

**ITEM FOR PUBLIC WORKS  
SUBCOMMITTEE  
OF FINANCE COMMITTEE**

**HEAD 703 - BUILDINGS**

**Education - Primary**

**245EP - Primary school at West Kowloon reclamation, Tai Kok Tsui**

**249EP - Primary school in area 1, Tsing Yi**

**250EP - Primary school in West Kowloon reclamation, Yau Ma Tei**

**251EP - Primary school at Shek Yam Estate Phase 2, Kwai Chung**

Members are invited to recommend to Finance Committee the upgrading of **245EP**, **249EP**, **250EP** and **251EP** to Category A at an estimated total cost of \$468.4 million in money-of-the-day prices for the construction of four primary schools, one in Tai Kok Tsui, one in Tsing Yi, one in Yau Ma Tei and one in Kwai Chung.

**PROBLEM**

There are not enough primary 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 .....

projects to Category A at an estimated total cost of \$468.4 million in money-of-the-day (MOD) prices -

	<b>Project Estimate \$ million (MOD)</b>
(a) <b>245EP</b> - Primary school at West Kowloon reclamation, Tai Kok Tsui	127.1
(b) <b>249EP</b> - Primary school in area 1, Tsing Yi	105.2
(c) <b>250EP</b> - Primary school at West Kowloon reclamation, Yau Ma Tei	130.3
(d) <b>251EP</b> - Primary school at Shek Yam Estate Phase 2, Kwai Chung	105.8
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Total	468.4

### **PROJECT SCOPE AND NATURE**

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

- (a) 30 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) .....

- (f) staff rooms and a staff common room;
- (g) a student activity centre;
- (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 2002/03 school year, 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. Kwai Tsing District now has 27 public sector primary schools providing 650 classrooms. Whilst D of E forecasts that no additional classrooms are required to meet increase in demand for school places by the school year 2002/03, **249EP** and **251EP** will enable existing bi-sessional primary schools in the district to convert into whole-day operation.

6. Yau Tsim Mong District now has 24 public sector primary schools providing 461 classrooms. Whilst D of E forecasts that no additional classrooms are required to meet increase in demand for school places by the school year 2002/03, **245EP** and **250EP**, 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**

7. We estimate the capital costs of **245EP**, **249EP**, **250EP** and **251EP** to be \$127.1 million, \$105.2 million, \$130.3 million and \$105.8 million respectively in MOD prices (see paragraph 8 below), made up as follows -

	<b>245EP</b>	<b>249EP</b>	<b>250EP</b>	<b>251EP</b>	
	<b>\$ million</b>				
(a) Site formation	-	-	-	1.9	
(b) Piling	22.2	6.7	22.6	4.0	
(c) Building	49.1	49.0	49.3	49.2	
(d) Building services	11.1	10.8	13.6	12.5	
(e) Drainage and external works	8.6	8.6	7.6	8.0	
(f) Furniture and equipment	4.2	4.2	4.2	4.2	
(g) Contingencies	9.1	7.5	9.3	7.6	
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Sub-total	104.3	86.8	106.6	87.4	(at December 1997 prices)
(h) Inflation allowance	22.8	18.4	23.7	18.4	
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Total	127.1	105.2	130.3	105.8	(in MOD prices)
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The construction floor areas of the four projects are 10 526 square metres. The respective construction unit costs are shown at the Enclosure. D Arch S considers the estimated construction unit costs reasonable. A comparison of the standard cost of a primary school with the project estimates for these projects is also at the Enclosure.

