

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 - BUILDINGS

Education - Primary

239EP - Two 24-classroom primary schools in South Horizons, Ap Lei Chau

244EP - A 24-classroom primary school in Lok Wah Estate, Kwun Tong

255EP - A 24-classroom primary school in area 39A, Fanling

Members are invited to recommend to Finance Committee the upgrading of **239EP**, **244EP** and **255EP** to Category A at an estimated cost of \$412.3 million in money-of-the-day prices for the construction of two 24-classroom primary schools in Ap Lei Chau, one in Kwun Tong and one in Fanling.

PROBLEM

There are not enough schools to meet the increase in demand for new school places and to accelerate the implementation of whole-day primary schooling.

PROPOSAL

2. The Director of Architectural Services (D Arch S), with the support of the Secretary for Education and Manpower, proposes to upgrade the following projects to Category A at an estimated total cost of \$412.3 million in money-of-the-day (MOD) prices -

/Project

	Project Estimate \$ million (MOD)
(a) 239EP - Two 24-classroom primary schools in South Horizon, Ap Lei Chau	210.0
(b) 244EP - A 24-classroom primary school in Lok Wah Estate, Kwun Tong	99.1
(c) 255EP - A 24-classroom primary school in area 39A, Fanling	103.2

Total	412.3

PROJECT SCOPE AND NATURE

3. The four 24-classroom primary schools will adopt the latest standard and schedule of accommodation for standard primary schools to be completed from year 2000 (Year 2000 design). Each school will have -

- (a) 24 classrooms;
- (b) six special rooms, including a computer-assisted learning room and a language room;
- (c) four remedial teaching rooms;
- (d) a guidance activity/interview room;
- (e) two interview rooms;
- (f) staff rooms and a staff common room;
- (g) a student activity centre;

/(h).....

- (h) a conference room;
- (i) a library;
- (j) an assembly hall;
- (k) a multi-purpose area; and
- (l) ancillary accommodation including a lift and relevant facilities for the handicapped.

JUSTIFICATION

4. To meet increase in demand for primary school places and to help achieve the policy target of enabling 60% of pupils in public sector schools to study on a whole-day basis by the commencement of the school year 2002/03, the Director of Education (D of E) has been making plans to build an additional 73 primary schools for completion by August 2002. As at September 1998, 24 of these schools have been upgraded to Category A and three have been completed.

5. Southern District now has 17 public sector primary schools providing 301 classrooms. D of E forecasts that 24 additional classrooms will be required to meet the increase in demand for school places by the school year 2002/03. Two primary schools projects providing 60 classrooms have already been upgraded to Category A and are planned for completion in the school year 1999/2000. **239EP** will enable existing bi-sessional primary schools in the district to convert into whole-day operation.

6. Kwun Tong District now has 30 public sector primary schools providing 702 classrooms. D of E forecasts that an additional 152 classrooms will be required to meet increase in demand for school places by the school year 2002/03. Two primary schools projects providing 60 classrooms have been upgraded to Category A and planned for completion in the school year 2000/01. **244EP** will further reduce the shortfall, the remaining shortfall will be met by other school projects which are being planned.

/7.

7. North District now has 33 public sector primary schools providing 453 classrooms. Whilst D of E forecasts that no additional classrooms will be required to meet the increase in demand for school places by the school year 2002/03, **255EP** together with one 30-classroom primary school project already upgraded to Category A and planned for completion in the school year 1999/2000, will enable existing bi-sessional primary schools in the district to convert into whole-day operation.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of **239EP**, **244EP** and **255EP** to be \$210 million, \$99.1 million and \$103.2 million respectively in MOD prices (see paragraph 9 below), made up as follows -

	239EP	244EP	255EP	
	\$ million			
(a) Slope improvement works	-	4.6	-	
(b) Piling	23.6	4.5	12.1	
(c) Building	90.4	45.2	45.3	
(d) Building services	24.4	12.5	12.3	
(e) Drainage and external works	13.1	7.9	4.7	
(f) Furniture and equipment	8.0	-	4.0	
(g) Contingencies	15.2	7.5	7.4	
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Sub-total	174.7	82.2	85.8	(at December 1997 prices)

/(h)

(h) Inflation allowance	35.3	16.9	17.4	
	_____	_____	_____	
Total	210.0	99.1	103.2	(in MOD prices)
	_____	_____	_____	

The respective construction floor areas and construction unit costs of the projects are shown at the Enclosure. D Arch S considers the estimated construction unit costs reasonable. A comparison of the standard cost of a 24-classroom primary school with the estimated costs for these projects is also at the Enclosure.

