

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

### **HEAD 703 – BUILDINGS**

#### **Environmental Hygiene – Toilets and bathhouses**

#### **13NT – Conversion of aqua privies into flushing toilets – phase 7**

Members are invited to recommend to Finance Committee the upgrading of **13NT** to Category A at an estimated cost of \$383.3 million in money-of-the-day prices for the conversion of 145 aqua privies into flushing toilets.

### **PROBLEM**

Aqua privies in the New Territories and outlying islands can no longer meet the rising expectation of the public over the standard of public toilet facilities.

### **PROPOSAL**

2. The Director of Architectural Services, with the support of the Secretary for Food and Health, proposes to upgrade **13NT** to Category A at an estimated cost of \$383.3 million in money-of-the-day (MOD) prices for the conversion of 145 aqua privies into flushing toilets.

**/PROJECT .....**

## PROJECT SCOPE AND NATURE

3. Since 2005, we have been implementing a programme to convert aqua privies in the New Territories and outlying islands into flushing toilets by phases. The conversion of 97 aqua privies<sup>1</sup> under phases 1, 2A and 2B (i.e. **6NT**, **7NT** and **8NT**), 50 aqua privies under phase 3 (**9NT**) and phase 4 (**10NT**) and 80 aqua privies under phase 5 (**11NT**) was completed in end 2007, May 2009 and May 2010 respectively. Conversion of another 90 aqua privies under phase 6 (**12NT**) commenced in November 2009 and is expected to complete by mid 2011.

4. Upon completion of phase 6, there remain 198 aqua privies to be converted. According to the assessment at the present stage, we plan to implement phase 7 (i.e. the final phase) for converting 145 aqua privies. For the 53 aqua privies which are not included in phase 7, two have been demolished and one will be demolished with the consent of the local community. The remaining 50 are not included in the conversion programme due to problems involving sitting on private land, site constraints, possible reprovisioning or demolition as a result of other works projects, and for a few, failure to obtain local support for the conversion. The breakdown of the 53 aqua privies according to reasons for not being included in the final phase is set out at Enclosure 1. We will follow up on these cases separately.

5. The scope of conversion works for the 145 aqua privies under phase 7 (**13NT**) will be similar to that in previous phases and can be classified into the following three types -

(a) **Type 1 – General refurbishment works for 13 aqua privies, including –**

- (i) conversion of existing aqua privies into toilets with flushing system including alterations to cubicles and the provision of pedestal or squatting type water closets;
- (ii) replacement of internal/external walls and floor finishes;
- (iii) improvement of hand-washing facilities;

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<sup>1</sup> There were 100 aqua privies in the original scope of **6NT**, **7NT** and **8NT**. Among them, two aqua privies under **7NT** and **8NT** respectively have sat on private lots hence conversion works could not be done. Another one originally under **8NT** is included in phase 7 conversion programme as it is no longer affected by a road widening project.

- (iv) improvement of lighting and ventilation; and
  - (v) conversion of the existing septic tank into an underground holding tank.
- (b) **Type 2 – Installation of bio-treatment system for 125 aqua privies, including –**
  - (i) general refurbishment works under Type 1; and
  - (ii) installation of a bio-treatment system to treat waste by a biological process and to recirculate the treated effluent for flushing purpose.
- (c) **Type 3 – Connection with public sewerage for 7 aqua privies, including –**
  - (i) general refurbishment works under Type 1 items (i) to (iv) above; and
  - (ii) connecting underground drains of the toilets to the public sewer available in the vicinity.

\_\_\_\_\_ The location of the 145 aqua privies to be converted under phase 7 is set out in Enclosure 2.

6. The type of works to be implemented at each aqua privy is subject to site constraints and the availability of public sewer nearby. For Type 1 and Type 2 conversion works, we will convert existing septic tanks into holding tanks for waste. For Type 1 aqua privy conversion (i.e. without bio-treatment plant), we will arrange more frequent tankering away of waste. For Type 2 aqua privies, as sufficient space is available, we will install bio-treatment plants. For Type 3 aqua privy conversion, as nearby public sewer is available, we will connect their underground drains to the public sewer. The conversion method recommended for each aqua privy will be reviewed and, if required, adjusted in light of the situation on the ground.

7. As before, in the event that a small number of aqua privies included in the conversion programme are found to be unsuitable for conversion due to technical or site constraints (for example, a lack of water and electricity supply,

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slope problems) during the process, the Food and Environmental Hygiene Department will conduct in-situ refurbishment which includes upgrading the external finishes, installing mosquito traps and provision of air fresheners, odour-arresting agents and hand sanitizers inside the aqua privies.