8. Subject to approval, we will phase the expenditure for **245EP**, **249EP**, **250EP** and **251EP** as follows -

Year	\$ million (Dec 1997)				Price adjustment factor	\$ million (MOD)			
	245EP	249EP	250EP	251EP		245EP	249EP	250EP	251EP
1998 - 99	0.5	0.5	0.5	-	1.06000	0.5	0.5	0.5	-
1999 - 2000	43.9	41.7	42.5	40.8	1.14878	50.4	47.9	48.8	46.9
2000 - 01	45.3	33.9	48.1	38.7	1.24642	56.5	42.3	60.0	48.2
2001 - 02	14.6	10.7	15.5	7.9	1.35237	19.7	14.5	21.0	10.7
	104.3	86.8	106.6	87.4		127.1	105.2	130.3	105.8

9. We derived 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 clearly define the scope of works in advance, leaving little room for uncertainty.

10. We estimate the additional annually recurrent expenditure for each school to be \$17.9 million.

## PUBLIC CONSULTATION

11. We consulted the Community Building Committee of the Yau Tsim Mong Provisional District Board on **245EP** and **250EP** in August 1998 and the Kwai Tsing Provisional District Board on **249EP** and **251EP** in August 1998. Members supported the projects.

## ENVIRONMENTAL IMPLICATIONS

12. The consultants engaged by the D Arch S completed the Preliminary Environmental Reviews (PERs) on **245EP** in April 1998, **249EP** in

December 1997, **250EP** in February 1998 and **251EP** in June 1998. The Director of Environmental Protection vetted the PERs and recommended 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 Standard and Guidelines -

Project No.	Mitigation Measures	Estimated Cost \$ million (at Dec 1997 prices)
<b>245EP</b>	provision of insulated windows and air-conditioning to two special rooms on the 2/F at the eastern facade of the special room block.	0.4
<b>249EP</b>	construction of a 3-metre high solid boundary wall at the western side of the site boundary facing Tsing Luk Street.	0.2
<b>250EP</b>	provision of insulated windows and air-conditioning to 20 classrooms and two remedial teaching rooms on the 1/F to the 6/F at the northern and southern facades of the classroom block and five special rooms on the 2/F and 3/F at the eastern and western facade of the special room block.	3.1
<b>251EP</b>	provision of insulated windows and air conditioning to 15 classrooms on the 2/F to the 6/F at the south-eastern facade of the classroom block as well as two special rooms on the 2/F and 3/F at the south-western and north-eastern facades of the Assembly Hall wing.	1.9

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

13. We will control noise, dust and site run-off nuisances during /13. ....

construction through the implementation of appropriate mitigation measures under the relevant contracts.

**LAND ACQUISITION**

14. None of the four projects require land acquisition.

**BACKGROUND INFORMATION**

15. We upgraded **245EP** and **251EP** to Category B in July 1998 and **249EP** and **250EP** in September 1998. D Arch S has completed site investigations for the four 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.

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Education and Manpower Bureau  
September 1998

(PWSC0009/WIN1)



**A comparison of the standard cost of a 30-classroom primary school project with the estimated costs of the proposed school projects**

	Standard* cost	245EP	249EP	250EP	251EP	
(\$ million at Dec 1997 prices)						
(a) Site formation	-	-	-	-	1.9	(See note A)
(b) Piling	9.7	22.2	6.7	22.6	4.0	(See note B)
(c) Building	49.0	49.1	49.0	49.3	49.2	(See note C)
(d) Building services	10.8	11.1	10.8	13.6	12.5	(See note D)
(e) Drainage and external works	8.0	8.6	8.6	7.6	8.0	(See note E)
(f) Furniture and equipment	-	4.2	4.2	4.2	4.2	(See note F)
(g) Contingencies	7.8	9.1	7.5	9.3	7.6	
	Total	85.3	104.3	86.8	106.6	87.4
(h) Construction floor area	10 526m <sup>2</sup>	10 526m <sup>2</sup>	10 526m <sup>2</sup>	10 526m <sup>2</sup>	10 526m <sup>2</sup>	
(i) Construction unit cost [(c)+(d)]÷ (h)	\$5,681/m <sup>2</sup>	\$5,719/m <sup>2</sup>	\$5,681/m <sup>2</sup>	\$5,976/m <sup>2</sup>	\$5,862/m <sup>2</sup>	

\*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 handing-over of the project site for school construction.