9. Subject to approval, we will phase the expenditure for **239EP**, **244EP** and **255EP** as follows -

Year	\$ million (Dec 1997)			Price adjustment factor	\$ million (MOD)		
	239EP	244EP	255EP		239EP	244EP	255EP
1998 - 99	-	0.5	-	1.06000	-	0.5	-
1999 - 2000	92.7	41.0	46.5	1.14878	106.5	47.1	53.4
2000 - 01	69.5	32.9	31.7	1.24642	86.6	41.0	39.5
2001 - 02	12.5	7.8	7.6	1.35237	16.9	10.5	10.3
	_____	_____	_____		_____	_____	_____
	174.7	82.2	85.8		210.0	99.1	103.2
	_____	_____	_____		_____	_____	_____

10. We derive the MOD estimates on the basis of Government's forecast of trend labour and construction prices for the period 1998 to 2002. We will tender the works under fixed-price lump-sum contracts because we can define the scope of works in advance, leaving little room for uncertainty.

11. We estimate the additional annually recurrent expenditure for each school to be \$14.6 million.

PUBLIC CONSULTATION

12. We consulted the Southern Provisional District Board on **239EP** in July 1998, the Social Services Committee of the Kwun Tong Provisional District Board on **244EP** in July 1998 and the Social Service Committee of the North Provisional District Board on **255EP** in September 1998. Members supported the projects.

ENVIRONMENTAL IMPLICATIONS

13. Based on the Preliminary Environmental Reviews (PERs) completed by D Arch S, the Director of Environmental Protection recommends the following environmental mitigation measures to keep the road traffic noise impact on the proposed schools within the limits stipulated in the Hong Kong Planning Standards and Guidelines -

Project No.	Mitigation Measures	Estimated Cost \$ million (at Dec 1997 prices)
239EP	For school A	
	(a) construction of a 3-metre high solid boundary wall around the site boundary; and	0.5
	(b) provision of insulated windows and air-conditioning to 12 classrooms on the 1/F to the 6/F at the eastern facade of the classroom block as well as five special rooms on the 2/F and 3/F at the southern and northern facades of the Assembly Hall Wing.	2.0

/For

For school B

- | | | |
|--------------|---|-----|
| | (a) provision of insulated windows and air-conditioning to 17 classrooms on the 1/F to the 6/F at the southern and northern facades of the classroom block as well as four special rooms on the 2/F and 3/F at the eastern and western facades of the special room block. | 2.4 |
| 244EP | (a) construction of a 3-metre high solid boundary wall along the south-western site boundary facing Chun Wah Road; and | 0.3 |
| | (b) provision of insulated windows and air-conditioning to 17 classrooms on 1/F to 6/F at the southern and western facades of the classroom block as well as one special room on 3/F at the southern facade of the special room block. | 2.5 |
| 255EP | (a) construction of a 3-metre solid boundary wall at the northern and south-eastern sides of the site boundary; and | 0.2 |
| | (b) provision of insulated windows and air-conditioning to 15 classrooms on the 2/F to the 6/F at the north-eastern facade of the classroom block and four special rooms on the 2/F and 3/F at the north-western and south-eastern facades of the special room block. | 2.4 |

We have included the costs of these mitigation measures in the project estimates.

14. We will control noise, dust and site run-off nuisances during construction through the implementation of mitigation measures under the relevant contracts.

LAND ACQUISITION

15. None of the three projects require land acquisition.

BACKGROUND INFORMATION

16. We upgraded **239EP**, **244EP**, and **255EP** to Category B in September 1998. D Arch S has completed site investigations for the three projects and is preparing the detailed working drawings and tender documents using in-house staff resources. We plan to start the construction works for the projects in January 1999 for completion in August 2000.

