**Assignment 2 - The short piling case (Q1)**

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Two decades ago, danger was found in building foundations due to the short pilings, this incident raises alarms to enginnering projects and its integrity level (Besseling, 2022). Therefore the following is an analysis of the problem of the short piling cases through the persepctives of the professional, economic, environmental, healthy and safety and legal dimentions, finally personal perspective will also take part in the concluding sections of this problem.

To start with, the professional dimention of enginnering projects emphasies on the point of competence. To a large extent that the engineers in charge of the building construction should already posess the qualifications, that said, it was seen that although they have these qualifications, it does not graunt them the automatic professional status. This is because the dimention of professional depends largely on the acquired experience, competence on their job and the ability to make ethical decisions.

From this, it is seen that those engineers responsible for the short pilings would have failed in the aspects of the competence and the code of ethics. Competence was compromised, as the structure of the building being built was found to have poor foundation works (Besseling, 2022). As for ethics, it was found that the decision leading to short piling was to reduce construction time by using soil stablilizers instead of the proper method of driving casings to bedrock (ICAC, N.d).

This violates ethics in terms of the principle of non-maleficence, as this construction method causes the structure to be much less stable and below safety standards. At the same time, this also violates the principle of honesty, as this below standard construction method was being covered up with deception, even when their company workers warned the engineers at Hui Hon about the poor support, leading to the initial collapses (ICAC, N.d).

Moving onto the dimentions of economics, the project was acquired by the Zen Pacific company for the construction at a bidding of $66,330,000 HKD, there has been then a contract to the Hui Hon Company for pilings (ICAC, N.d). The contract states that Zen Pacific takes charge of procurement of materials, whereas 3% is collected from purchase cost and 4% for the admin charge from the contracting proceedures (ICAC, N.d). With the building construction, it brings beinifits directly to the shopping mall project nearby, set for a budget at $124.592M to generate a rate of return of 11.4% consisting a payback period of 12 years (Housing Department, 1997). This sets up the project to bring not only return from the housing fees but also into the nearby neighbourhood facility projects.

Much cash flow was at stake for this project, which contributed to the financial problems where Hui Hon ran into, when using the Super Mud (ICAC, N.d). Ultimately, leading to the decision to forfeit the structural stablilty to cut corners with improper contruction materials for the building’s foundations.

Then for Environmental impacts, the project created noise and air pollutants during the contruction phases, more pollution was caused once the short piling was later exposed, as the two buildings found with this issue was demolished (ICAC, N.d). Although there were no issues reported or linked to this construction site, to support this claim the standard contruction site in Hong Kong in the 1980s and 1990s was identified by the Government that those contructions generally gives out noise problems (EDP, 2022). It was only later on where rules and regulations were enforced on these sites, to which parameters are to be set up to minimize the noise and only in working hours they would allow contruction to occur.

So to sum up, there is noise and air pollution from the contruction, just as any building site would have in the past and currenty, the only applaudable act was that there were no reports stating a violation of the pollution, hence implying that site followed the rules and regulations set up by the Environmetal Proction Department (EDP, 2022).

As for the aspects of Health and Safety, it should have been the points to be considered seriously by the engineers that made the decision to short piling. This point echos the same principle pointed out in the ethics sections, in the aspect of non-maleficence. Health and safety is greatly compromised, as although the engineers probability followed most of the guidelines to create a safe construction work space, but for those future resisdences, safety is compromised. If the short piling was not uncoverd, years later, the poor foundation may cause tragedy.

The long term effect of this in terms of health and safety can also be drawn by the Iceberg Theory that Hui Hon has not only put lives at risk but also suffers from this uncovering with the loss of its reputation and image, as its directors were sentenced to imprisioment (Besseling, 2022).

Then from a Legal dimention’s stand point, a contract was formed as stated in the above, hence legally binding, Zen Pacific and Hon Hui to be accountable for this incident. Also, there is are laws that were violated during the construction, such that when the methods of the contruction was uncovered, the company directors and engineers were sentenced to prison, charged with dishonesty and defrauding (ICAC, N.d).

Finally, my personal perspective if I was involved in the project was to side with those engineers or workers who warned the directors. The difference I would make is to take preventive actions, this way, the building would not be built before having a firm foundation. This would be done to act by reducting the hazards of the building where the workers were still working in and also to prevent safety problems as the building may actually collapse during the process as the foundation was not properly reinforced.

*References:*

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