3. Piling cost is based on the use of 112 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 30-classroom primary school built on an average level site of 6 200 square metres 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.

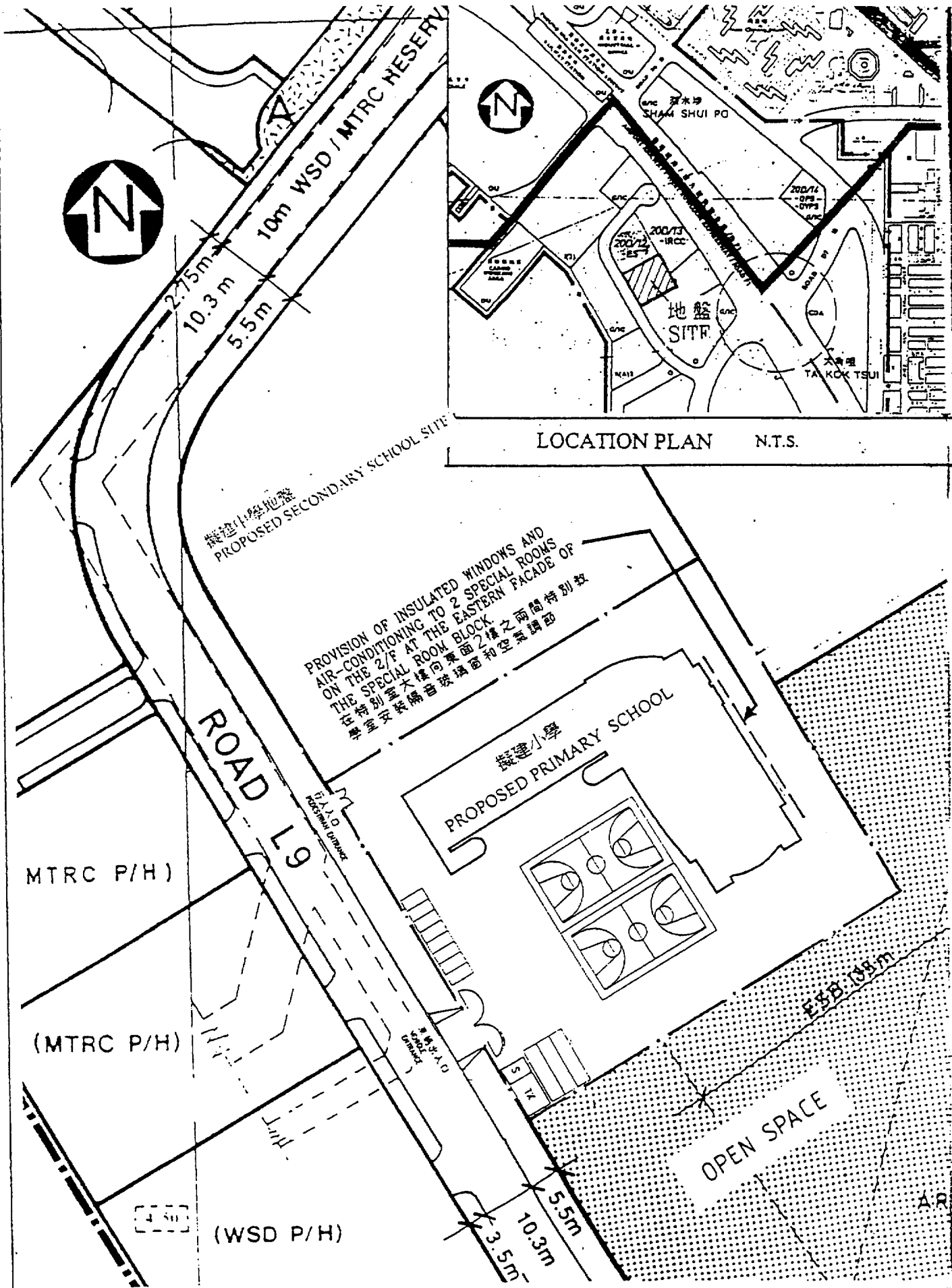
### Notes

- A. For **251EP**, the cost for site formation is necessary for leveling of the site to required level.
- B. Piling costs for the proposed schools are adjusted to suit individual site conditions and are based on the use of the following -

