SOCIAL COST FACTORS AND THEIR IMPACTS IN SEWERAGE PIPE LAYING PROJECTS

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DECLARATION

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ABSTRACT

The construction projects have adverse and negative impacts on the residents who live at a neighborhood of a construction project. These negative impacts such as inconveniences, disturbances and economic losses which face by the community surrounding a construction project are referred to as "social costs". More often the contractor of the construction contracts has no obligation, during his execution of works, to bear these social costs hence consequently have to been dured by the local community in and around the project area.

The scenario is true for the sewerage pipe laying related construction projects too as the sewer conveyance pipe lines are laid on the public road's right of way in deep and wider trenches. In Sri Lankan point of view the sewerage pipe line trenching is mostly done by traditional open-cut method, with opening up wider trenches along the public roads attributing many social costs and impacts to the surrounding community and businesses. These social cost factors and impacts can take many forms, such as traffic delays and congestion, more fuel consumption, road and third party property damages, increased accidents, air and noise pollution, decreased revenue in businesses and annoyances.

To identify and itemize the social cost factors and their impacts to the local community, the literature was reviewed and the recently implemented sewerage pipe laying construction project in Ratmalana/Moratuwa was selected as a case study. By the use of researcher's project experience, questionnaire surveys and interviews conducted with the project stake holders the nature and gravity of those social cost factors and impacts on the neighboring community, were analyzed. According to the findings the major social cost factors which businesses incur include customer decline and financial loss, whereas residents find traffic delays and traffic congestion problems to be more of an intrusive inconveniences. The findings further give the gravity of those social cost factors and impacts, effect to the local community and businesses.

This thesis concludes, as many techniques are available in the literature for quantification of social costs those social costs should be assessed and accommodated in the project budgets. On the other hand, this would give clear picture of the social costs the

community endures but neglected by the project parties. Furthermore the findings give alternative trenchless methods instead of traditional open-cut trenching for sewerage pipe laying, by which the foregoing road and property damages and associated social costs could be minimized. This is because the current way of conducting the sewerage pipe laying projects in the public roads by harming the community will lose the credibility of the contractual parties, i.e., the project proponent and the contractor, as the social costs are bared by the community besides the fact that the prime objective of implementing a sewerage project is to protect the environment and the ground by conveying the household sewage in a safe manner..

Keywords: public, social costs, impacts, sewerage pipe laying, local community

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ABRIVIATIONS

NWSDB – National Water Supply and Drainage Board

CEA – Central Environmental Authority

CGC – China Geo-Engineering Corporation

CMC – Colombo Municipal Council

BOQ – Bill of Quantities