1



SECTION C S1
COFFEE ROCK PROTECTION
SCALE 1:50 at A1



SECTION D S1
GULLY PROTECTION WORKS
SCALE 1:50 at A1

General Notes

- The height and size of the protection works has been defined based on consultation with the project stakeholders and does not provide a long term coastal protection. Refer UNSW Report WRL2018021 for overtopping details.
- Same rock material to be used for protection works within the gully and beach side escarpment.
- Natural surface contours are computer interpolated from surveyors electronic field data.
- Notwithstanding the limits of earthworks shown on the drawings, the actual limits shall be confirmed on site by the contractor.
- Prior to commencement of construction, the contractor is to ascertain the location and level of existing services to his satisfaction.
- Notwithstanding the extent of the works shown on the drawings the contractor shall undertake all necessary construction required to enable finished works to comply with the intent of the drawings and the requirements of the local authorities design and construction codes.
- These drawings are diagrammatic only. They do not relieve the contractor or builder from his responsibility to comply with these requirements, even if drawings are approved by the authority.

Rock Armouring Notes

- The surface should be completely cleared of vegetation before sand filling and placement of rock protection works
- Geotextile layer to completely cover the interface between the rocks and sand
- The cobbles forming the D200mm armouring shall be at least 20kg with a medium weight of 35kg and specific weight of not less than 2600 kg/m³
- Large rocks shall be bedded on their broadest base.
- The rock armouring has been intended for erosion protection as per UNSW Report WRL 2018021 and to dissipate gully stormwater load.

Protection Works at Midden

- No excavation allowed at escarpment surface.
- No access to the site through the midden area is allowed.
- The extent of protection works may be changed by the superintendent at the site.

Revegetation

Reinstate native vegetation where disturbed and for extents shown. Refer SW01 for zones and planting details.

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Issue	Date	Description	App'd
D	06/11/18	Ref Issue	BP
C	03/08/18	Preliminary Issue	BP
B	31/07/18	Preliminary Issue	BP
A	07/07/2017	First Issue	ME

Client:	NSW Crown Holiday Park Trust
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Project:	Clarkes Beach Stormwater Management and Midden Protection Works
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Title:	Gully Longitudinal Sections and Details
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ARDILL PAYNE
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Designed	BP	Scale	Various - refer plan
Drawn	SN	File Name	8122 Stormwater Management RevE.dwg
Checked	BP	Date	07/07/2017
Approved		Datum	AHD
Job No.	8122	Dwg No.	SW02
Issue			D