Education and Manpower Bureau
September 1998

A comparison of the standard cost of a 24-classroom primary school project with the estimated costs of the proposed school projects

	Standard cost*	239EP#	244EP	255EP	
\$ million (at Dec 1997 prices)					
(a) Slope improvement works	-	-	4.6	-	(See note A)
(b) Piling	9.0	11.8	4.5	12.1	(See note B)
(c) Building	45.0	45.2	45.2	45.3	(See note C)
(d) Building services	10.2	12.2	12.5	12.3	(See note D)
(e) Drainage and external works	6.7	6.55	7.9	4.7	(See note E)
(f) Furniture and equipment	-	4.0	-	4.0	(See note F)
(g) Contingencies	7.1	7.6	7.5	7.4	
	78.0	87.35	82.2	85.8	
(h) Construction floor area	9 500m ²	9 500m ²	9 500m ²	9 500m ²	
(i) Construction unit cost {[(c)+(d)]÷(h)}	\$5,810/m ²	\$6,042/m ²	\$6,074/m ²	\$6,063/m ²	

Assuming the costs for the two schools under **239EP** are the same, the average cost per school is taken for comparison.

* **Assumptions for standard cost**

1. The estimation is based on the assumption that the school site is uncomplicated and without abnormal environmental restrictions. No allowance is reserved for specific environmental restrictions such as the provision of insulated windows, air-conditioning and solid boundary walls to mitigate noise impacts on the school.
2. No site formation works/geotechnical works are required as they are normally carried out by other government departments under a separate engineering vote before the handing-over of the project site for school construction.
3. Piling cost is based on 101 numbers of steel H-piles at an average depth of 30 metres, on the assumption that percussive piling is permissible. It also includes costs for pile caps, strap beams and testing. No allowance is reserved for the effect of negative skin friction due to fill on reclaimed land.
4. Cost for drainage and external works is for a standard 24-classroom primary school site area of 4 700 square metres built on an average level site without complicated geotechnical conditions, utility diversions, etc. (i.e. a greenfield site).
5. No consultancy services are required.
6. Furniture and equipment costs are excluded as they are usually borne by the sponsoring body of an aided school.
7. The standard cost for comparison purpose is subject to review regularly. We will review, and revise if necessary, the standard cost which should be adopted for future projects.

Notes

- A. For **244EP**, the school platform is located below an existing slope which will be allocated to the Education Department. As a consequence of the school development, Geotechnical Engineering Office requires additional slope stabilisation measures to be carried out. These measures, consisting mainly of a grid of soil nails, are required to meet the current standards for slope safety and must be in place prior to the occupation of the school.
- B. Piling costs for the proposed schools are adjusted to suit individual site conditions are based on the following -

	239EP		244EP	255EP
	School A	School B		
Type	Steel H-pile	Steel H-pile	Steel H-pile	Steel H-pile
Number	101	138	102	110
Depth (metres)	30	28	15	21

For **244EP**, the piling cost is lower due to the reduced depth of piles.

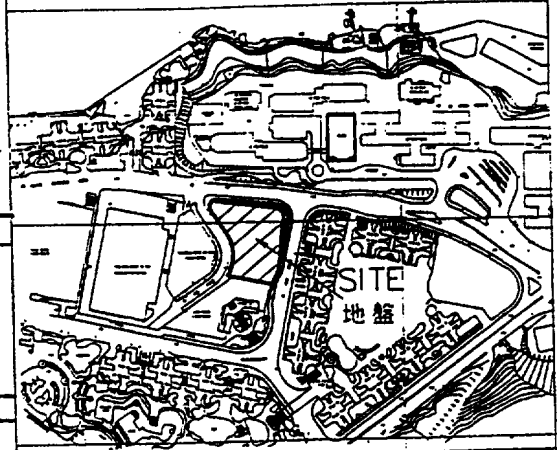
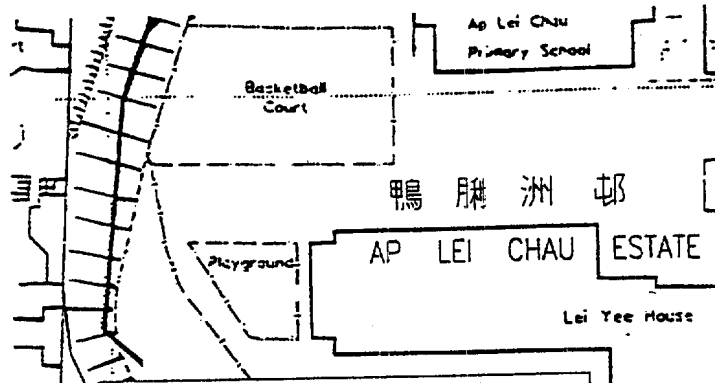
- C. The building costs for all the four schools are higher because of the provision of insulated windows as a noise mitigation measure.
- D. The building services costs for all the four schools are higher because of the provision of air-conditioning as a noise mitigation measure.
- E. (i) For **239EP**, the cost for drainage and external works is lower because the site area of the two schools (3 840 square metres for each school) are smaller than that of a standard 24-classroom primary school, in spite of the construction of a 3-metre high solid boundary wall around the school site of School A.
- (ii) For **244EP**, the drainage and external works cost is higher partly due to the provision of a solid boundary wall along the south-western corner of the site boundary as a noise abatement measure and partly due to the need for water main diversion.

