

Technical note

Project	A11364 – Gravelly Beach Detailed Design		
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Date:	16/06/2022	To: Naresh Bista	
Doc Ref:		Wayne Griffioen	
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Subject:	Construction sequence of reclamation works to minimise sediment disturbance		

Further the recommendations provided by Tasman Geotechnics on soil specification and Marine Solution on environmental impact assessment and Construction Management Plan, an online meeting was held on 16 June 2022 to review construction sequence to minimise sediment disturbance while improving mechanical properties of the soil to provide a stabilised foundation for the bund and protective revetment. This technical report documents the agreed construction sequence as a record.

The latest layout of the proposed works for upgrading Gravelly Beach is presented in Figure 1.1. The bund and revetment are shown in blue.

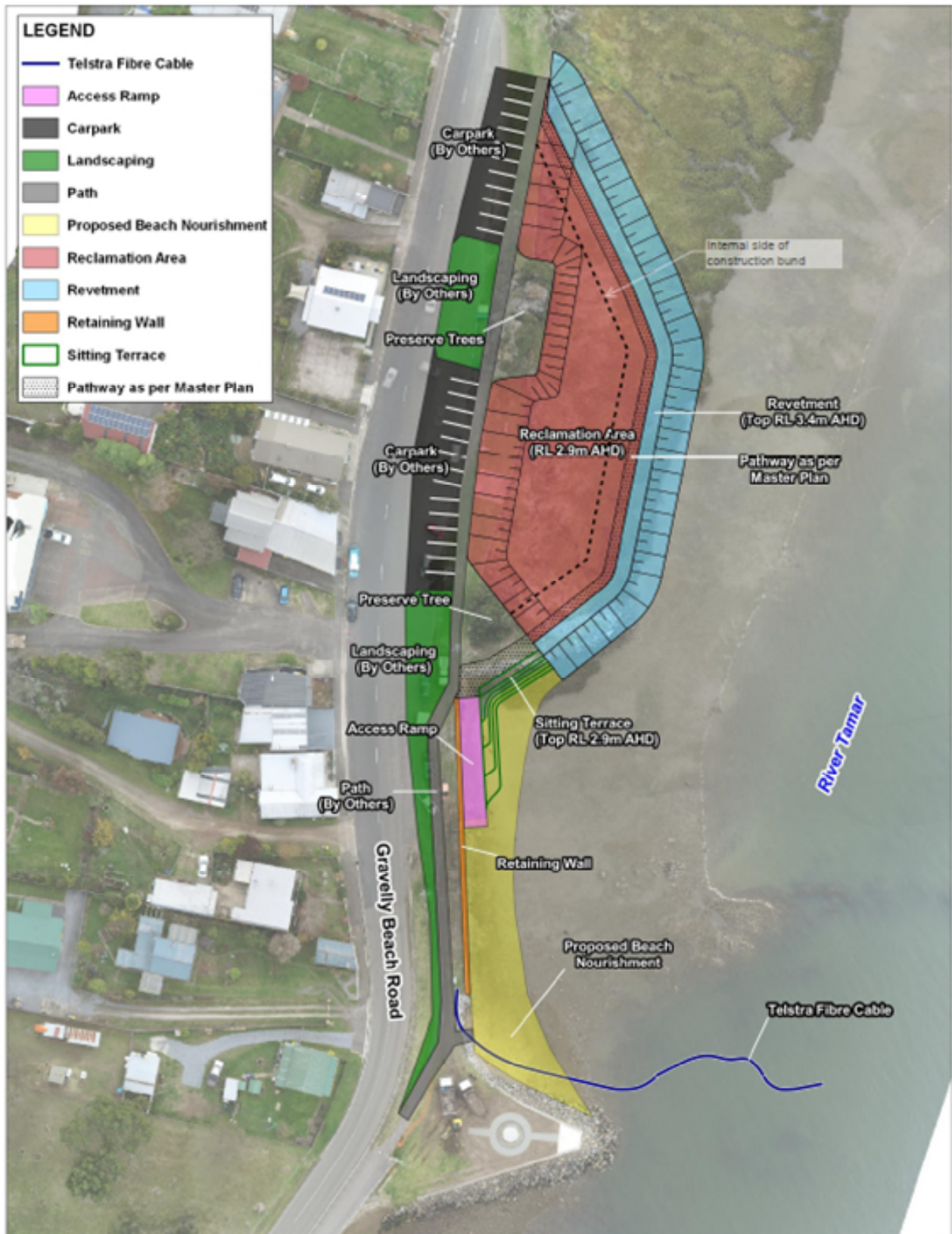


Figure 1.1 Layout of proposed upgrading works at Gravelly Beach

As reported by Tasman Geotechnics the footprint of reclamation area is located on a very soft layer of silt and sand with the depth of approximately 0.6 m as shown in Figure 1.2. BMT proposed a construction bund to minimise migration of sediment from reclamation area to the river during the construction.

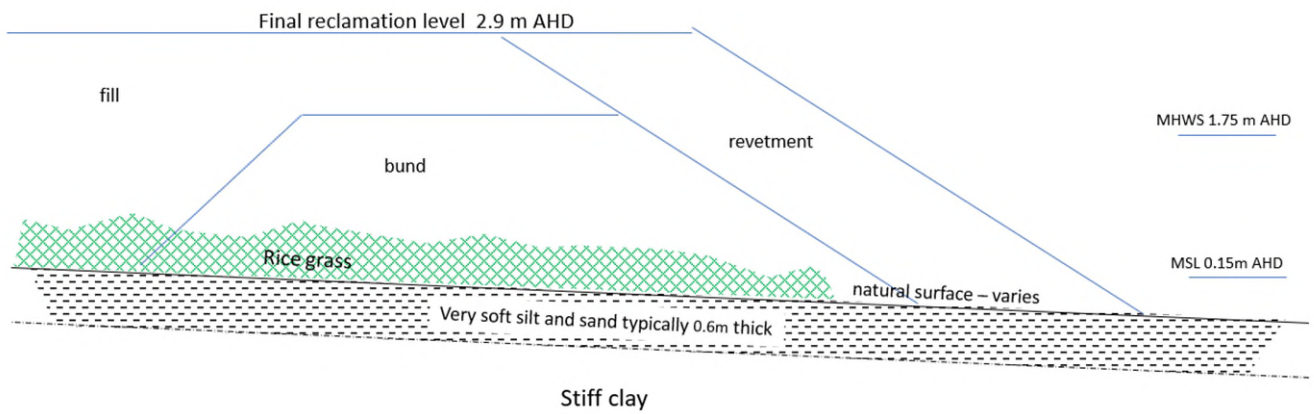
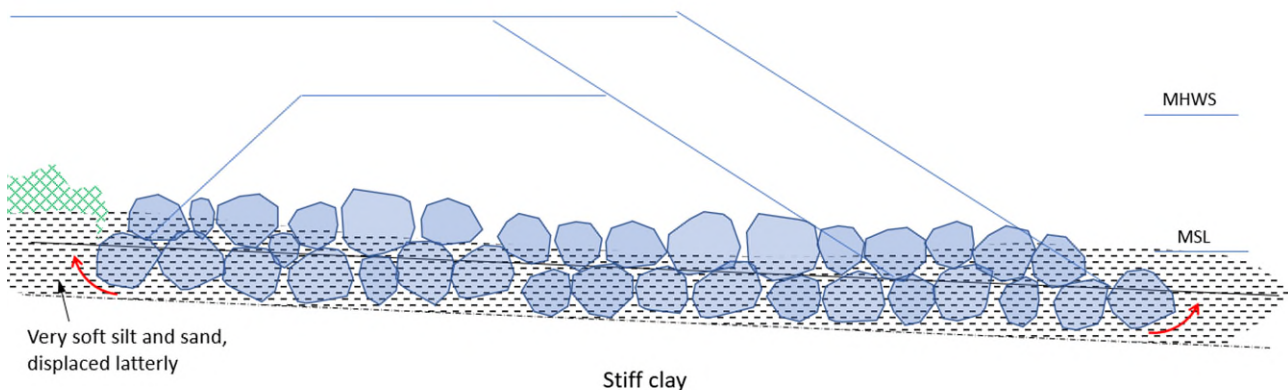