	<b>245EP</b>	<b>249EP</b>	<b>250EP</b>	<b>251EP</b>
Type	Steel H-pile	Steel H-pile	Steel H-pile	Steel H-pile
Number	160	129	135	138
Depth (metres)	48	18	58	10

- C. For **245EP**, **250EP** and **251EP** the building costs are higher because of the provision of insulated windows as a noise mitigation measure.

- D. For **245EP**, **250EP**, and **251EP** the building services costs are higher because of the provision of air-conditioning as a noise mitigation measure.
- E. (i) For **249EP**, the cost for drainage and external works is higher because the site area (6 350m<sup>2</sup>) is larger than that of the standard school and the provision of a 3-metre high solid boundary wall at the western side of the site boundary facing Tsing Luk Street as a noise mitigation measure.
- (ii) For **245EP**, the cost for drainage and external works is higher because of the provision of ductile iron pipes and superflex joints in reclamation. Due to anticipated settlement of recently reclaimed site, provision of ductile iron pipes and superflex joints are required so as to avoid damages to the future laid pipes in case any settlement of the external area occurs.
- (iii) For **250EP**, cost of drainage and external works is lower because the site area (5 370m<sup>2</sup>) is smaller than that of the standard school, despite the use of ductile iron drain pipes and drainage superflex joints in reclamation.
- F. The cost of furniture and equipment, estimated to be \$4.2 million for each school, will be borne by Government as the schools will be allocated to existing bi-sessional schools for conversion to whole-day operation.



LOCATION PLAN N.T.S.

PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING TO 2 SPECIAL ROOMS ON THE 2/F AT THE EASTERN FACADE OF THE SPECIAL ROOM BLOCK.  
 於特別室大樓向東面之樓之兩間特別室裝置安裝隔音玻璃窗和空氣調節器

擬建小學  
 PROPOSED PRIMARY SCHOOL

ROAD L9


擬建中學地盤  
 PROPOSED SECONDARY SCHOOL SITE

MTRC P/H)

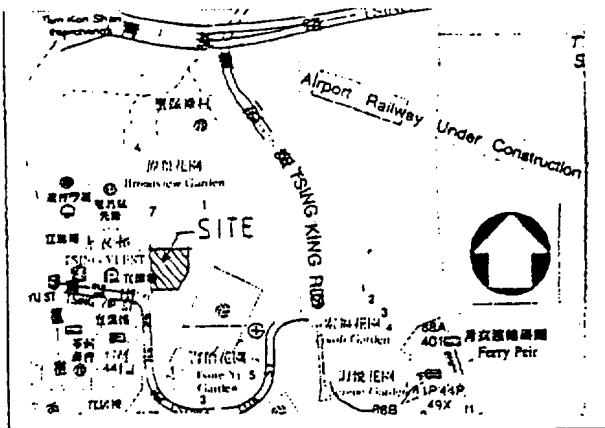
(MTRC P/H)

(WSD P/H)

OPEN SPACE

title 245EP 九龍大角咀西九龍填海區 擬建一間小學 PROPOSED PRIMARY SCHOOL AT WEST KOWLOON RECLAMATION, TAI KOK TSUI, KOWLOON	drawn by M.F.WONG	date 3.7.98	drawing no. AB/5817/XB201	scale 1:1000
	approved LOUISA MENG	date 3.7.98	 ARCHITECTURAL SERVICES DEPARTMENT	
	office ARCHITECTURAL BRANCH			

