

**PWP Item 4205DS**  
**Aberdeen, Ap Lei Chau and Pok Fu Lam Sewerage -- Stage 2**

**Project Profile**

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## **1. Basic Information**

### **1.1 *Project title***

Aberdeen, Ap Lei Chau and Pok Fu Lam Sewerage -- Stage 2.

### **1.2 *Purpose and nature of the project***

This project is part of the sewerage improvement works recommended in “Aberdeen, Ap Lei Chau and Pok Fu Lam Sewerage Master Plan” by the Environmental Protection Department in June 1995. The study identified deficiencies in the existing sewerage systems in Aberdeen, Ap Lei Chau and Pok Fu Lam and recommended improvement measures to the systems. The key elements of the project are:

- (a) to construct new sewers in Mount Gough, Mount Cameron and Aberdeen Reservoir Road with two associated small pumping stations and rising mains in Mount Cameron for the replacement of the existing sewer within the water gathering ground;
- (b) to upgrade the sewers in Mount Gough and Mount Kellett;
- (c) to upgrade the sewer along Nam Long Shan Road;
- (d) to upgrade the sewers and pumping facility in Shum Wan Road; and
- (e) to conduct survey and to rectify the expedient connection in Aberdeen, Ap Lei Chau and Pok Fu Lam as well as minor sewerage improvement works in these areas.

The proposed works are described in Section 1.4 below. The details of the proposed works, such as the sewer alignments and the location of the pumping stations, are subject to modifications at the design stage.

### **1.3 *Name of project proponent***

Project Management Division, Drainage Services Department

### **1.4 *Location and scale of project and history of site***

The proposed works under the project are shown on the layout plan numbered DPM/205DS/0005A appended herewith. The proposed sewers and rising mains range from 225 mm to around 750 mm in diameter. The capacities of the two pumping stations, in terms of average dry weather flows, are of the following orders:

Mount Cameron sewage pumping station no. 1	less than 2,000 m <sup>3</sup> /day
Mount Cameron sewage pumping station no. 2	less than 2,000 m <sup>3</sup> /day

The project is divided into the following 5 works items and annotated accordingly on drawing DPM/205DS/0005A.

<i>Works Item</i>	<i>Details</i>
<b>S1</b>	Sewers in Mount Gough, Mount Cameron and Aberdeen Reservoir Road with two associated small pumping stations and rising mains in Mount Cameron
<b>S2</b>	Sewers in Mount Kellett
<b>S3</b>	Sewers along Nam Long Shan Road
<b>S4</b>	Sewers and pumping facility in Shum Wan Road
<b>S5</b>	Conduct survey and rectify the expedient connection in Aberdeen, Ap Lei Chau and Pok Fu Lam as well as minor sewerage improvement works in these areas

### **1.5 Number and type of designated project**

According to the EIA Ordinance, works items **S1 and S2** are Designated Project and are classified as Type Q1 under Schedule 2 of the Ordinance. Other works items, namely **S3, S4 and S5** are non-Designated Projects.

### **1.6 Contact person**

## **2. Outline of Planning and Implementation Programme**

**2.1** Design and construction supervision of the project will be carried out by Consultants employed by Drainage Services Department. Construction will be contracted out. Operation and maintenance of the completed works will be taken up respectively by the Hong Kong and Islands Division and the Sewage Treatment Division 2 of Drainage Services Department.

**2.2** Employment of consultant for EIA study and detailed design is scheduled to start in early 2002. Construction of the works will be undertaken through a number of contracts scheduled to commence in early 2004 for completion in mid 2006. Some parts of the works, particularly those under works item **S1**, have interface with the proposed works under Landslip Preventive Measures in Mount Cameron and Mount Gough. Works under item **S5** have interface with the Redevelopment of Shek Pai Wan Estate, the proposed secondary school at the junction of Peel Rise and Aberdeen Reservoir Road.

**2.3** The project will serve the existing developments and proposed developments areas. The local trunk sewer and pumping facilities within these areas are being constructed under the Stage 1 of the project.

## **3. Possible Impacts on the Environment**

In EPD's "Aberdeen, Ap Lei Chau and Pok Fu Lam Sewerage Master Plan Study", an Environmental Review of the proposed works has been carried out to identify possible impacts to the environment.