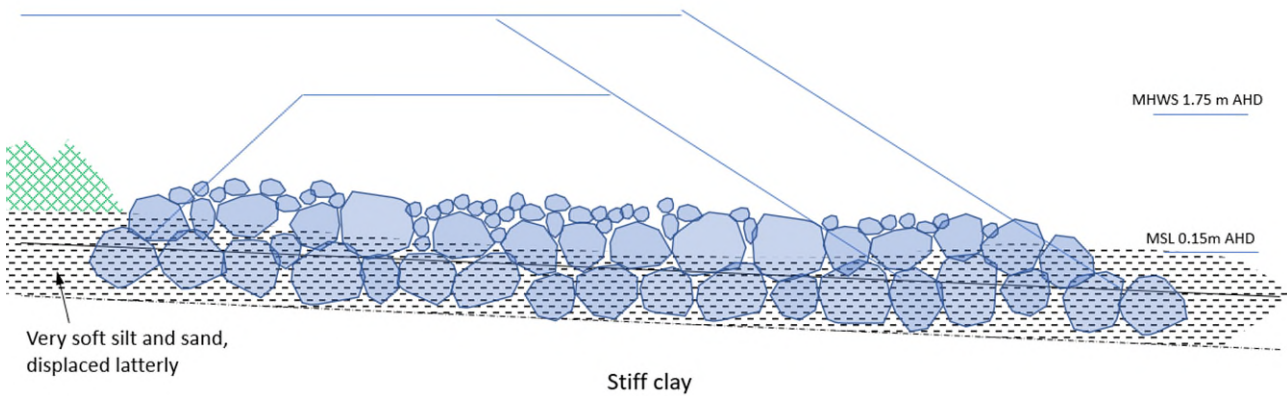
Figure 1.2 Typical cross section of reclamation area and proposed construction bund

The sequence of construction of the bund and revetment is proposed as below to improve shear strength of the soft mud/silt to ensure stability of the revetment and reclamation area while minimising the sediment disturbance and environmental impact of construction.

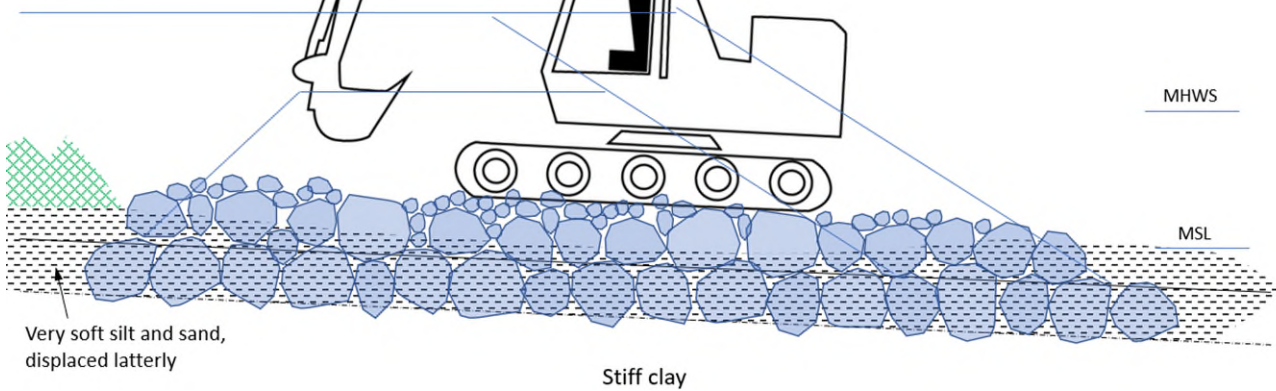
1. Place one or two layers of 700kg rock (700mm dia). Place rocks individually and push through rice grass into silt