偉景花園  
BOARDVIEW GARDEN



LOCATION PLAN

1 : 15000

CONSTRUCTION OF A 3M HIGH SOLID BOUNDARY WALL AT THE WESTERN SIDE OF THE SITE BOUNDARY FACING TSING LUK STREET.  
 在該地盤沿西面青絲街方向興建一幅3米  
 高實心圍牆。

青衣邨  
TSING YI ESTATE

行人出入口  
PEDESTRIAN  
ENTRANCE

行人出入口  
PEDESTRIAN  
ENTRANCE

擬建小學  
PROPOSED PRIMARY  
SCHOOL

車輛出入口  
INGRESS/EGRESS  
POINT

BOUNDARY LINE


TSING YIP STREET 青葉街

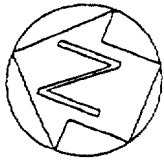
青絲街  
TSING LUK STREET

45.000

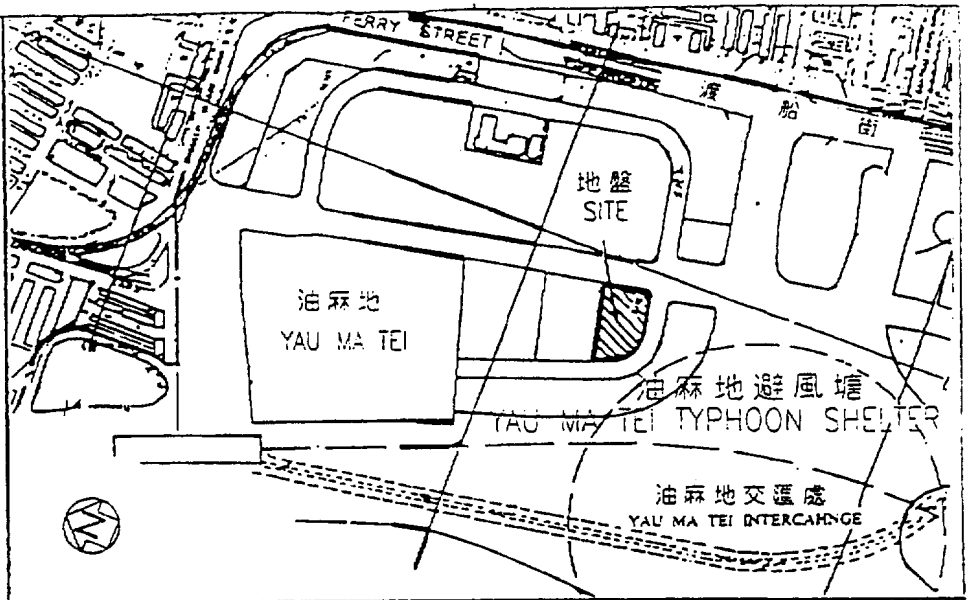
30.000

CAD Ref. 5988XD101--1:1000

title 249EP 葵青青衣島第壹區之 三十間課室小學 30 CLASSROOMS- PRIMARY SCHOOL IN AREA 1 TSING YI ISLAND, KWAI TSING	drawn by M.F. WONG	date 21.7.98	drawing no. AB/5988/XD102	scale 1 : 1000
	approved WILSON LAM	date 21.7.98	 ARCHITECTURAL SERVICES DEPARTMENT	
	office ARCHITECTURAL BRANCH			



屋邨發展  
HOUSING DEVELOPMENT



位置圖 LOCATION PLAN 1 : 10 000

NEW ROAD

PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING TO 5 SPECIAL ROOMS ON 2/F AND 3/F AT THE EASTERN AND WESTERN FACADES OF THE SPECIAL ROOM BLOCK.  
在特別室大樓向東面與西面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 20 CLASSROOMS AND 2 REMEDIAL TEACHING ROOMS ON 1/F TO 6/F AT THE NORTHERN AND SOUTHERN FACADES OF THE CLASSROOM BLOCK.  
在課室大樓向北面與向南面由1樓至6樓之二十間課室及兩間輔導教學室安裝隔音玻璃窗和空氣調節


