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AGREEMENT CE 17/2016 (EP)

A STUDY ON CONSTRUCTION NOISE CONTROL IN HONG KONG – FEASIBILITY STUDY

EXECUTIVE SUMMARY

Report No.: 16296-16

December 2020

For

Environmental Protection Department
6/F Chinachem Tsuen Wan Plaza,
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1. INTRODUCTION

The Environmental Protection Department commissioned Wilson Acoustics Limited to conduct a feasibility study to look at:

- The noise concerns arising from construction activities at construction sites and renovation at domestic premises;
- Different quiet construction technologies and noise management practices; and
- Possible options in addressing the concerns.

2. THE CURRENT HONG KONG SITUATION

Hong Kong is having relatively comprehensive statutory provisions as well as non-statutory and administrative platforms and avenues to control and manage construction noise. The city is also enjoying a reasonable degree of success in tackling such issues. However, there are certainly rooms for enhancement and further improvement, in order to meet the rising public aspiration for a more tranquil environment.

3. ISSUES OF CONCERN

A large-scale territory-wide survey covering more than 5,000 households was successfully conducted to gather information on public response to different types of construction noise including noise from domestic renovation. Of those various sources of construction activities given to construction noise annoyance as perceived by members of the public, domestic renovation was considered by most people to have generated high annoyance when they were at home. Other sources that annoyed people but to a lesser extent include general site activities, percussive piling, road maintenance, demolition and building addition & alteration.

It is clear from this study that further improvements are needed to address domestic renovation noise as a priority and other particularly intrusive construction noise. Equipment or tools which are operated with an impact or percussive type of working mechanism are common sources of noise intrusiveness that lead to high annoyance.

4. FINDINGS OF THE STUDY

While the finding of the ***public survey*** has given insight on the noise annoyance issues associated with domestic renovation and general construction, the following key aspects were also unearthed from different information collection exercises:

From ***international experience***

General construction – Early planning on general construction noise control through the preparation of Construction Noise Management Plans, or similar, before works commencement, so that noise problems could be identified in advance, with the best practicable noise mitigation measurements recommended.

Domestic renovation – Adopting a neighbourhood or community approach via liaison and communication rather than pre-set technical criteria to cater for fluid or evolving situations, so that mutually agreed house rules could be made to minimize dispute and disturbance among neighbours.

From review of ***quiet technologies***

Technologies and equipment are continuously evolving and improving, to meet specific engineering applications and site conditions. There are quieter choices or alternatives, which appear to have useful local applications here in Hong Kong, for both domestic renovation and general construction. These quieter methods are usually designed with a non-percussive mode of operation that make them quieter than conventional percussive machines.

From engagement with ***relevant stakeholders***

Construction sector –

- An early focus on construction noise at the outset of a project or before work commencement is supported;
- There is an expectation of the Government is to take lead in implementing additional noise control and management measures in public projects;
- Contractors have no insurmountable technical difficulties in adopting quieter technologies, provided that those technologies are priced for during the tender stage;
- Maintaining a level playing field is important.

Property management sector –

- A community approach through advance notification / planning to have appropriate focus on domestic renovation noise is supported;
- The idea of empowering property management agents via technical and administrative means is welcome to better tackle renovation noise.

The above findings of this study has enabled many options be generated for different categories of construction work, to address both noise concerns and concerns from various stakeholders. Those options are technologically based, with reference from proven applications.

5. RECOMMENDATIONS

The key recommendations are:

General Construction

To initiate and better capture the benefits of early planning, the promotion of Construction Noise Management Plans, or similar, is to be made to the construction sector, and where opportunities arise, such Construction Noise Management Plans could be implemented as a leading phase in government and quasi-government projects.

Domestic Renovation

To empower the property management agents and enhance their capability in both the technical and administrative arenas via the provision of practical guidelines and training.

To actualize these key recommendations, the following implementation program is proposed for the Government to consider:

General Construction

Short term –

- Promote and enhance the concept of Construction Noise Management Plans to the construction sector;
- Recruit project proponents such as the Urban Renewal Authority and MTR Corporation to introduce Construction Noise Management Plans in their projects;
- Collaborate with industry stakeholders to further promote good site practices and quiet technologies;
- Liaise with relevant government departments and stakeholders on the possibility and practicality of providing sample contract specification clauses and checklists, etc. for facilitating the implementation of noise management measures.

Medium term –

- Explore incentive schemes to quicken the introduction of quieter construction machineries;
- Review if quiet technologies and measures could be effectively explored in the Environmental Impact Assessment process and other planning mechanisms;
- Review how new and quiet site practices could be adopted for tackling intrusively noisy activities in night-time and restricted hours.

Longer term –

- Monitoring the effectiveness of adopting quiet construction technologies in Hong Kong;
- Explore the opportunity of expanding the list of Quality Powered Mechanical Equipment (QPME) in the current QPME system.

Domestic renovation

Short term –

- Collaborate with the property management profession via workshops or training to enhance their role in tackling domestic renovation issues more effectively;
- Provide draft guidelines to the property management profession for developing or enriching applicable house rules for addressing renovation noise issues.

Medium term –

- Explore incentive schemes to quicken the introduction and wider application of quieter tools;
- Collaborate with training bodies in devising occupational programmes for the renovation trade on the skills and knowledge related to quieter tools and alternatives.

Longer term –

- Monitor the effectiveness of the much wider adoption of quiet renovation practices.

6. CONCLUSION

Noise disturbance associated with construction and renovation activities is part of the urban living fabrics. Hong Kong is a vibrant major metropolis and is among the front runners worldwide in controlling and managing construction noise. However, some residents here are still being affected by such noise. Attention is warranted from a strategic perspective to prevent high annoyance from intrusive construction or renovation activities. The general population aspires for a better environment. The situation could take a change for the better via the implementation of a range of measures by adoption of the quietest practicable technologies, good management practices, and continuous promotion of the knowledge and skills in quiet construction. With determination and strategy, the government and relevant stakeholders could foster a more tranquil Hong Kong.