Major engineering challenges faced in palm island in dubai

C. Culliford, of engineering communication From : Lubna Alnuamani Major Engineering challenges faced in Palm Island in Dubai The Palm Beaches in Dubai are artificial islands made by man. It is essentially a city that floats. There are numerous pubs, restaurants, theatres, hotels and shopping malls in these islands, so it qualifies as a good attraction for tourists. Construction of the Palm Beaches is an excellent example of offshore engineering. " Offshore Engineering...deals exclusively with the engineering of devices & equipments such as marine foundations for bridges above rivers, mooring systems, deep ocean mining, offshore pipelines, offshore cables, oil rigs structures..." (Balu). The offshore, ocean and marine engineers had to face a lot of problems in the Palm Beaches project in Dubai. This paper looks into two of the biggest challenges faced by constructors while constructing the Palm Islands in Dubai. Before the commencement of construction on any project, a project feasibility report is generated that justifies the construction while taking into consideration all environmental and economic influences. Likewise, before the commencement of construction of the Palm Islands, its environmental impacts had to be studied. Therefore, the first and the foremost challenge the developers of Palm Beach Islands had to face was realizing the effects of their construction on the environment. The developers lacked in sufficient scholarly research. Owing to the lack of sufficient research, assumptions had to be made regarding the impact of Palm Islands on the environment. This caused the project to invite much criticism from the environmentalists. With the passage of time, many environmental issues have raised because of the artificial ecology of the Palm Islands. Conventionally, artificial islands are constructed with extensive use of concrete and various metals. Prince Sheikh Mohammad Bin Rashid Al

Maktoum wanted the Islands to look entirely natural. In order to fulfill his desire, the Palm Islands in Dubai had to be constructed with natural materials including stones, sand and rocks. This extremely demanding feature raised a big challenge for the constructors. They had to construct a massive structure without making any use of conventional construction materials like steel and concrete. The construction plans for the project became impracticable without the mutual consensus and agreement of both the engineering scientists and the contractors. Owing to the immense usability of the Islands, the foundations had to be sufficiently strong to both take the load, and resist the forces of the wave action. In order to make the foundations sufficiently strong, sand and rocks had to be combined in an extremely thoughtful and well researched manner, which was very difficult to accomplish given the limitations in the strength of natural materials and lack of data from similar construction in the past. The constructors had to make sure that the sand foundations would remain in place after construction. Although the Gulf climate generally remains mild, the weather conditions often change in the Shamal season when a lot of storms occur in the northwestern region. The lack of research on the environmental effects of the Palm Islands and the requirement of their construction without use of concrete and steel were two of the biggest challenges that were faced by the constructors. Works Cited: Balu, Sriram. “ What is offshore engineering?” 2010. Web. 11 Apr. 2011. .