

**DEVELOPMENT OF TRENCH SUPPORT SYSTEM
(CASE STUDY)**



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SYNOPSIS

The main objectives of this project paper is to determine the development of trench support system used in Malaysia. In this case study fully consideration has been emphasized on the type of trench support system traditional and the proprietary support system.

Two case studies has been conducted on site, that is in Subang Jaya and also in Sungai Way. These case studies illustrate further the system used, method of installation, the effectiveness of the system and how the selection of the system being made. The data obtained from this questionnaires were used to analyse the development of the trench support system in Malaysia.

This study has been based on available reviews from various institution, questionnaires result, on the site interviews with various experts in subject area and also from personal observation on site. From the survey, 45 questionnaires have been distributed to the public and out of this 18 samples has been received back from respondents.

The questionnaire covers class of contractor, type of construction, exposure of the system to the public, percentage used in construction work, system used, hire and purchase cost, number of workers involved, and their opinion on the support system used. Things to analysed are based on questionnaires distribute mainly to the construction company an their responds to the question have been evaluated in percentage.

1.0 INTRODUCTION

In the normal engineering sense, trenches have been excavated for many purposes that are related to Civil Engineering works. One of the purpose is to allow installation of underground services which is the main means of mass transportation in modern industrial states. These days, however, careful comparison with other method has to be made on the basis of economy ,efficiency and safety in view of the worsening work environment brought about by the urbanisation process.

When a trench is excavated, the sides relieved of the lateral support from the surrounding ground soon became unstable. Thus, the material above the natural angle of repose may partly or totally collapse at any time without warning. Therefore, in order to make safe, the trench should be battered to a suitable angle if sufficient space is available. Another way is by strutting from side to side against a formation.

The construction regulation stated that an excavation of a trench over a depth of 1.2 meter need to be supported unless the trench is in stable ground. The support of the trench can be of timber, steel or hydraulic systems which will be withdrawn during backfilling for further use. The sides of the trench are supported to prevent any failures by using either traditional trench support i.e. timbering or by using a proprietary support system.