

Demolition of Kwai Chung Incineration Plant - Project Profile

DEMOLITION OF KWAI CHUNG INCINERATION PLANT PROJECT PROFILE

1. Basic Information

1.1 Project Title

Demolition of Kwai Chung Incineration Plant (KCIP)

1.2 Purpose and Nature of the Project

This project is to demolish all the buildings and structures including a 150m high chimney, and to clear the land within KCIP. Where any land contamination is identified, the land will be decontaminated as appropriate.

1.3 Name of Project Proponent

Project Management Branch, Civil Engineering Office, Civil Engineering Department

1.4 Location of Project

The KCIP is located at the Kwai Yue Road, Kwai Chung, facing the Rambler Channel and Tsing Yi South Bridge, with a site area of about 14,000 square metres. It was put into service as a municipal solid waste incinerator in 1978 and ceased operation in May 1997.

Drawing No. PMB 55 showing the location and site layout of KCIP is attached.

1.5 Types of designated project involved

According to Part II of Schedule 2 of EIA Ordinance the decommissioning of the municipal waste incinerators at the KCIP is a designated project.

1.6 Name and Telephone Number of Contact Persons

1.7 Estimated Cost

The estimated cost of the project is \$94M at December 1997 prices.

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2. Outline of Planning and Implementation Programme

2.1 It is intended to engage consultants to implement this project.

2.2 The following tentative programme has been formulated for implementation:-

Task No.	Task Name	Start Date	End Date	Duration (month)
1	Design Phase	Nov 99	Apr 00	6
2	Tender Phase	May 00	Aug 00	4
3	Construction Phase	Sep 00	Dec 01	16
Total				26

2.3 Interactions with Other Projects

A Public Filling Barging Point (PFBP), located on the reclaimed land to the north of the KCIP, is planned to operate in early 2002. Construction of the PFBP is scheduled to commence in early 2001 for completion in the end of 2001.

3. Possible Impact on the Environment

3.1 Outline Process Involved

The site is currently assigned as a "G/IC" zone. There is no identified long term use of the area after the demolition. However, the future land use is unlikely to be residential given the proximity of the site to the landfill and the Tsing Yi South Bridge.

The KCIP, which includes the Main Plant Building, a two-storey administration/store building and a chimney, is mainly of reinforced concrete construction. All electrical and mechanical installations and equipment within the Plant have already been removed.

The demolition works are expected to be carried out by conventional method using mechanical breakers and jackhammers. However, alternative methods of demolition, including explosive techniques, will be further investigated in the design phase. Any asbestos-containing materials present in the structures and chimney should be removed before the demolition.

3.2 Description of Environmental Impacts

3.2.1 Gaseous Emissions

The KCIP site is situated close to the former Gin Drinkers Bay Landfill which is known to have release of landfill gas. Site investigation will be carried out in the EIA study stage to identify the degree and extent of landfill gas emission.

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3.2.2 Dust

The principal air quality impact from the demolition works is dust.

According to a previous investigation, asbestos containing-materials are present in the superstructures and in the chimney.

3.2.3 Odour

Nil.

3.2.4 Noisy Operations

Potential noise impact may arise from the demolition of the incineration plant.

3.2.5 Night-time Operations

Nil.

3.2.6 Traffic Generation

It is expected that the uncontaminated building debris arising from the demolition of the KCIP will be disposed of to public filling areas, or public filling barging points by trucks. Contaminated materials, if any, will be disposed of to landfill sites. However, the impact of the traffic generated is considered to be minimal due to the relative long construction period of the project.

3.2.7 Liquid Effluents, Discharge, or Contaminated Runoff

Soil and waste materials will be generated from the construction activities. Mitigation measures to prevent ingress of wastes and contaminated runoff into the sea or public stormwater drainage system should be implemented to minimise impacts.

3.2.8 Generation of Wastes or By-products

A very large quantity of building debris will be generated from the demolition works.

3.2.9 Hazardous Materials or Wastes

No dangerous goods will be involved in this project.

An asbestos investigation will be undertaken and any asbestos abatement work will be completed before demolition.

The land within the site may have been polluted by hazardous substances as a result of the operation as the municipal incineration plant on the site for two decades. Furthermore, the site is also located close to the Gin Drinkers Bay Landfill, and therefore may be impacted by migrating contaminants in leachate generated at the

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landfill site, as well as by migrating landfill gas. Site investigation will be carried out in the EIA study stage to identify the degree and extent of land contamination.

