



ENVIRONMENTAL IMPACT ASSESSMENT

Executive Summary

**Hong Kong Cement/Concrete Batching Plant
and
Material Storage Facilities
at
North-West Tsing Yi Island**

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Reference : R689/0895

Prepared by : EHS Consultants Limited

Date : August 1995

1. INTRODUCTION

1.1 Background

The existing cement depots and concrete batching plant next to Greenfield Garden at TYTL 124, Tsing Yi Island will be relocated to North -West of Tsing Yi Island at TYTL 119 (Figure 1). The proposed site will have an area of 9,000.0m² and will accommodate four cement works (Figure 2) namely: Hong Kong Cement Manufacturing Co. Limited, Pioneer Concrete (HK) Limited, Quon Hing Concrete Co. Limited and Shun Shing Fat Limited.

After the relocation, the best practicable means of dust mitigation measures will be incorporated into all the dust-generating processes of the plants such that the environmental nuisance due to the cement works will be reduced down to as minimal as possible and dust emission level will be within acceptable level as stipulated in Hong Kong. In order to demonstrate that the proposed cement works will not generate any adverse environmental impacts upon any sensitive receivers in the vicinity during construction and operational phase of the plants, the cement works has commissioned EHS Consultants Limited (EHS) to conduct an Environmental Impact Assessment (EIA).

2. SUMMARY AND CONCLUSION OF ENVIRONMENTAL IMPACTS

2.1 Construction Phase Impacts

- At the moment of writing of this EIA report, most major dust-generating construction activities has been completed. On-going construction works will involve only steelworks and electrical and mechanical installations, which will not create any environmental nuisance to the public.

2.2 Operational Phase Impacts

2.2.1 Machinery Noise Impacts

- In the assessment, different operational scenarios of the cement works have been assumed and modelled by a conservative approach. Mitigation measures in form of noise barriers and enclosures have been recommended and aimed at reducing the noise level impact. After implementation of the mitigation measures on-site, total compliance with noise standards shall be achieved.

2.2.2 Traffic Noise Impacts

- Traffic noise along the Tam Kon Shan Road, Tam Kon Shan Interchange and the Tsing Tsuen Road with and without the proposed cement works has been assessed. Three scenarios have been modelled which are as follows:
 - ⇒ Base case scenario 1994 before the relocation of the cement works
 - ⇒ Scenario at 1995 before the commissioning of the cement works
 - ⇒ Scenario at 1995 for the cumulative noise effect after the commissioning of the cement works

- The general exceedance in the noise level above the recommended standard of 70dB(A) was predicted even without the cement works as the noise sensitive receivers are already very close to the major roads. The predicted noise level at various NSRs will only marginal increased by at most 1.5dB(A) after the commissioning of the cement works. Such minimal increment is not easily noticed by human being.

2.2.3 Water Quality Impact

- Service water generated from operational processes will be recycled and reused. The discharge of service water into foul sewer will be minimal. Sufficient number of toilets will be installed on site, all of them will be connected to government foul sewers.

2.2.4 Vehicular Emission Impacts

- Emission from the plants related vehicles during the operational phase has been assessed by computer modelling and compared with the baseline scenario. The assessment concluded that such emissions will be within acceptable level as stipulated in the Air Quality Objectives.

