Project Sheet

Delta Marine Consultants
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Dikkowita Fishery Harbour

The Ministry of Fisheries and Aquatic Resources commissioned the construction of a new fishery port at the south-eastern coast of Sri Lanka, about 6 km north of Colombo Port. The new Dikkowita Fishery Port serves as an operation base for local fishermen and provides sheltered berthing for approximately 500 fishing vessels, up to 40m in length and is one of South East Asia's largest fishery harbours. It encloses an area of about 14 ha protected by two breakwaters of a total length of almost 1200 m. DMC has been involved in all aspect of the design including structural, geotechnical and coastal engineering.

Main Client
Ministry of Fisheries and Aquatic Resource Development Sri Lanka

Client
BAM International

Type of Contract
Design & Construct

Completion
2010 (design)
2011 (construction)

Location
Dikkowita, Sri Lanka

Consultancy Fees
Category 5 (see page 2)

Services
Numerical modelling
2D physical model tests
Supervision of 3D model tests
Detailed Design breakwaters
Detailed Design quay walls and piers
Geotechnical Analysis

Delta Marine Consultants

Dikkowita Fishery Harbour

Scope of Work

The harbour is one kilometre long and its basin is formed by two breakwaters at the seaside, quay walls at the landside and eight jetties in the basins. The breakwaters are protected by Xbloc armour units.

The crown wall includes a roadway to provide access to the attached piers, and to allow for inspection and maintenance of the breakwaters. About 600m of sheet pile quay wall allows for berthing and loading/ unloading operations. Six lay-by and two bunkering piers (deck-on-pile structures) are built at the lee side of the breakwaters. Auxiliary works include landfill and a spending beach to reduce wave disturbance in the port basins.

Design Involvement

In addition to geotechnical and structural design of all Marine Facilities, DMC have performed comprehensive numerical modelling involving wave transformation, sedimentation and wave penetration studies. Since the new breakwaters are situated on top of an existing steep sandstone reef, a detailed assessment of the local conditions was required. This included 2D physical model testing performed at DMC's in-house wave flume laboratory in the Netherlands.

DMC also provided assistance/ supervision of 3D physical model testing at LHI in Sri Lanka. Besides the stability of the exposed breakwater toe, the extremely complex subsoil conditions throughout the project area made standard solutions impossible and required particular attention during design of all marine structures.

Consultancy Fees: 1: 50.000€ 2: 50 - 150.000€ 3: 150 - 300.000€ 4: 300 - 600.000€ 5: > 600.000€

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