

REPORT
ON
REVIEW OF THE COASTAL PROTECTION MEASURES AT
RAMAYAPATANAM VILLAGE, BERHAMPUR, ODISHA



SUBMITTED TO

DEPARTMENT OF WATER RESOURCES (DoWR), ODISHA

SUBMITTED BY



NATIONAL INSTITUTE OF OCEAN TECHNOLOGY
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Title




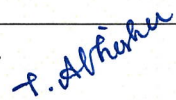
Review of the Coastal Protection Measures at Ramayapatanam village, Berhampur, Odisha

Client

Chief Engineer,
Department of Water Resources, Berhampur
Government of Odisha

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Review of the Coastal Protection Measures at Ramayapatanam village, Berhampur, Odisha

Water Resources Department, Government of Odisha is in the process of implementing shore protection measures for Ramayapatanam coast near Bahuda river mouth. The Detailed Project Report for shore protection was approved by Odisha State Coastal Zone Management Authority. The DPR for Ramayapatanam was prepared as part of the DPR for Enhancing Coastal and Ocean Resources Efficiency Program (ENCORE) by Integrated Coastal Zone Management Plan (ICZMP)-Odisha. The suggested shore protection scheme for the Ramayapatanam comprises of sea wall for protection of Ramayapatanam coast and training wall for keeping Bahuda river mouth open.

Chief Engineer & Basin Manager, Rushikulya, Bahuda, Vansadhara & Nagavalli Basin, Berhampur, Department of Water Resources, Odisha requested NIOT to visit the site for fresh observation and suggesting remedial measures required as per the present condition of eroded beach in accordance with the terms of reference of the MoU signed by Govt. of Odisha with NIOT, Chennai. This was intimated vide letter "Coastal protection measures to control erosion and saline intrusion to north at village Ramyapatna", dated 26.09.2022. The department also mentioned that technical bid for the above work is under evaluation at government level and requested to suggest any additional intervention required to be made to the above design, so that there would not be any major deviation in the items of works to be executed. The following was following is the brief scope for review:

1. Review the overall shore protection scheme
2. Alignments of the seawalls and training wall
3. Provide a design for training wall.

A tender document vide "C.E.&B.M,RBVN-03/2022-23" for Coastal Protection measures to control Erosion and saline intrusion to North at village Ramayapatna was provided along with the drawings to NIOT. NIOT has reviewed the overall shore protection scheme, sea wall design drawing, and CRZ approved alignments of the seawall and training wall.

Subsequently, NIOT scientists visited Ramayapatanam site to assess the present site conditions and suggested to carry out topographic surveys along the Ramayapatanam

coast. From the site visit and the recent satellite imageries, imageries it is observed that shoreline erosion of 10m on southern side and 60m on the northern side of village is observed. It was also observed that design drawings were not available for the river training wall and hence NIOT was requested to design the river training wall cross sections based on the beach topography data provided by WRD. Cross sections and Plan drawings of the river training wall are shown in Figure 2 to Figure 4. It may be noted that deviations from the recommendations are likely to impact the structure stability and its efficacy.



Figure 1: Alignments of CRZ approved seawall(red), seawall as per the present shoreline(yellow), and training wall

In this regard, NIOT recommends the following:

1. WRD may implement the shore protection scheme as suggested by ICZMP-Odisha and approved by OCZMA.
2. WRD may carry out the construction of seawall as per the alignment approved by OCZMA or by modifying the seawall alignment considering the present coastline without changing the latitude positions of seawall mentioned in the OCZMA approval.

3. Alignments of the seawall and training wall has been provided in Figure 1. Department may finalize the final seawall alignment based on the site conditions.
4. It is recommended to carry out performance monitoring of the river training wall during and post construction by carrying out beach topography for a stretch of 3km on either side of the training on monthly basis.

