TACKLING JAKARTA FLOODS

Major flooding in the Indonesian capital of Jakarta is not uncommon. The most recent one happened in January of this year due to heavy rains and waterways clogged with garbage and other kinds of debris. A 30 m long section of the West Flood Canal dike on Jalan Johannes Latuharhary in Menteng collapsed and caused flooding in nearby areas. Millions of people were affected, resulting in serious economic lost to the country. The government was quickly seeking ways to prevent such disastrous occurrence.

Amphibious excavator

Malaysian company EIK Engineering and its Indonesian partner proposed to the government the use of amphibious excavators to clean up the canals. According to EIK, this concept has proved to be effective in the Southeast Asia region.

After given the go-ahead, EIK deployed its four amphibious excavators, four long reach boom excavators and two standard excavators in the dredging project at Pluit canals and reservoirs.

The Pluit area was said to have encountered more severe flooding, as the canals and reservoirs had high sediment of garbage and aquatic plant - this made the reservoirs unable to store the excess water, and the canals could not drain it properly either. EIK's amphibious undercarriage design features the multi-synchronous drive system, which provides excellent tracking ability in soft and high viscosity terrain; coupled with the pontoon's low ground pressure, the amphibious excavators excelled and throve in this challenging environment.

Top and above: EIK's amphibious excavators, long reach boom excavators and standard excavators being used to clean up canals and reservoirs in the Pluit area of Jakarta, Indonesia, in order to help prevent severe flooding in future.

EIK explained that in the past, the Indonesian government opted for a long reach boom excavator and standalone pontoon to clean and deepen the canals, but it was not effective due to the lack of working space for the machine along the bank of these canals. And the work was also limited to the side of the bank.

Although an amphibious excavator is very suitable for use in a dredging project, logistics problems could hinder the work, said EIK. Jakarta is one of the most densely populated cities in Asia and transporting a machine of this size can be a difficult task. Thanks to EIK's hydraulic extendable pontoon system, the pontoon can be hydraulic retracted to a minimum footprint during transportation especially in city areas. This feature not only solves the logistic challenge, but also helps the contractor to save a lot of costs and time when it comes to disassembly and reassembly of the machine.

EIK also mentioned that the Indonesian government has recently announced numerous new projects in the country that would require amphibious excavators. ■

Above: Mounds of rubbish piled up at one of Pluit reservoirs, making it unable to store the excess water bought by the rain.

Left: Joko Widodo (centre, in white shirt), the governor of Jakarta, has been actively seeking ways to prevent heavy floods in the city.

Below: EIK's amphibious excavators have successfully cleaned up Pluit reservoirs.