- (iii) For **255EP**, the cost for drainage and external works is lower due to the smaller site area (3 020m²), in spite of the construction of a 3-metre high solid boundary wall at the northern and south-eastern side of the site.
- F. For **239EP** and **255EP**, \$4 million is required for each school for the cost of furniture and equipment as the schools will be allocated to existing bi-sessional schools for conversion to whole-day operation. The cost of furniture and equipment for **244EP** also estimated to be \$4 million, will be borne by the school sponsor as the school will be allocated for operation as a new aided school.

(PWSC0017)

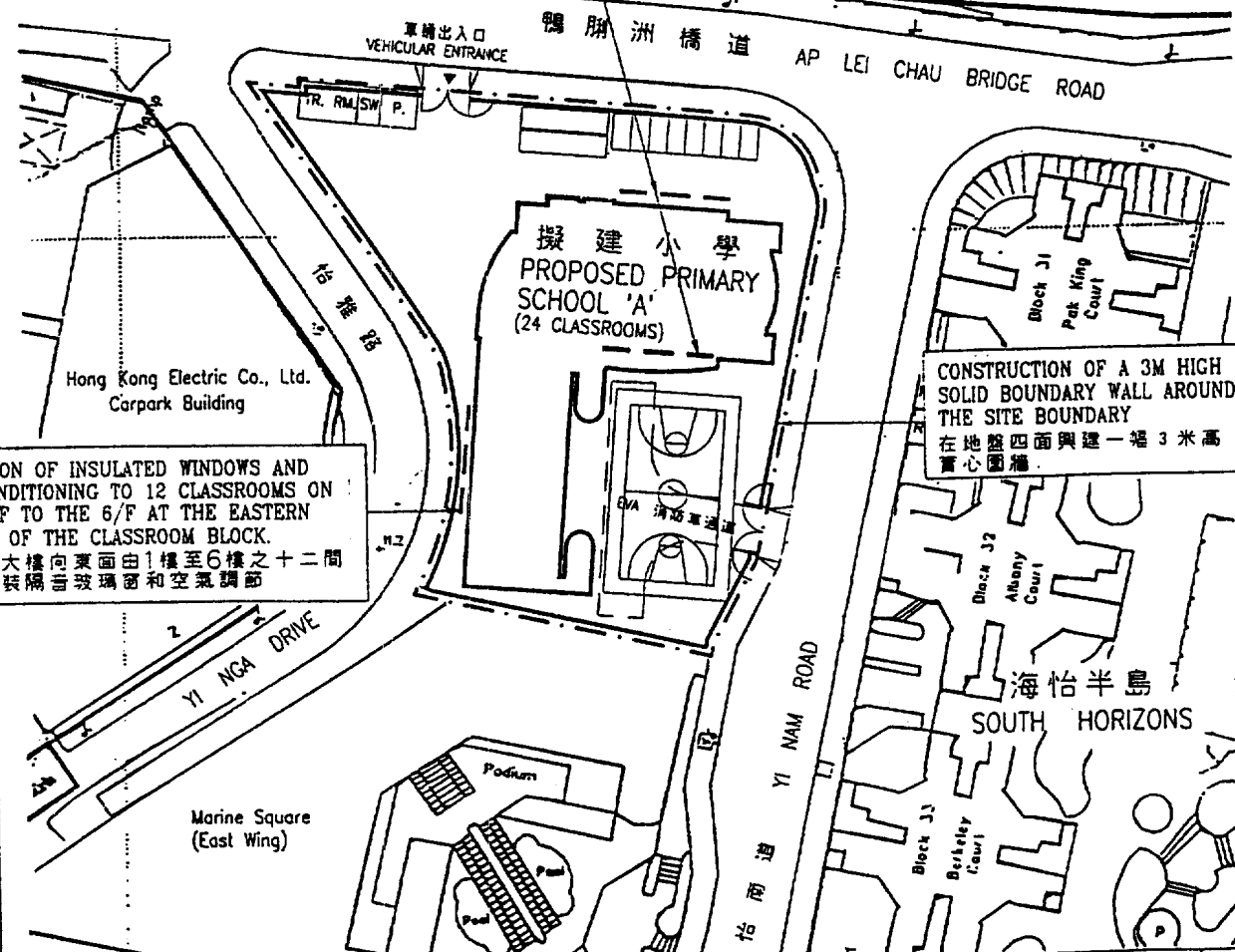


ABERDEEN WEST TYPHOON SHELTER



位置圖 LOCATION PLAN 1:5000

PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING TO 5 SPECIAL ROOMS ON THE 2/F & 3/F AT THE SOUTHERN AND NORTHERN FACADES OF THE ASSEMBLY HALL WING