擬建小學  
PROPOSED PRIMARY SCHOOL

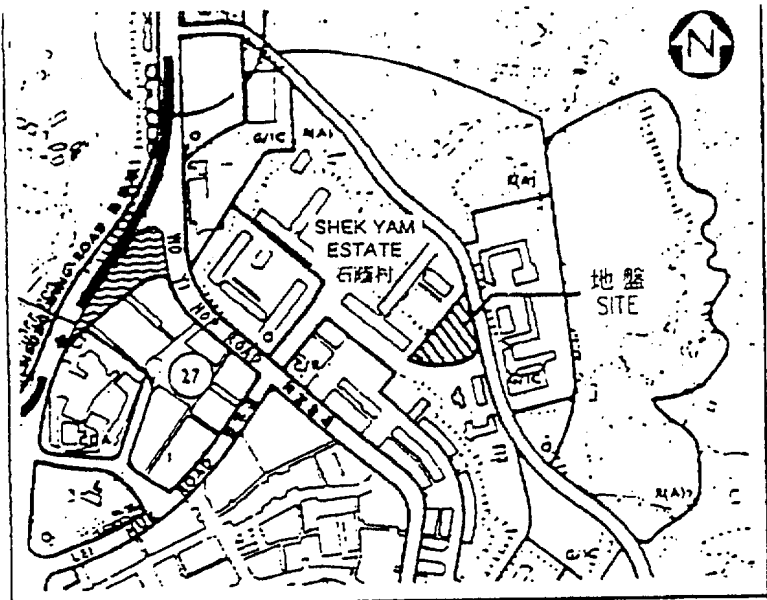
未來中學地盤  
FUTURE SECONDARY SCHOOL SITE

NEW ROAD

INGRESS/EGRESS POINT  
汽車進出口

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title 250EP 九龍油麻地西九龍填海區 擬建一間小學 PROPOSED PRIMARY SCHOOL AT WEST KOWLOON RECLAMATION, YAU MA TEI, KOWLOON	drawn by M.F. WONG	date 3.7.98	drawing no. AB/5978/XD101	scale 1:1000
	approved SUZANNA CHAN	date 3.7.98	 ARCHITECTURAL SERVICES DEPARTMENT	
	office ARCHITECTURAL BRANCH			

