

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The MASWM tests have been done at three different parts: middle, western and northern of Thailand in attempt to determine the shear wave velocity profiles of such soil conditions. The results are used to validate the original testing method by comparing with those from seismic downhole test, boring log report, and SCPT provided by a number of researchers.

The two shear wave velocity profiles are calculated from $\lambda/2$ and $\lambda/3$ approach for each location. Through data comparisons, $\lambda/3$ method gave the predictions that agree well with those acquired from downhole test, boring log, and SCPT. Also, V_s profiles of middle part of Thailand obtained from MASWM increase almost linearly with depths that agree well with Teachavorasinskun *et al.* (2004). MASWM offers smoother data transition along the depth for most of the sites comparing to other investigation techniques. This shows a good potential for future application of MASWM on subsoil in Thailand.

By observing the amplitude of the surface waves detected on the sixteen traces of geophone, we realized a good proportion of magnitude at TMD Kanchanaburi site which the location of impact source to the first geophone was assigned differently from the others, $x_1 = 8\text{m}$ with $D = 30\text{m}$. Thus, we would recommend for the next application the distance x_1 should be taken around 25 to 30% of the total spread length.

In addition, for the utilization of these types of geophone, the depth of investigation around 20m is suggested since the shear wave velocities within these depths are quite consistent with the ones from other sources

6.2 Recommendations

Although one of inversion process is found applicable for subsoil in Thailand, sophisticated inversion algorithms are recommended for a better accurate analysis.

The sensitivity of this method should be check by changing the position of the seismic source like common receiver midpoint array technique or varying the geophone spacing.

The error may be reduced the oscillated shear wave velocity profiles from downhole is smoothened by using moving average method.