### **3.1 During construction stage**

(a) Air quality

Dust may be generated from some construction activities, mainly earthworks such as excavation. Gaseous emissions will also arise from construction plant. As tabulated in Section 4.1 below, some of the construction activities will be located close to the residences and community facilities.

(b) Noise

The construction activities will generate some noise through the use of conventional construction plant and equipment, like air compressors and jack hammers.

(c) Water quality

Run-off from the construction sites, particularly for the works along drainage channels, may contain sediments and silts arising from earthworks, trench dewatering and stockpiled materials, as well as fuel, oil and lubricants from construction vehicles and plant.

(d) Traffic

Construction of the proposed trunk sewers and rising mains along roads will have impacts on traffic. Also, construction-related vehicles will add to the traffic volume.

(e) Solid Waste

Waste generated will comprise excavated materials, construction and demolition waste and general refuse.

(f) Ecology

Construction disturbance and impact to nearby habitats may arise from dust, noise, intrusive lighting and tree felling, particularly within Aberdeen and Pok Fu Lam Country Parks.

(g) Visual impacts

The presence of construction equipment and stockpiled materials in works sites may be a source of visual impacts if located close to sensitive receivers.

(h) Cumulative effects

As the project programme will overlap with those of some other major projects as mentioned in Section 2.2, there is a potential for magnification of the environmental impacts owing to cumulative effects at the locations of project interface.

### 3.2 *During operation stage*

(a) Air quality

Odour emission from the wet wells of the proposed pumping stations can be a source of air quality impact. The potential for odour impacts is higher where the sewage retention time in rising mains is long, particularly in the summer months.

(b) Water quality

The long-term water quality of the project area will be greatly enhanced as a result of the collection, treatment and proper disposal of sewage after the project is commissioned. Nevertheless, there are risks associated with the failure of pumping houses or the blockage or damage to a rising main, in which case bypass of sewage to the environment and the water gathering ground may result.

(c) Noise

The pumps at the pumping stations are potential noise sources during operation of the project.

(d) Ecology

In case of sewage being bypassed to watercourses, the habitats in the watercourse may be affected within Aberdeen and Pok Fu Lam Country Parks.

(e) Visual impacts

Aesthetics is an important factor to be considered in the design of the superstructures of the upgraded pumping station in Shum Wan Road and the proposed pumping stations in Mount Cameron.

(f) Solid Waste

Large-aperture screens will be installed at the pumping stations to prevent the large solid materials in sewage from entering the pumps and causing damage. A small quantity of screenings will thus be generated.

## 4. Major Elements of the Surrounding Environment

4.1 The project covers an extensive area divided into zones for various uses including residential, industrial, commercial and Country Park areas. The proposed sewers will mainly route through Aberdeen Reservoir Road, some footpath and other public roads. The sensitive receivers in the vicinity of the proposed works items are tabulated below.

<i>Works item</i>	<i>Details of works</i>	<i>Sensitive receivers nearby</i>	<i>Approximate minimum distance apart (m)</i>
<b>S1</b> (Note 1)	Sewers in Mount Gough, Mount Cameron and Aberdeen Reservoir Road with two associated small pumping stations and rising mains in Mount Cameron	Residences along both sides of the proposed sewers Aberdeen Country Park Water Gathering Ground for Aberdeen Reservoir	10 - -
<b>S2</b> (Note 1)	Sewers in Mount Kellett	Matilda Hospital Residences along both sides of the proposed sewers Aberdeen & Pokfulam Country Parks Water Gathering Ground for Aberdeen & Pokfulam Reservoir	20 20 - -
<b>S3</b>	Sewers along Nam Long Shan Road	Hong Kong Juvenile Centre Canadian International School David Trench Home for the Aged Nam Long Hospital Singapore International School Shue Yan Secondary School Wong Chuk Hang Estate	10 20 5 50 5 10 50
<b>S4</b>	Sewers and pumping facility in Shum Wan Road	Nam Long Hospital New housing estate Canadian International School	70 10 100

<b>S5</b>	Sewers along Aberdeen Reservoir Road	Pui Tak Canossian Coll Aberdeen Baptist Church Aberdeen Jockey Club Clinic Tin Hau Temple	10 5 10 5
	Sewers in Tin Wan	Home for the aged (near Aberdeen Praya Road)	10
	Expedient connection and minor sewerage improvement works in Aberdeen, Ap Lei Chau and Pok Fu Lam	Residences, schools, shops, etc. within the districts	5

\* Note 1: Works items **S1 and S2** are Designated Project and are classified as Type Q1 under Schedule 2 of EIAO.