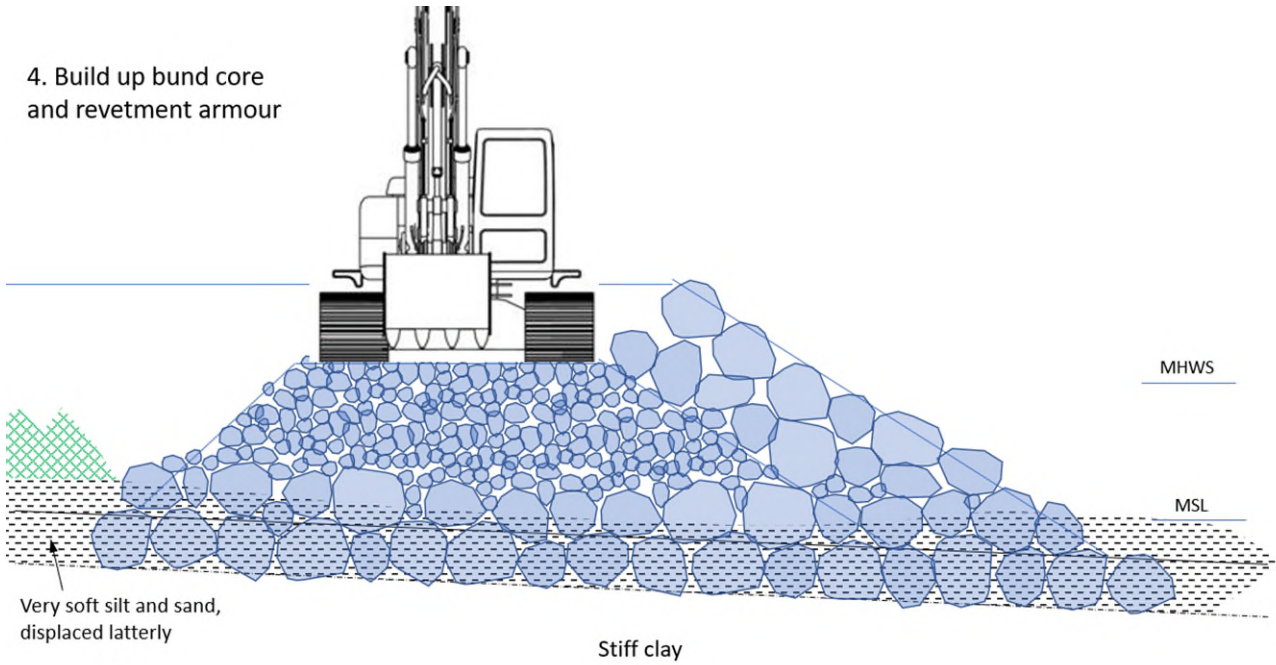
2. Top with 50kg (300mm) rock to form working platform



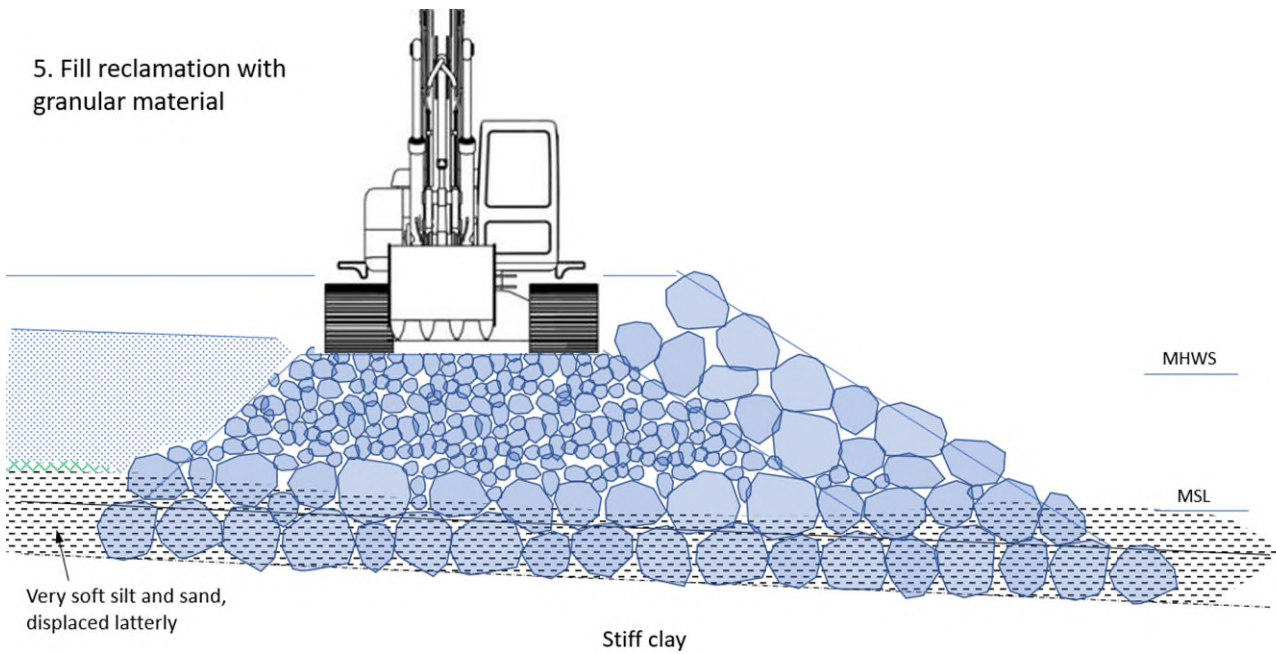
3. Track over rock to push it downwards and ensure good contact with the stiff clay layer. Add more rock if necessary to form a stable platform



