



**MAZAGON DOCK SHIPBUILDERS LIMITED,  
MUMBAI**  
(A Govt. of India Undertaking, Under Ministry of Defence)

**DEEPENING OF RITCHIE DRY DOCK**

**BRIEF SUMMARY**

NOVEMBER 2016

**1. Preamble:**

Building Warships and submarines at an accelerated rate is crucial for maritime defence of our nation. Indian Navy's Maritime Capability Perspective Plan (MCPP) of 2005 envisages the bridging of the shortfall of fleet & at the same time replacing aging warships. This calls for major infrastructure requirements for constructing indigenous shipbuilding and submarine construction.

Accordingly, Mazagon Dock Shipbuilders Limited (MDL), a Govt. of India Undertaking under Ministry of Defence, Department of Defence Production, a leading Shipyard located at Mumbai, embarked upon the modernisation of existing facilities with the aim to create modern infrastructure, shorten warship build periods and attain world-class benchmarks to meet Shipbuilding and Submarine Construction Programme of Indian Navy.

**2. Brief Project Description and location:**

Ritchie Dry Dock (RDD) is an existing dry dock built in 1865 having overall dimensions of 228 m (Length) x 21 m (Width) x 8.1 m (Depth), located at North Yard of MDL, Mumbai with an average dock depth is -3.5 m CD. Indian Navy has upgraded its warship design with latest technology. In accordance with the latest technological developments the latest warships with deeper draft along with sonar dome and other appendages are being constructed at MDL. To attain the docking of destroyer class vessel fitted with sonar dome MDL decided to modernize/deepen the existing dock floors of the RDD by 2 Mtrs to a uniform FFL of -5.5m CD.

**3. Project Execution Scheme:**

Considering the complexity and the specialised marine work, MDL have appointed M/s Consulting Engineering Services (India) Pvt. Ltd. (CES) as the Project Consultant for the subject work including carrying out Feasibility study, Detailed Project Report, Design & Supervision during construction stage. Consultant, M/s. CES have submitted Feasibility Study Report after detailed study and concluded that the deepening of RDD is feasible.

**4. Construction Methodology:**

The proposed RDD Deepening work involves deepening the dock floor by approx. 2 mtrs and up gradation of electromechanical systems i.e. gate & pumping system. A temporary cofferdam shall be constructed to facilitate the above work in dry condition. The same shall be dismantled after completion of deepening of dock floor and gate installation. To retain the sides of dry dock, Secant pile methodology has been proposed by IIT Madras while proof checking the Feasibility Report.