8. An example of the layout plans of an existing aqua privy and the schematic layout plan of a flushing toilet converted from an aqua privy are at Enclosures 3 and 4 respectively. Examples of the exterior and interior views of the toilet before and after the completion of the proposed conversion works are at Enclosures 5 and 6 respectively. Subject to the approval of the Finance Committee, we plan to carry out the proposed conversion works under **13NT** in batches starting from February 2011 for completion by December 2013. While the aqua privies are closed for conversion, we will make available portable toilets on site for use by the public.

## JUSTIFICATION

9. Aqua privy is a village-type dry latrine without any flushing system. Toilet waste which passes down the squatting hole of each toilet compartment is collected in the septic tank underneath the aqua privies. The absence of a flushing system may create hygiene, pest and odour problems. Hence, aqua privies are not desirable public toilet facilities.

10. To meet rising public expectation, the upgrading of existing aqua privies to flushing toilets with proper hand-washing facilities, improved lighting, ventilation and odour control, more up-to-date external outlook and internal fitting-out will improve the hygiene conditions and upgrade the standard of provision of public toilet facilities in the New Territories and outlying islands.

11. It is an initiative in the Policy Agenda to convert all aqua privies in the territory into flushing toilets by 2012-2013. When the first six phases, i.e. **6NT** to **12NT** are completed by mid 2011, a total of 317 aqua privies would have been converted into flushing toilets. We plan to convert 145 aqua privies in this final phase to complete the entire conversion programme by 2013. Those aqua privies not included in the final phase will be dealt with separately.

## FINANCIAL IMPLICATIONS

12. We estimate the capital cost of **13NT** to be \$383.3 million in MOD prices (see paragraph 13 below), broken down as follows –

/(a) .....

	\$ million	
(a) Site preparation	35.5	
(b) Building	50.0	
(c) Building services	26.9	
(d) Drainage	149.6	
(e) Slope works	14.1	
(f) External works	8.8	
(g) Additional energy conservation measures	0.3	
(h) Consultants' fees	5.7	
(i) contract administration	5.3	
(ii) management of resident site staff	0.4	
(i) Remuneration of resident site staff	1.1	
(j) Provision of temporary portable toilets	8.0	
(k) Contingencies	<u>30.0</u>	
Sub-total	330.0	(in September 2010 prices)
(l) Provision for price adjustment	<u>53.3</u>	
Total	<u>383.3</u>	(in MOD prices)

We propose to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees and resident site staff costs by man-months is at Enclosure 7. The construction floor area (CFA) of **13NT** is about 7 612 square metres (m<sup>2</sup>). The estimated construction unit cost, represented by the building and building services

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costs, are \$10,102 per m<sup>2</sup> of CFA in September 2010 prices. We consider this unit cost reasonable as compared with the previous phases of the conversion programme.

13. Subject to approval, we will phase the expenditure as follows –

<b>Year</b>	<b>\$ million (Sept 2010)</b>	<b>Price adjustment factor</b>	<b>\$ million (MOD)</b>
2011 – 12	30.0	1.04250	31.3
2012 – 13	65.0	1.09463	71.2
2013 – 14	130.0	1.14936	149.4
2014 – 15	55.0	1.20682	66.4
2015 – 16	30.0	1.27169	38.2
2016 – 17	20.0	1.34163	26.8
	<hr/> 330.0 <hr/>		<hr/> 383.3 <hr/>

14. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period 2011 to 2017. We intend to deliver the proposed works under an existing design and construction term contract which was awarded in September 2009. The contract has been specially created to meet the needs of the phased conversion programme of aqua privies into flushing toilets. This is a 36-month re-measurement contract with provision for price adjustments.

15. Upon completion of the project, the additional annual recurrent expenditure for the 145 aqua privies under phase 7 will be about \$14.8 million. The proposed project will have no impact on fees and charges.

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## PUBLIC CONSULTATION

16. We received no objection from the local community when we consulted them on the proposed aqua privies conversion works. We also completed consulting the relevant District Councils by October 2010 and had their support. A list of the District Councils consulted and the respective meeting dates is at Enclosure 8.

17. On 9 November 2010, we consulted the Legislative Council Panel on Food Safety and Environmental Hygiene on the proposed conversion of 145 aqua privies into flushing toilets under 13NT. The Panel supported the proposal. We will provide an annual progress report to the Panel on the conversion progress of the 53 aqua privies not included in the conversion programme.

## ENVIRONMENTAL IMPLICATIONS

18. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). It will not cause long-term environmental impact. We have included in the project estimates the cost to implement suitable mitigation measures to control short term environmental impacts.