 在禮堂向南面與北面2樓與3樓之五間特別教學室安裝隔音玻璃窗和空氣調節




PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING TO 12 CLASSROOMS ON THE 1/F TO THE 6/F AT THE EASTERN FACADE OF THE CLASSROOM BLOCK.
 在課室大樓向東面由1樓至6樓之十二間課室安裝隔音玻璃窗和空氣調節

CONSTRUCTION OF A 3M HIGH SOLID BOUNDARY WALL AROUND THE SITE BOUNDARY
 在地盤四面興建一堵3米高實心圍牆

CAD Ref. 5828AC01--1:1000

title (239EP)
 鴨洲邨海怡半島之兩所二十四課室小學 (學校甲)
 TWO 24-CLASSROOM PRIMARY SCHOOL IN SOUTH HORIZONS, AP LEI CHAU (SCHOOL A)

drawn by	TOMMY LEE M.F. WONG	date	3.8.98
approved	WILSON LAM	date	3.8.98
office	ARCHITECTURAL BRANCH		

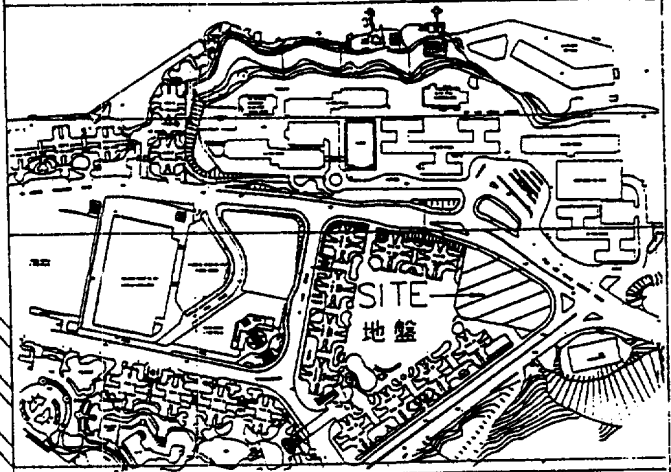
drawing no.	AB/5828A/XC101	scale	1:1000
 ARCHITECTURAL SERVICES DEPARTMENT			



鴨 洲 邨
AP LEI CHAU ESTATE



ABERDEEN WEST TYPHCON SHELTER



LOCATION PLAN 位置圖

1:15000

PROVISION OF INSULATED WINDOWS
AND AIR-CONDITIONING TO 4
SPECIAL ROOMS ON THE 2/F & 3/F
AT THE EASTERN & WESTERN FACADES
OF THE SPECIAL ROOM BLOCK
特別室大樓向東面及西面2樓
3樓之四間特別教學室安裝隔音
玻璃窗和空氣調節