This project will also include the carrying out of appropriate remediation measures for the contaminated land within the site. The necessary remediation measures will be formulated in a detailed Contamination Assessment Report, which will form part of the overall Environmental Impact Assessment for this project, to be agreed by EPD.

3.2.10 Risk of Accident which would result in Pollution Hazard

Nil.

3.2.11 Disposal of Spoil Material, including Potentially Contaminated Material

Building debris generated from the demolition works and contaminated soil arising from any land remediation.

3.2.12 Disruption of Water Movement or Bottom Sediment

Nil.

3.2.13 Unightly Visual Appearance

The completion of this project will end up with the complete removal of the visual image of all existing buildings, structures and chimney within the site, leaving the site at original ground level.

3.2.14 Ecological Impacts

There are some trees within the site. DLO/KT tends to have all vegetation cleared to enable effective use of the site in the future. A tree survey should be prepared as part of the tree felling application to be submitted to the relevant authorities for approval in accordance with WBTC No. 24/94.

The impact on the ecology is considered minimal in view of the small scale of the project.

4. Major Elements of the Surrounding Environment

4.1 Outline Existing and Planned Sensitive Receivers

The existing sensitive receivers in the area include the following:-

<u>Development</u>	<u>Distance from nearest site boundary (m)</u>
Cheung Tsing Estate, Tsing Yi	600
Greenfield Garden, Tsing Yi	1,800
Rivera Garden, Tsuen Wan	3,300

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4.2 Major Existing and/or Relevant Past Land Uses

- Kwai Chung Park (former Gin Drinkers Bay Landfill)
- Kwai Chung Sewage Treatment
- Rambler Channel Public Cargo Handling Area
- Rambler Channel Typhoon Shelter
- Kwai Chung Container Terminals
- Route 3 Viaduct
- Tsing Yi South Bridge
- Tsuen Wan Cemetery

4.2.1 The regional setting is dense urban development, dominated by residential and industrial areas of Kwai Chung, Tsuen Wan and Tsing Yi Island.

4.2.2 In the past, environmental conditions in the area were generally poor because of the transport links, the Kwai Chung Incineration plant, and the poor quality industrial sources. The environmental conditions should have been greatly improved because of the decommissioning of the Incineration Plant.

5. Environmental Protection Measures to be Incorporated in the Design and any Further Environmental Implications

5.1 Noise

The noise level of construction activities could be controlled by regulating the issue of construction noise permit. For non-restricted hours, the daytime construction noise criteria stipulated in ProPECC PN 2/93 "Noise from Construction Activities - Non-statutory Controls" will be adopted.

The demolition works are expected to be carried out by conventional method using mechanical breakers and jackhammers. In view of the large distance between the site and the nearest noise sensitive receiver at Cheung Tsing Estate, it is unlikely that noise from the demolition works would be a concern. A construction noise impact assessment is therefore considered not necessary.

5.2 Land Contamination

Experienced environmental consultants will be engaged to carry out contamination assessment which will comprise the following procedures:

- Site inspection and review of available background information - to provide a clear and detailed account of the relevant past land use and land history in relation to possible land contamination.
- Pre-demolition survey - to examine the areas/conditions within the site for the presence of materials requiring special handling/removal prior to, or during

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demolition. The primary focus is to identify, classify and quantify (estimate) remaining liquid and solid hazardous waste materials.

- Site investigation and analysis - to collect soil samples by means of boreholes and/or trial pits, and to collect groundwater samples by means of groundwater monitoring wells. The samples should then be analysed for chemical parameters indicative of contamination. The methodology should be in general accordance with ProPECC PN 3/94 "Contaminated Land Assessment and Remediation".
- Development of Land Remediation Plan - to develop options for remediation, if required, to mitigate the impacts of soil and groundwater contamination. The remediation plan should provide methodology, contaminated soil and groundwater volumes, detailed drawing and recommended specification. The remediation plan should be developed in consultation with relevant agencies and submitted to EPD for agreement.

There should not be any significant residual impacts due to land contamination after the implementation of the remediation measures.

5.3 Dust

During the construction of the project, with necessary dust suppression measures, significant dust impacts are not expected.

5.4 Solid Waste Management

Waste management in the way of avoiding, minimising, reusing and recycling should be adopted to reduce waste generation.