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

### 5.1 During construction stage

(a) Air quality

Air quality impacts, mainly dust, generated by the construction activities will be minimized by the adoption of proper working methods such as regular water spraying, installation of wheel-washing facilities where practical, and shielding of stockpiled materials. Relevant clauses will be incorporated into the contract documents to this end.

(b) Noise

The contractors for the works will have to comply with the provisions of the Noise Control Ordinance. Although some of the construction activities will be undertaken in close vicinity to the residences and commercial areas, the activities are generally of short durations only. Where the works are located close to a school, the works may be scheduled where necessary to avoid sensitive periods like examination time.

(c) Water quality

Close control, such as the requirement to install settlement tanks to remove sand and silt, will be exercised on the quality of effluent from the construction sites to ensure its compliance with the Water Pollution Control Ordinance and the conditions of Water Supplies Department for works carried out within water gathering ground.

(d) Traffic

Where works are carried out on roads, temporary traffic arrangement measures will be undertaken to maintain traffic flow and minimize traffic impacts. Sewers falling within proposed roadworks areas would be undertaken in conjunction with the roadworks through entrustment arrangements where possible and appropriate.

(e) Solid Waste

Different categories of wastes should be segregated, disposed off separately and taken to a designated disposal site in accordance with EPD's required procedures. The re-use of solid waste generated from the excavation sewers and pumping station should be investigated. It may be possible to use part of the solid waste for the site formation and the rest could be used for other projects as fill material.

(f) Ecology

The routing of the proposed sewers will be selected along the existing road as far as possible. Selective tree felling, transplanting and restoration of disturbed areas will be adopted whenever necessary. Pollution control measures will be undertaken to alleviate the ecological impacts arising from dust and noise generated by the construction activities.

(g) Visual impacts

At most parts of the works site, visual impacts from construction activities will be of very short durations. Proper control over site cleanliness and the stockpiling of materials will be exercised to alleviate visual intrusion.

## 5.2 *During operation stage*

(a) Air quality

Enclosure of the pollutant source with appropriate odour control measures will be implemented for the proposed pumping stations to minimize the air quality impacts arising. Further mitigation measures to reduce the possibility of sewage septicity caused by long retention time in wet wells and rising mains may also be necessary in some of the proposed works.

(b) Water quality

To minimize water quality impacts arising from the bypass of sewage, standby pumps and dual rising mains will be provided to cater for periods of equipment breakdown and maintenance. Backup power supply in the form of a ring supply or emergency generators will be provided as far as practicable to reduce the risk of power failure. Due consideration will be given to the presence of sensitive receivers when determining the location of the emergency bypass outlets.

(c) Noise

To minimize any noise impacts generated from pump operation, all pumps will be enclosed in structures and, for the smaller pumping stations, located underground in the wet well. Extraction fans will be located away from the sensitive receivers as far as practicable. Acoustic enclosure will be provided if necessary.

(d) Ecology

The water quality impact mitigation measures to be implemented to reduce the need for sewage bypass will also alleviate the potential of ecological impacts.

(e) Visual impacts

Architectural features and landscaping works will be provided to the superstructures of the proposed pumping stations.