19. During construction, we will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contract. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleansing and watering of the site to prevent dust nuisance.

20. At the planning and design stages, we have considered measures to reduce the generation of construction waste where possible (e.g. using metal hoardings, signboards and pre-fabricated building elements such as steel frame construction and proprietary toilet partitions, together with retaining the existing structures of aqua privies as far as possible). In addition, we will require the contractor to reuse inert construction waste (e.g. excavated materials for filling within the site) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception

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facilities<sup>2</sup>. We will encourage the contractor to maximise the use of recycled / recyclable inert construction waste, as well as the use of non-timber formwork to further reduce the generation of construction waste.

21. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

22. We estimate that the project will generate in total about 6 060 tonnes of construction waste. Of these, we will reuse about 110 tonnes (2%) of inert construction waste on site and deliver 5 705 tonnes (94%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining 245 tonnes (4%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$184,660 for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne<sup>3</sup> at landfills).

## ENERGY CONSERVATION MEASURES

23. This project has adopted T5 energy efficient fluorescent tubes with electronic ballasts and lighting control by occupancy sensors as the energy efficient feature.

24. The total estimated additional cost for adopting the above energy

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<sup>2</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

<sup>3</sup> This estimate has taken into account the cost of developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90 per m<sup>3</sup>), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.



efficient feature is about \$0.3 million, which has been included in the cost estimate of the project. The energy efficient feature will achieve 6.5% energy savings in the annual energy consumption with a payback period of about 2.5 years.

## HERITAGE IMPLICATIONS

25. This project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

## LAND ACQUISITION

26. The project does not require any land acquisition.

## BACKGROUND INFORMATION

27. We upgraded **13NT** to Category B in September 2010. We engaged a consultant to carry out site investigation in 2009. We have charged the cost of \$700,000 to block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The site investigation has been completed.

28. The proposed aqua privies conversion works will not involve any tree removal or planting proposals.

29. We estimate that the proposed works will create about 255 jobs (231 for labourers and another 24 for professional/technical staff) providing a total employment of 6 880 man-months.

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**Reasons for not including 53 APs in the conversion programme****53 個旱廁不獲納入改建計劃的原因**

Reasons 原因	No. of APs 旱廁數目
Involving private land issues / affected by other private developments or other projects 涉及私人土地問題／受其他私人發展計劃或其他工程影響	36
The local community opposes the conversion or requests the relocation / reprovisioning / demolition of the APs 當區人士反對改建或要求搬遷／重置／拆卸有關旱廁	10
Project / site constraints 工程／工地限制	4
Food and Environmental Hygiene Department proposes and the local community supports the demolition of the APs 食物環境衛生署建議及當區人士支持拆卸有關旱廁	3 <sup>Note 註</sup>
Total 共	53

Note: Reasons for demolishing the APs are as follows:

註：建議拆卸有關旱廁的原因如下：

- AP at Tung Lo Wan Hill Top Village (ST-21) - With another public toilet nearby, the local community supports the proposal on demolition of the AP. Demolition works was completed in October 2010.  
銅鑼灣山頂村旱廁(ST-21)－因附近另有公廁，當區人士亦支持拆卸旱廁的建議。拆卸工程已在 2010 年 10 月完成。

**Enclosure 1 to PWSC(2010-11)20**  
**PWSC(2010-11)20 附件 1**

- AP at Lin Ma Hang (2) (N-94) - With another public toilet nearby, the local community supports the proposal on demolition of the AP. Demolition was completed in October 2010.

蓮麻坑(2)旱廁(N-94)－因附近另有公廁，當區人士亦支持拆卸旱廁的建議。拆卸工程已在 2010 年 10 月完成。

- AP at Heung Yuen (N-116) - In view of the low utilisation rate, the local community supports the proposal on demolition of the AP. Demolition works commenced in late November 2010.

