ABSTRACT

The total area of waters in Indonesia is very large. Indonesia needs supporting facilities of transportation through the sea. The main components of sea lane transportation are sea, ships, and the marine facilities. However, the need of marine facilities in Indonesia is still very lack. Therefore, it is necessary to plan the construction of maintenance facilities and ship repairs. Those facilities are planned to be built at Sub-District of Paciran, Lamongan, East-Java. By building these facilities of maintenance and repairs, it is expected to reduce the ship queue by using similar facility in Tanjung Perak, Surabaya, so that the ships operation to support the goods distribution activity through the sea lane can be run quickly, effectively and efficiently.

Breakwater is planned at the facilities of ship maintenance and repairs because the ship that will go into the facility is a ship with an empty cargo (blank draft), so that the ship is easily quake, hit by the wave. Therefore, the breakwater at this facility was built.

This breakwater was built using two types of structures, namely rubble mound with a layer armour of tetrapod built with starting point of elevation from +2 mLWS up to -8.5 mLWS and monoliths or straight wall using a piling of steel pipe piles Ø120 cm arranged in a row starting at an elevation of -8.5 mLWS up to -9 mLWS. The total costs required in the construction of this
breakwater is Rp 354,599,439,000,00.

Key words: Lamongan, Breakwater, Monolith, Rubble mound, Tetrapod.