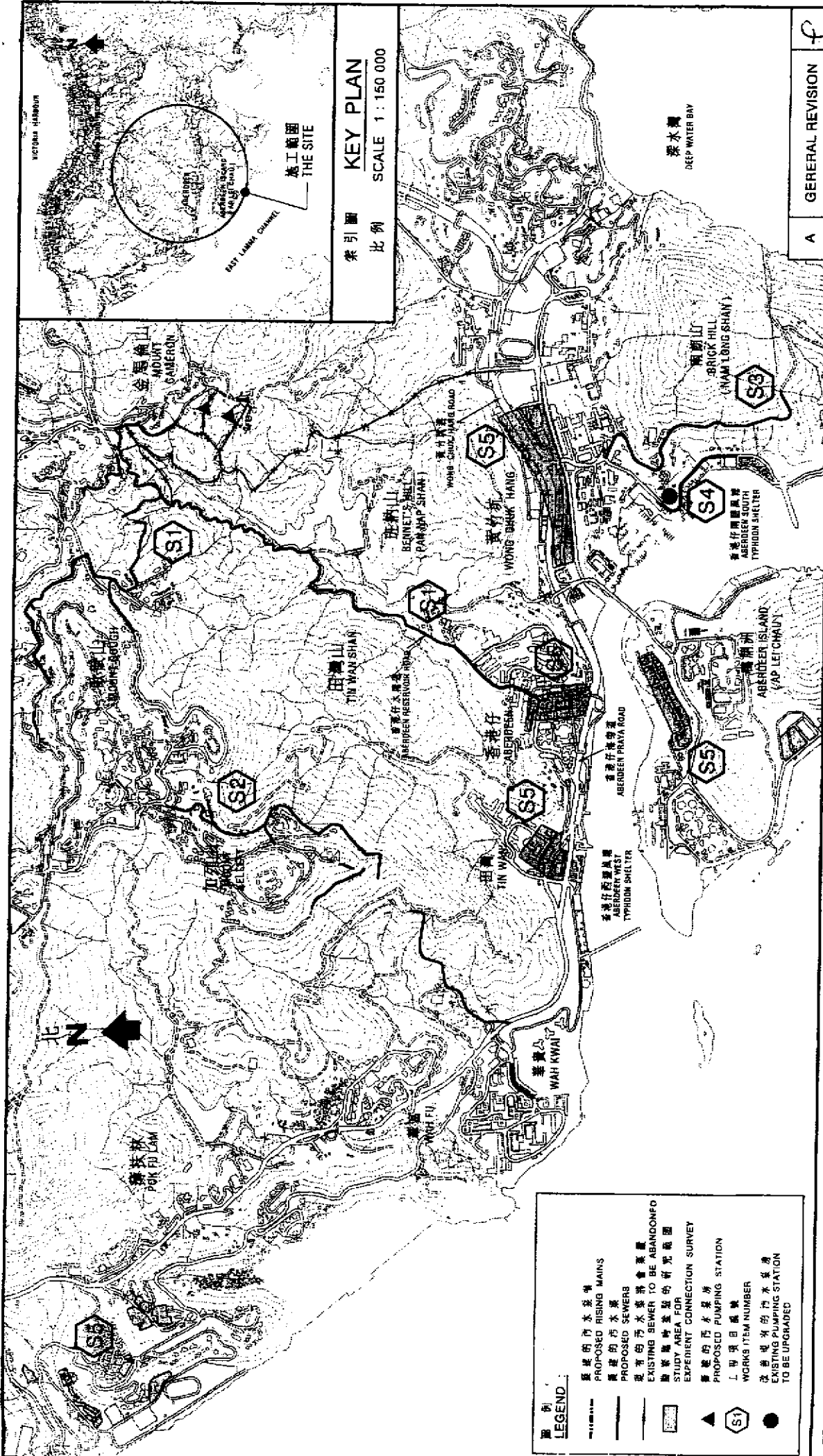
(f) Solid Waste

Screenings generated at the pumping stations will be enclosed in plastic bags before being transported to landfills.

The Environmental Review mentioned in Section 3 concluded that no insurmountable environmental impacts were identified for either construction or operation of the proposed works, but mitigation measures had to be formulated to reduce the environmental impacts to acceptable levels.

## 6. Use of Previously Approved Environmental Review

Nil.



DRAWN BY		SIGNED		DATE		DRAWING NO.	
P. S. LAM		SIGNED		04. 04. 01		DPM/205DS/0005 A	
APPROVED		SIGNED		DATE		SCALE	
W. C. LAM		SIGNED		06. 04. 01		1 : 25 000	
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工程管理部		Project Management Division		A			

TITLE  
**ABERDEEN, AP LEI CHAU, POK FU LAM SEWERAGE - STAGE 2**

香港仔、鴨脷洲及薄扶林污水收集系統 - 第二階段工程



香港特別行政區政府渠務署  
 DRAINAGE SERVICES DEPARTMENT  
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