香園旱廁(N-116)－因使用率低，當區人士亦支持拆卸旱廁的建議。拆卸工程已在 2010 年 11 月底展開。

**13NT – Conversion of aqua privies into flushing toilets – phase 7**

**Locations of 145 aqua privies on the Conversion List**

**13NT – 把旱廁改為沖水式廁所 – 第 7 期**

列於改建名單的 145 個旱廁所在地點

**A. Locations of 13 aqua privies to be converted under Type 1 works**

擬進行第一類改建工程的 13 個旱廁的地點

**North District 北區**

1. Hang Tau Village, Sheung Shui 上水坑頭村

**Sai Kung District 西貢區**

1. Pik Shui Sun Tsuen (2) 碧水新村(2)

**Tai Po District 大埔區**

1. Tai Po Kau Lo Wai II 大埔滘老圍(二)

**Tuen Mun District 屯門區**

1. Chan Uk Tsuen, So Kwun Wat 掃管笏陳屋村
2. Tai Lam Chung Tsuen 大欖涌村
3. San Shek Wan Resite Area, Phase 1 散石灣遷置區第 1 期

**Yuen Long District 元朗區**

1. Shui Tsiu San Tsuen (2) 水蕉新村(2)
2. Tai Kei Leng 大旗嶺
3. Sheung Che Tsuen 上輦村
4. Wai Tsai Tsuen 圍仔村
5. Ki Lun Shan 麒麟山
6. Tai Sang Wai (1) 大生圍(1)
7. Fuk Hing Tsuen, Ping Shan 屏山福慶村

**B. Locations of 125 aqua privies to be converted under Type 2 works**  
**擬進行第二類改建工程的 125 個旱廁的地點**

**Islands District 離島區**

1. Pak Kok Village, Lamma 南丫島北角村
2. Luk Chau, Lamma 南丫島鹿洲
3. Shan Ting Village, Peng Chau 坪洲山頂村
4. Nam Wan Sun Tsuen, Peng Chau 坪洲南灣新村
5. Ngau Kwu Long, Lantau 大嶼山牛牯壆
6. Hau Wong Temple, Tung Chung 東涌侯王廟
7. Lower Keung Shan, Lantau 大嶼山下羌山
8. Fan Lau, Lantau 大嶼山分流
9. Ko Long Village, Lamma 南丫島高壆村
10. Lutheran Village II, Cheung Chau 長洲信義第二村

**Kwai Tsing District 葵青區**

1. Shing Mun Road, Kwai Chung 葵涌城門道
2. Kau Wah Keng Village 九華徑村

**North District 北區**

1. Cheung Lek Tsuen 長瀝村
2. Hang Tau (Ngai Yuen Tsuen) 坑頭(藝園村)
3. Kai Ling (Tsung Tsai Yuen) 雞嶺松仔園
4. Kwu Tung (Tiu Yuen) 古洞(調園)
5. Ma Cho Lung San Tsuen 馬草壟新村
6. Ma Cho Lung Yu Hing Tong 馬草壟餘慶堂
7. Ping Kong Tsuen (2) 丙崗村(2)
8. Tong Kung Leng 唐公嶺
9. Tsiu Keng Lo Wai 蕉徑老圍
10. Tsiu Keng Pang Uk 蕉徑彭屋
11. Ying Pun Tsuen 營盤村
12. Ko Po Tsuen 高埔村
13. Kwan Tei (North) 軍地(北)
14. Leng Pei Tsuen 嶺皮村
15. Ma Mei Ha 馬尾下
16. Po Kat Chai, Lau Shui Heung 流水響布吉仔
17. San Uk Tsai 新屋仔
18. Wang Shan Keuk San Tsuen 橫山腳新村

**Enclosure 2 to PWSC(2010-11)20**  
**PWSC(2010-11)20 附件 2**

19. Ap Chau (2) 鴨洲 (2)
20. Fung Hang 鳳坑
21. Ha Wo Hang 下禾坑
22. Kat O Fisherman's Village 吉澳漁民村
23. Loi Tung 萊洞
24. Luk Keng (Wong Uk) 鹿頸(黃屋)
25. Nam Chung (Lo Uk) 南涌(羅屋)
26. Sam Ah 三桠
27. Sheung Ma Tseuk Leng 上麻雀嶺
28. Ngar Yiu 瓦窰
29. Yuen Ha Tsuen 元下村
30. Shui Tong Hang, Kwu Tung 古洞水塘坑
31. Shek Wu San Tsuen 石湖新村
32. Sha Ling, Cheung Po Tau Tsuen 沙嶺長莆頭村
33. Man Kam To 文錦渡
34. Hok Tau Tsuen, Fanling 粉嶺鶴藪村

**Sai Kung District 西貢區**

1. Pak Shek Wo Sun Tsuen 白石窩新村
2. Ta Ku Ling Sun Tsuen 打鼓嶺新村
3. Sheung Yeung 上洋
4. Lung Ha Wan 龍蝦灣
5. Tai Miu 大廟
6. Nam Pin Wai 南邊圍
7. Luk Mei Tsuen 鹿尾村
8. Pak Sha Wan Fisherman Village 白沙灣漁民新村
9. Ma Nam Wat 麻南笏
10. Hung Fa Village (2) 紅花村(2)
11. Muk Min Shan Road 木棉山路
12. Tai Wan Tsuen 大環村
13. Kei Ling Ha Sun Wai 企嶺下新圍
14. Che Ha Village 輦下村
15. Tseng Tau Pier 井頭碼頭
16. Yim Tin Tsai 鹽田仔
17. Hap Mun Bay 廈門灣
18. Shui Bin Tsuen 水邊村
19. Pik Shui Sun Tsuen (3) 碧水新村(3)