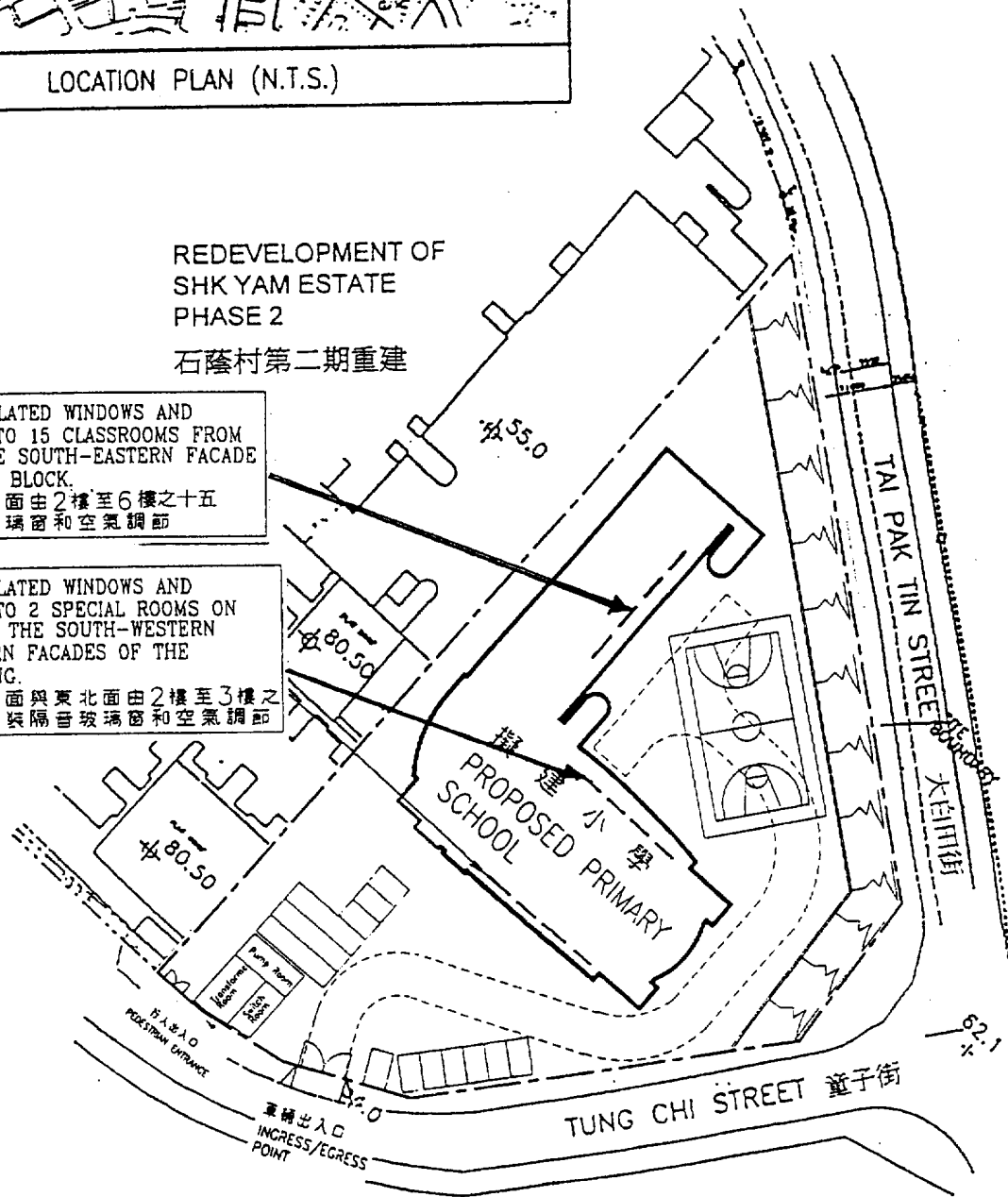


LOCATION PLAN (N.T.S.)

REDEVELOPMENT OF  
SHK YAM ESTATE  
PHASE 2  
石蔭村第二期重建

PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING TO 15 CLASSROOMS FROM 2/F TO 6/F AT THE SOUTH-EASTERN FACADE OF THE CLASSROOM BLOCK.  
在課堂大樓向東南面由2樓至6樓之十五間課室安裝隔音玻璃窗和空氣調節

PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING TO 2 SPECIAL ROOMS ON THE 2/F & 3/F AT THE SOUTH-WESTERN AND NORTH-EASTERN FACADES OF THE ASSEMBLY HALL WING.  
在禮堂翼座向西南面與東北面由2樓至3樓之兩間特別教學室安裝隔音玻璃窗和空氣調節



CAO Ref. 5734/XB101--1:1000

title ( 251EP )  
臺灣石蔭村第二期一間小學  
PRIMARY SCHOOL IN  
SHEK YAM ESTATE,  
PHASE 2, TSUEN WAN

drawn by M.F. WONG

date 3.9.98

drawing no.  
AB/5734/XB101

scale  
1 : 1000

approved NEVIN LAM

date 3.9.98

office ARCHITECTURAL BRANCH



ARCHITECTURAL  
SERVICES  
DEPARTMENT