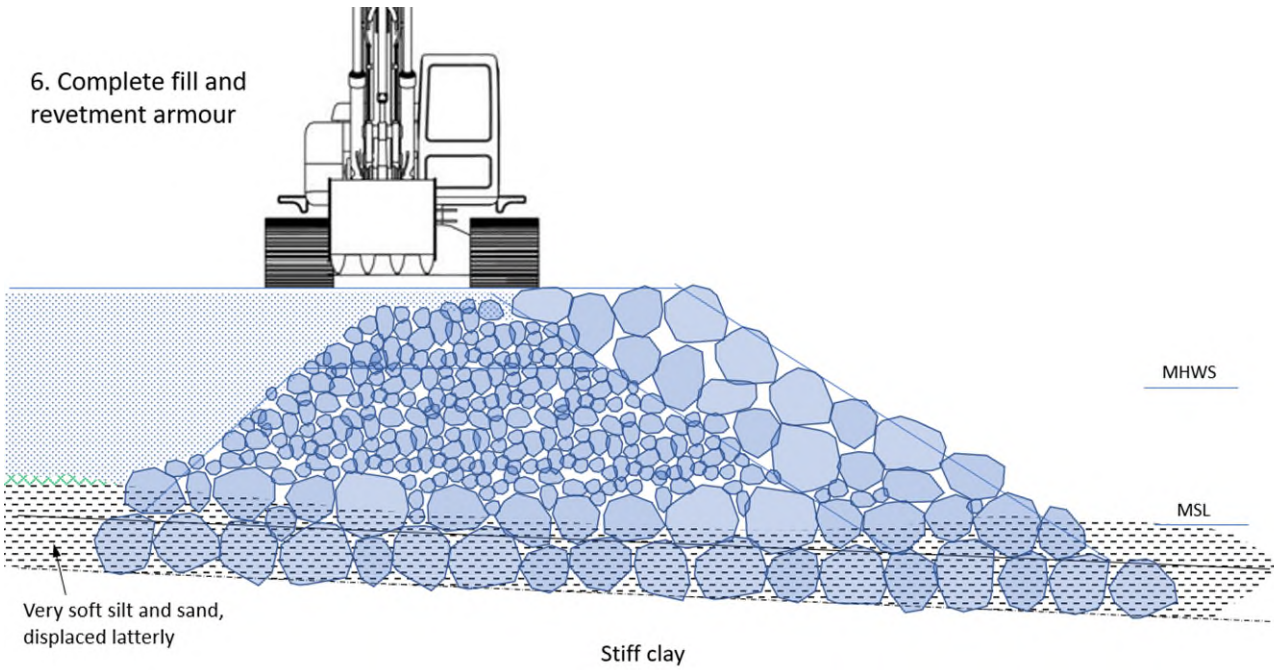
4. Build up bund core and
revetment armour



5. Fill reclamation with
granular material



6. Complete fill and
revetment armour



7. Top up to repair
settlement after 1 year