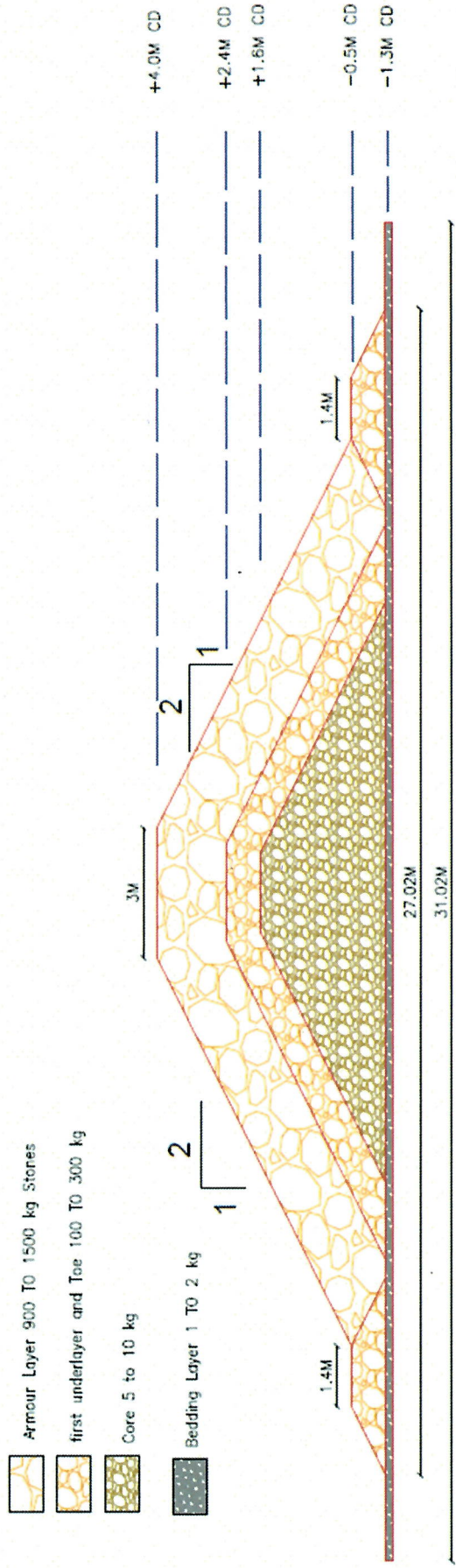
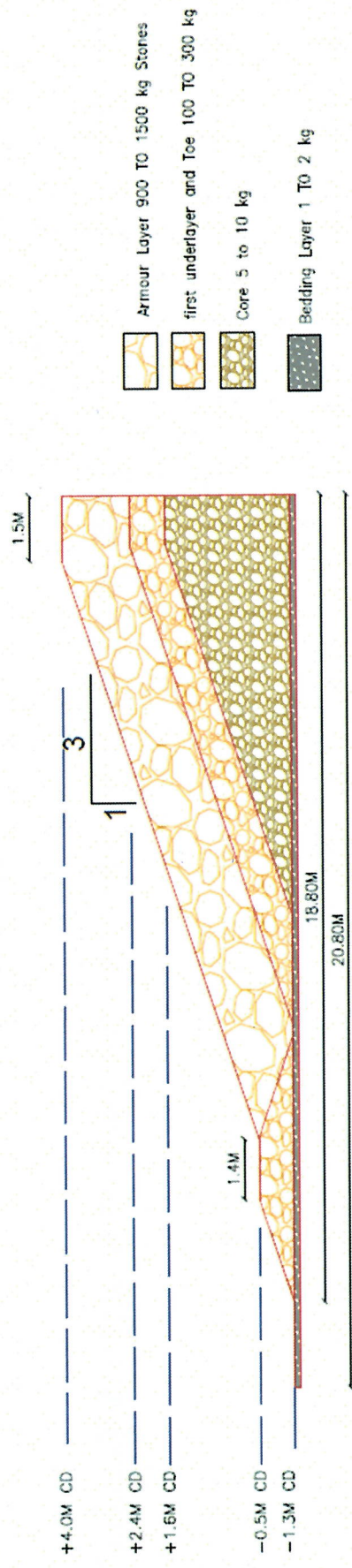


