Pengembangan konseptual desain giant seawall di Kawasan Teluk Jakarta dengan pendekatan value engineering untuk menciptakan inovasi fungsi pada proyek = Development giant seawall conceptual design in Jakarta bay with value engineering approach to create function innovation / Yelna Yuristiary

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Abstrak

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Banjir yang melanda Jakarta tidak hanya berupa banjir yang diakibatkan oleh adanya hujan deras. Penyebab banjir di Jakarta, khususnya kawasan Jakarta Utara lebih dipengaruhi oleh faktor kontur muka tanah Jakarta yang sebagian besarnya merupakan daerah yang memiliki kontur yang rendah dibandingkan muka air laut. Perbedaan ketinggian ini juga semakin hari semakin bertambah dengan adanya efek global warming dan penggunaan air tanah secara masif dimana hal tersebut menyebabkan land subsidence.Di sisi lain, kebutuhan hunian dan kawasan hijau juga telah menjadi isu utama dalam pengembangan kota. Namun, kondisi ruang DKI Jakarta yang sudah terbangun lebih dari 70% menjadikan ruang terbuka hijau sangat sulit untuk dibangun kembali di Jakarta. Berdasarkan masalah tersebut, maka sejak tahun 2009, pemerintah DKI Jakarta mulai merencanakan proyek infrastruktur yang bertujuan untuk pengembangan kawasan teluk Jakarta dengan nama giant seawall atau yang dikenal dengan nama Proyek NCICD (National Capital Integrated Coastal Development). Pengembangan konseptual desain dari proyek ini senantiasa dilakukan hingga pada tahun 2014, diketahui sejumlah fungsi dari proyek. Namun, minat investor pada proyek ini masih belum optimal sehingga peneliti melakukan penelitian yang berbasis Value Engineering untuk meningkatkan inovasi fungsi pada proyek. Berdasarkan pendekatan Value Engineering yang telah dilakukan, beberapa fungsi tambahan diperoleh pada pengembangan konseptual desain dari proyek infrastruktur ini seperti penambahan waterways, penambahan fungsi energi dan pengembangan kawasan rekreasi pantai di pulau reklamasi. Perbandingan biaya pembangunan antara konseptual desain eksisting dan inovasi pada proyek ini adalah sekitar 5% di mana konseptual desain dengan inovasi fungsi lebih mahal, namun memiliki fungsi yang lebih banyak.

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ABSTRACT

Jakarta floods not only causing by the heavy rain. Flooding in Jakarta, especially in the North area influenced by the contours of the level ground whereby mostly has a contour that is lower than sea level. This difference of height is also growing each day which influenced by global warming and massive use of ground water. This phenomenon is causing land subsidence. On the other hand, the need of residential and green areas have became a major issue in the development of the city. However, the condition of Jakarta‟s area that has built more than 70% of green open spaces make it very difficult to be rebuilt. Based on these issues, since 2009, Jakarta‟s government began planning infrastructure projects aimed to develop Jakarta Bay area with giant seawall names or known as Project NCICD (National Capital Integrated Coastal Development). Development of conceptual design in this project is done with numbers of functions. However, investor interest in this project is still not optimal so that researchers conducted a study

based Value Engineering to improve the innovation function in this project. Based on Value Engineering approach that has been done, some additional functions are obtained on the development of conceptual design such as the addition of waterways, increase energy function and develop of recreational areas on the coast of the reclaimed islands. Construction cost comparison between the existing conceptual design and innovation in this project is around 2% where the conceptual design with innovative functions is cheaper and also has a lot more functions., Jakarta floods not only causing by the heavy rain. Flooding in Jakarta, especially in the North area influenced by the contours of the level ground whereby mostly has a contour that is lower than sea level. This difference of height is also growing each day which influenced by global warming and massive use of ground water. This phenomenon is causing land subsidence. On the other hand, the need of residential and green areas have became a major issue in the development of the city. However, the condition of Jakarta‟s area that has built more than 70% of green open spaces make it very difficult to be rebuilt. Based on these issues, since 2009, Jakarta‟s government began planning infrastructure projects aimed to develop Jakarta Bay area with giant seawall names or known as Project NCICD (National Capital Integrated Coastal Development). Development of conceptual design in this project is done with numbers of functions. However, investor interest in this project is still not optimal so that researchers conducted a study based Value Engineering to improve the innovation function in this project. Based on Value Engineering approach that has been done, some additional functions are obtained on the development of conceptual design such as the addition of waterways, increase energy function and develop of recreational areas on the coast of the reclaimed islands. Construction cost comparison between the existing conceptual design and innovation in this project is around 2% where the conceptual design with innovative functions is cheaper and also has a lot more functions.]