鴨 洲 橋 道

汽車出入口
INGRESS
EGRESS
POINT

SITE AREA
3940 m²

擬 建 小 學
PROPOSED PRIMARY SCHOOL
(24 CLASSROOMS)

利 福 樓
Lei Fook House

AP LEI CHAU BRIDGE ROAD

海 怡 半 島

SOUTH HORIZONS

Block 28

Grosvenor Court

行人出入口
PEDESTRIAN ENTRANCE

LEE NAM ROAD

利 南 道

PROVISION OF INSULATED WINDOWS
AND AIR-CONDITIONING TO 17
CLASSROOMS ON THE 1/F TO THE 6/F
AT THE SOUTHERN AND NORTHERN
FACADES OF THE CLASSROOM BLOCK
在 課 室 大 樓 向 南 面 與 向 北 面 由 1 樓 至
6 樓 之 十 七 間 特 別 教 學 室 安 裝 隔 音 玻
璃 窗 和 空 氣 調 節

CAD Ref. \PROJECT\PPFS\5828B\01--1:1000

Title (239EP)
鴨 洲 邨 海 怡 半 島 之 兩 所
二 十 四 課 室 小 學 (學 校 乙)
TWO 24-CLASSROOM PRIMARY
SCHOOL IN SOUTH HORIZONS,
AP LEI CHAU
(SCHOOL B)

drawn by M.F. WONG date 3.8.98

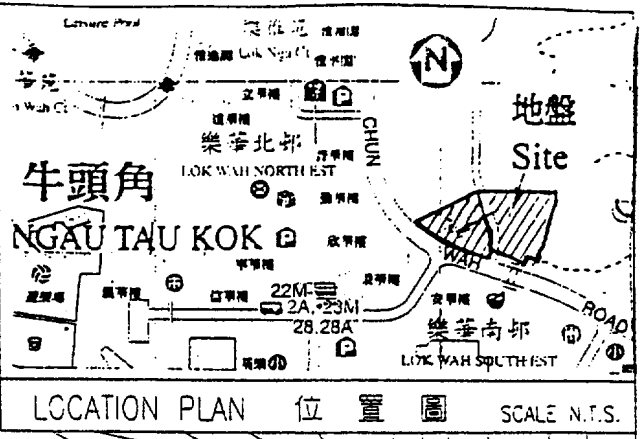
approved WILSON LAM date 3.8.98

office ARCHITECTURAL BRANCH

drawing no. AB/5828B/XB101 scale 1:1 000



ARCHITECTURAL
SERVICES
DEPARTMENT



擬建中學地盤
PROPOSED SECONDARY SCHOOL SITE

CONSTRUCTION OF A 3M HIGH SOLID BOUNDARY WALL ALONG THE SOUTH-WESTERN SIDE BOUNDARY FACING CHUN WAH ROAD
在地盤沿西南面振華道方向興建一幅3米高實心圍牆。

擬建小學
PROPOSED PRIMARY SCHOOL
(24 CLASSROOMS)

PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING FOR 17 CLASSROOMS FROM 1/F TO 6/F AT THE SOUTHERN AND WESTERN FACADES OF THE CLASSROOM BLOCK
在課室大樓向南面與西面由1樓至6樓之十七間課室安裝隔音玻璃窗和空氣調節。

EXISTING SLOPE WHERE SLOPE IMPROVEMENT WORK IS TO BE CARRIED OUT
現有斜坡改善工程範圍


PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING FOR 1 SPECIAL ROOM ON 3/F AT THE SOUTH FACADE OF THE SPECIAL BLOCK.
在特別室大樓向南面3樓之一間特別教學室安裝隔音玻璃窗和空氣調節。

特別室
SPECIAL BLOCK

CHUN WAN ROAD

APPROX. SITE AREA = 4 020m²

C:\0 Ref. C:\PROJECT\PPF\5868X101--1:1000

title (244EP) 觀塘樂華邨之一所 二十四間課室小學 A 24 CLASSROOMS PRIMARY SCHOOL AT LOK WAH EST. KWUN TONG	drawn by M.F. WONG	date 26.8.98	drawing no. AB/5868/XD101	scale 1:1000
	approved WILSON LAM	date 26.3.98	 ARCHITECTURAL SERVICES DEPARTMENT	
	office ARCHITECTURAL BRANCH			