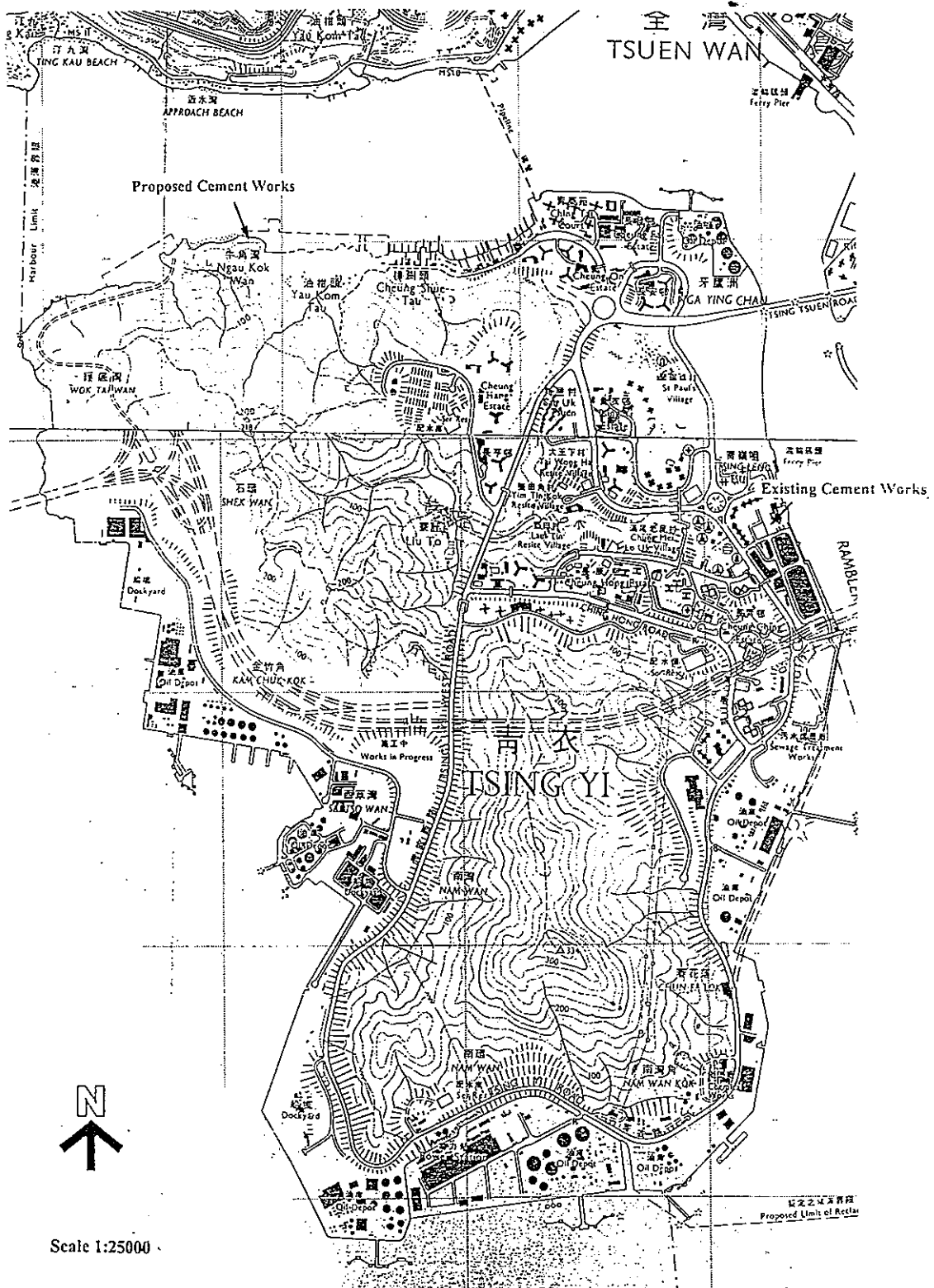
2.2.5 Dust Emission Impacts


- Dust emission from various operational processes of the cement works has been considered as key issue of the EIA study. With the incorporation of best practicable means of dust control measures and good housekeeping, computer modelling predicted that dust emitted from the cement works will be within acceptable level and will not create any environmental nuisance to the nearby sensitive receivers.
- The best practicable means of dust control measures were formulated with referenced to the guidelines issued by the EPD. Additional mitigation measures have been recommended to the plant operators at site specific locations where fugitive dust emission is expected to be serious.
- The best practicable means of dust control measures will be implemented at the cement works include but not limited to the following approaches:
 - ⇒ Dust laden-air generated by dusty processes shall be fully extracted and vented to dust collectors to meet the particulate emission limited of 50mg/m³.
 - ⇒ All cement silos shall be fitted with audible high level alarm to give early warning of over-filling. The alarm indicator shall be interlocked with the cement filling line such that when the alarm is activated, the cement filling line will be closed within a short time.
 - ⇒ Loading out of cement into bulk cement trucks shall be carried out in a structure enclosed on top and all sides with rigid boards down to ground level. The entrance opening and exit point of the enclosed structure shall be provided with flexible curtains.
 - ⇒ Double-walled retractable loading head with air extraction between the walls shall be installed and used to load cement into bulk cement tankers.
 - ⇒ Dust generating processes shall be totally enclosed as far as possible by creating an enclosed structure to house the processes.

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- ⇒ There will not be any open storage of raw materials on site. All aggregates will be stored in totally enclosed storage bin.
 - ⇒ Conveyor systems for material handling shall be enclosed on top and 2 sides by metal sheets with a metal board at the bottom to eliminate any dust emission due to wind-whipping effect.
 - ⇒ Loading of cement and aggregates weigh hoppers will be operated in a totally enclosed system. Dust generated from the processes will be extracted and vented to dust collectors to meet the particulate emission standard of $50\text{mg}/\text{m}^3$.
 - ⇒ Sufficient dust suppression system in terms of water sprinklers and water hoses shall be installed throughout the cement works.
 - ⇒ A high standard of housekeeping shall be maintain to prevent emission of fugitive dust emission from its plant operation. And a series of dust monitoring exercise will be carried out by the plant operators to oversee the effectiveness of the dust control measures.
 - ⇒ All spillage or deposits of dusty materials on the plant facilities shall be cleaned up as soon as practicable. The material shall be handled properly to prevent fugitive dust emission. The dusty waste shall be vacuum cleaned or conditioned for dust suppression immediately once generated.