Figure 2 Cross section of the trunk section of river training wall



RIVER TRAINING WALL HEAD SECTION

Figure 3 Cross section of the Head section of river training wall

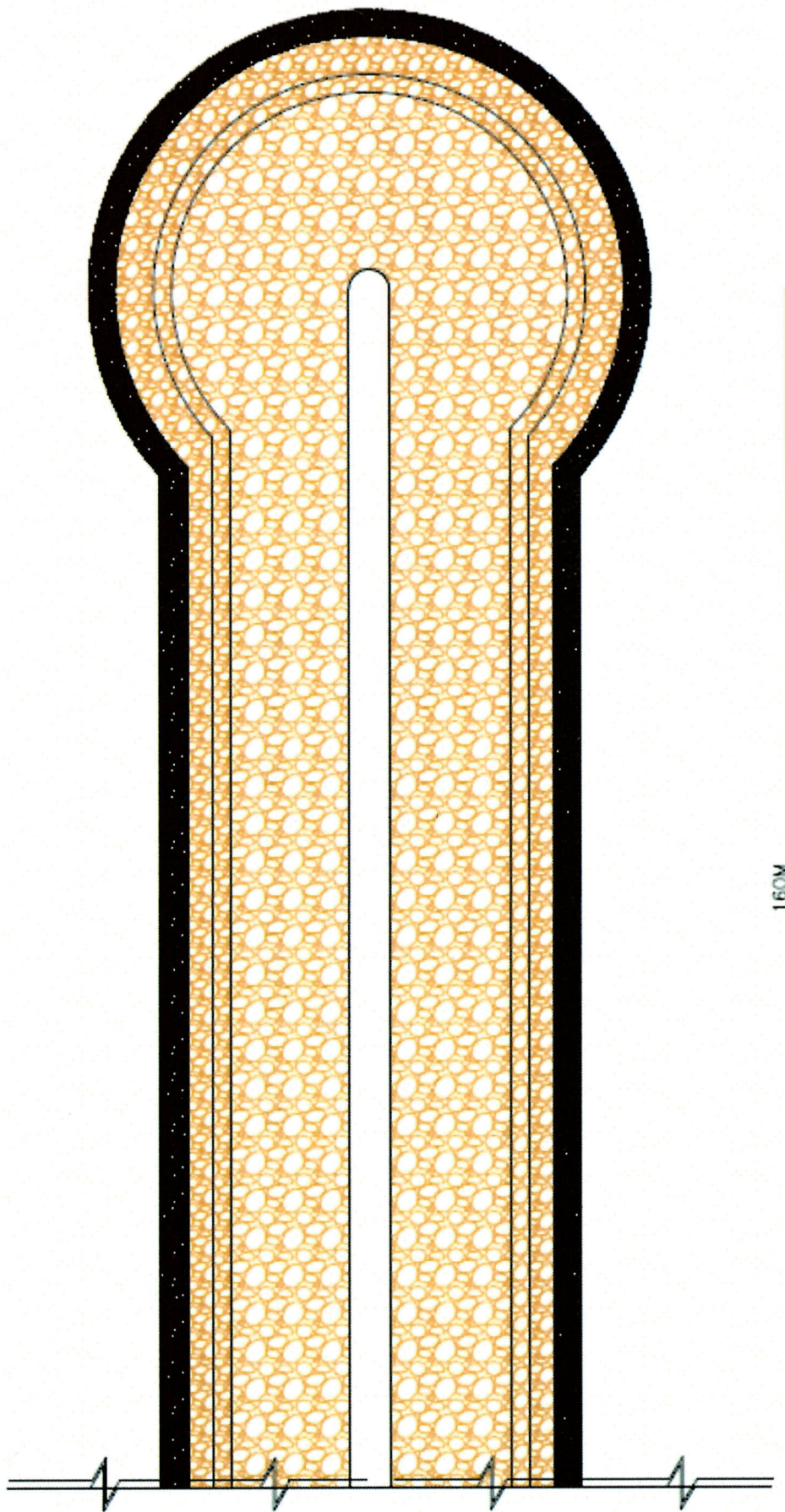


Figure 4 Plan view of river training wall