During the construction stage, different types of waste would be separated, handled and removed properly so as to minimise the impacts. On site sorting of demolition debris will be carried out in accordance with WBTC No. 5/98.

The removal and disposal of the contaminated wastes are covered by the Land Remediation Plan. No significant impact is expected in this regard.

5.5 Water Quality

By implementing the Land Remediation Plan, with adequate construction site drainage according to good practices outlined in ProPECC PN 1/94 "Construction Site Drainage", the contaminated runoff and surface runoff could be controlled satisfactorily without adverse impact during construction.

Due to possible impacted by migrating leachate contamination, a landfill leachate impact assessment should be carried out in the study.

If barge operation is involved in the transportation of materials, mitigation measures to prevent discharge of waste materials and water into the sea should be implemented.

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5.6 Landfill Gas

Safety measures with reference to landfill gas hazards during site investigation and the actual demolition works should be carried out in view of the close proximity of the site to the Gin Drinkers Bay Landfill.

5.7 Visual Impacts

This demolition project will not produce significant visual impacts.

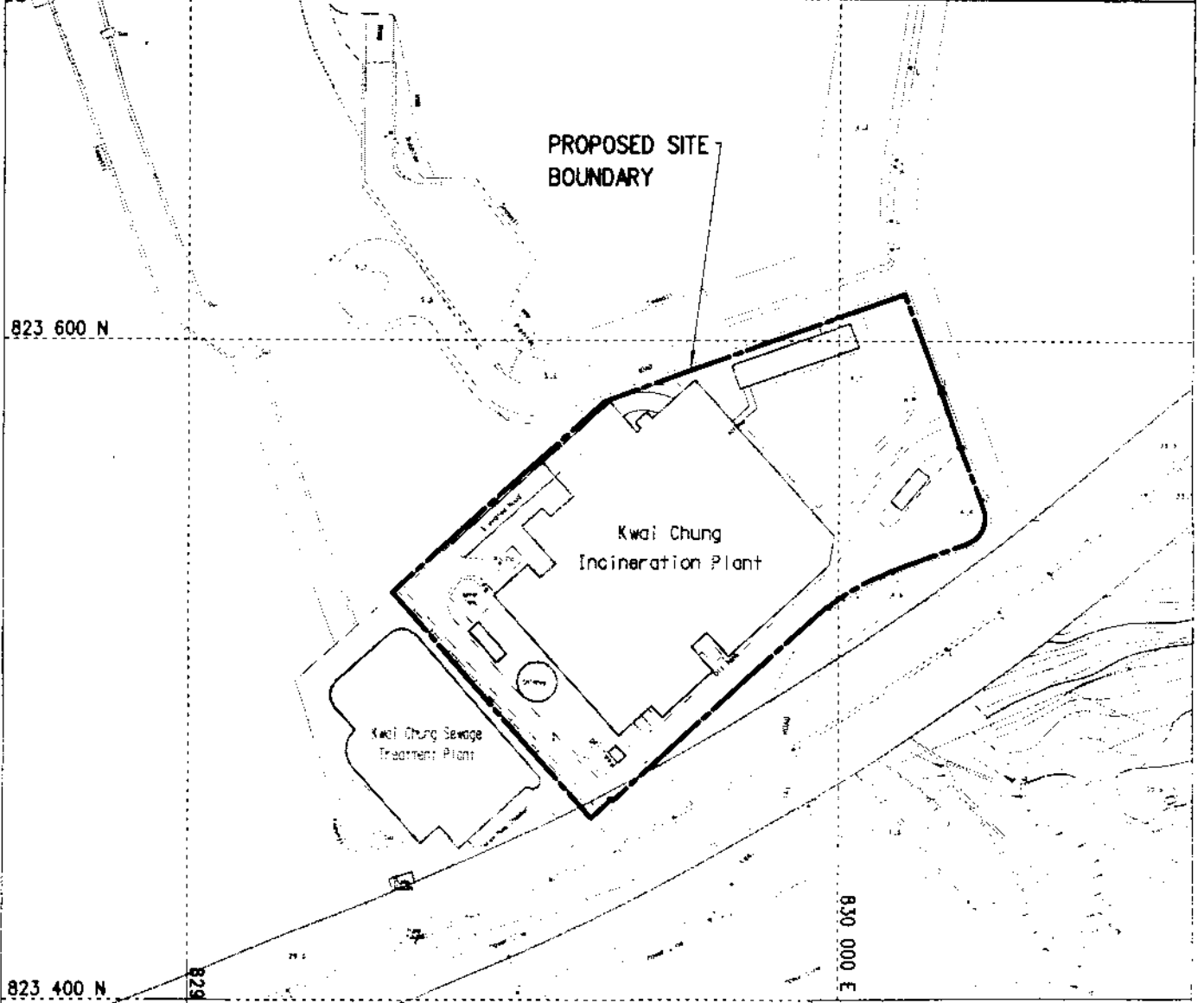
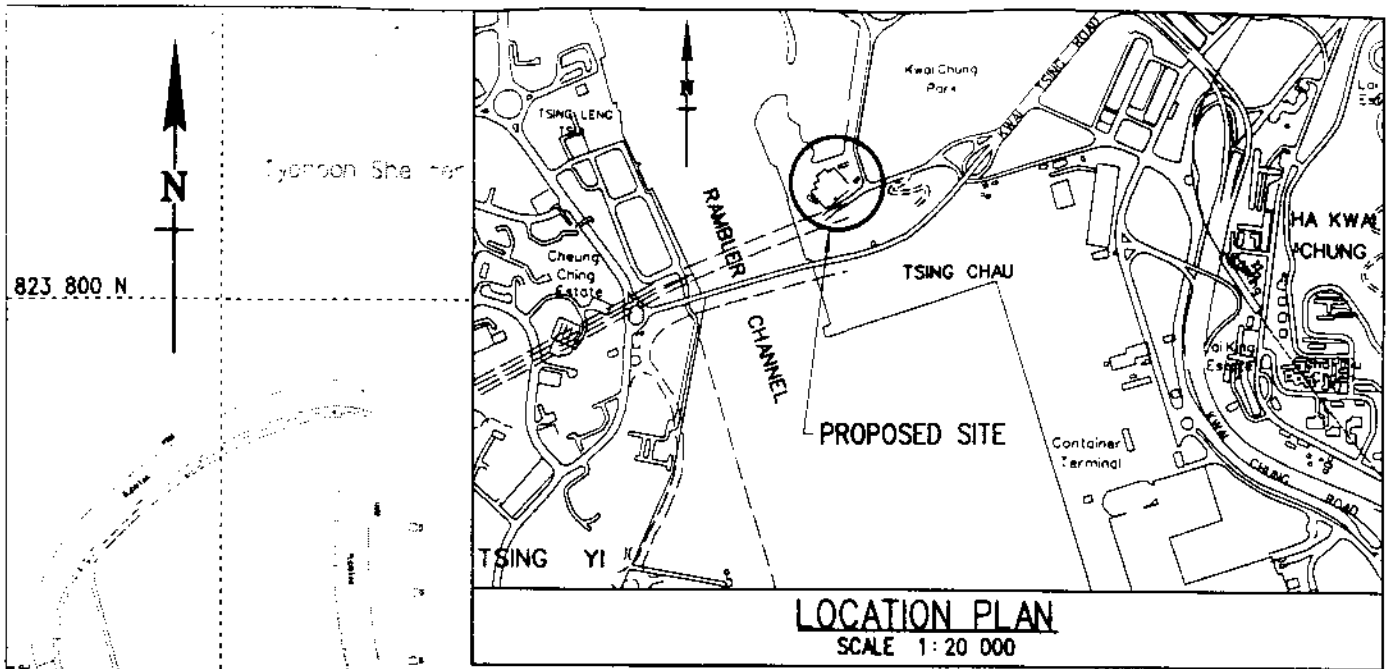
5.8 Ecological Impacts


In view of the small scale of the development, no mitigation measures are considered necessary.

6. Use of Previously Approved EIA Reports

Nil.

*** END ***



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DEMOLITION OF KWAI CHUNG INCINERATION PLANT - SITE LAYOUT PLAN	designed	name	initial	date	drawing no. PMB 55		scale 1:2 000 OR AS SHOWN	
	drawn	W.S. WU	<i>W.S. Wu</i>	19.10.98				
	checked	K.H. TONG	<i>KHT</i>	20.10.98				
	approved	W.S. WU	<i>W.S. Wu</i>	21.10.98				
	office	D. BLOOMFIELD	<i>Dr.</i>	21.10.98				
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