3. CONCLUSION

An Environmental Impact Assessment for four cement works has been conducted. This study concluded that with the incorporation of the best practicable means of duct control measures and effective housekeeping, the level of dust emission from the four specified processes will be within acceptable level and will not create an environmental nuisance to the public. Through the teams and conditions of the specified processes licence, the operation of the cement works will be under the tight supervision of the Authority.



TITLE : Location of the Proposed Cement Works at TYTL 119, Tsing Yi Island, N.T.		 EHS Consultants Limited
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Figure : 1	Scale : ---	

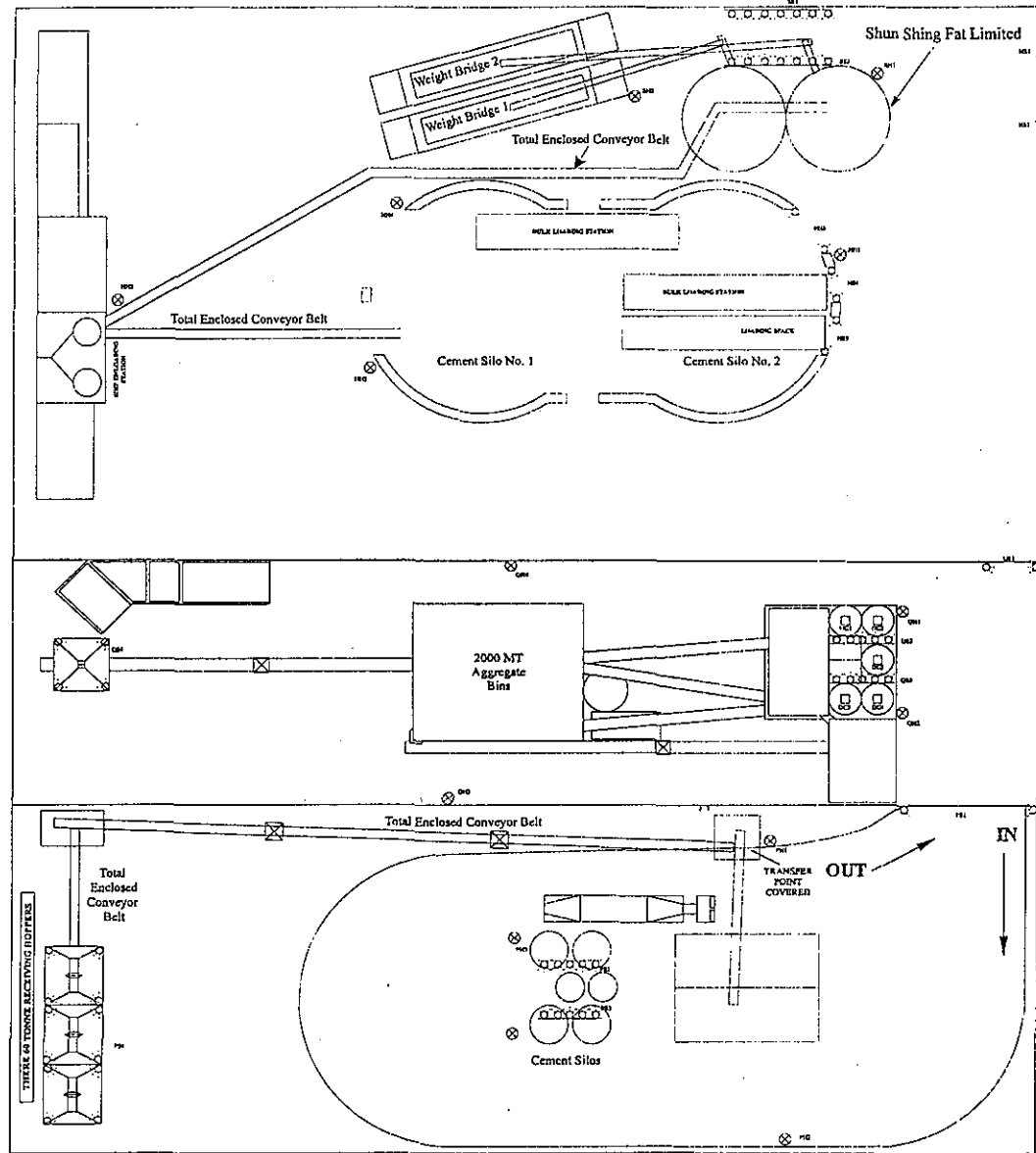


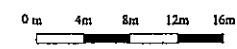
Figure : 2

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Hong Kong Cement Mfg. Co. Limited

Quon Hing Concrete (HK) Limited

Pioneer Concrete (HK) Limited



TITLE : Block Layout Plan of the Proposed Cement Works at TYTL 119, Tsing Yi Island, N.T.

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