**Sha Tin District 沙田區**

1. Mui Tsz Lam Village 梅子林村
2. Ma On Shan Village Hilltop 馬鞍山村山頂

**Tai Po District 大埔區**

1. Tai Wo Village 大窩村
2. Kau Lung Hang Village 九龍坑村
3. Kau Lau Wan Site I 高流灣(一)
4. Kau Lau Wan Site II 高流灣(二)
5. Tang Ka Wan 旦家灣

**Tsuen Wan District 荃灣區**

1. Fu Yung Shan Yiu Tai 芙蓉山姚大
2. Sham Tseng East Tsuen 深井東村
3. Sham Tseng Commercial Village 深井商業新村
4. Yam O 陰澳
5. Lung Yue Road 龍如路
6. Kwong Pan Tin Village (Section II) 光板田村二段
7. Sheung Kwai Chung Tsuen 上葵涌村

**Tuen Mun District 屯門區**

1. Wo Ping San Tsuen 和平新村
2. Sun Fung Wai 順風圍
3. Chung Wong Toi 頌皇台
4. Luen On San Tsuen 聯安新村
5. Wu Uk Tsuen, Tai Lam 大欖胡屋村
6. Po Tong Ha Tsuen 寶塘下村

**Yuen Long District 元朗區**

1. Pak Sha 白沙
2. Pak Sha Tsuen (2) 白沙村(2)
3. Wong Nai Tun (inside) 黃泥墩(內)
4. Wong Nai Tun Tsuen (Nullah) 黃泥墩村(明渠)
5. Sham Chung Tsuen 深涌村
6. Lai Sau Tsuen, (Fraser Village) 禮修村
7. Tong Tau Po Tsuen 塘頭埔村
8. Nga Yiu Tau Tsuen 瓦窰頭村
9. Chung Hau Tsuen (1) 涌口村(1)

**Enclosure 2 to PWSC(2010-11)20**  
**PWSC(2010-11)20 附件 2**

10. Sai Pin Wai (1) 西邊圍(1)
11. Shan Pui Tsuen 山貝村
12. Tin Shing Wai near Small Traders New Village 天盛圍近小商新村
13. Pang Ka Tsuen 彭家村
14. Ta Shek Wu 打石湖
15. Ku Miu, Cheung Uk Tsuen 張屋村古廟
16. To Uk Tsuen 杜屋村
17. Lai Uk Tsuen beside Lai Ka Tze 黎屋村黎家祠旁
18. Shui Lau Tin Tsuen 水流田村
19. Yuen Kong San Tsuen 元崗新村
20. Cheung Po Tsuen (1) 長莆村(1)
21. Ng Ka Tsuen 吳家村
22. Kiu Tau Wai 橋頭圍
23. Sha Kong Wai 沙江圍
24. Fu Tso Tsuen, Deep Bay Road 深灣路虎草村
25. Mong Tseng Wai 輞井圍
26. Mong Tseng Tsuen (1) 輞井村(1)
27. Sha Kiu, Sheung Wan 上灣沙橋
28. Tung Tau Tsuen 東頭村
29. Kau Lee Uk Tsuen 舊李屋村
30. Po Quar Ling 蒲瓜嶺
31. Chung Pak Nai (Ngau Hom Shek) (1) 中白泥(鰲磡石)(1)
32. Ha San Wai 下新圍
33. Pang Loon Tei (Siu Hom) 彭龍地(小磡)
34. Chau Tau Tsuen 洲頭村
35. Shek Po Tsuen near car park, Hung Shui Kiu 洪水橋石埗村近停車場
36. Shui Tau Tsuen 水頭村
37. San Sang Tsuen 新生村
38. Ha Tsuen Shi, VMO 廈村市菜站
39. Mai Po Lung Tsuen, San Tin 新田米埔隴村
40. Ha Wan Tsuen, San Tin 新田下灣村



**C. Locations of 7 aqua privies to be converted under Type 3 works**  
**擬進行第三類改建工程的 7 個旱廁的地點**

**North District 北區**

1. Leng Tsai Tsuen 嶺仔村

**Sai Kung District 西貢區**

1. Man Sau Sun Tsuen 萬壽新村
2. Tun Cheung Upper Village 薹場上村

**Tai Po District 大埔區**

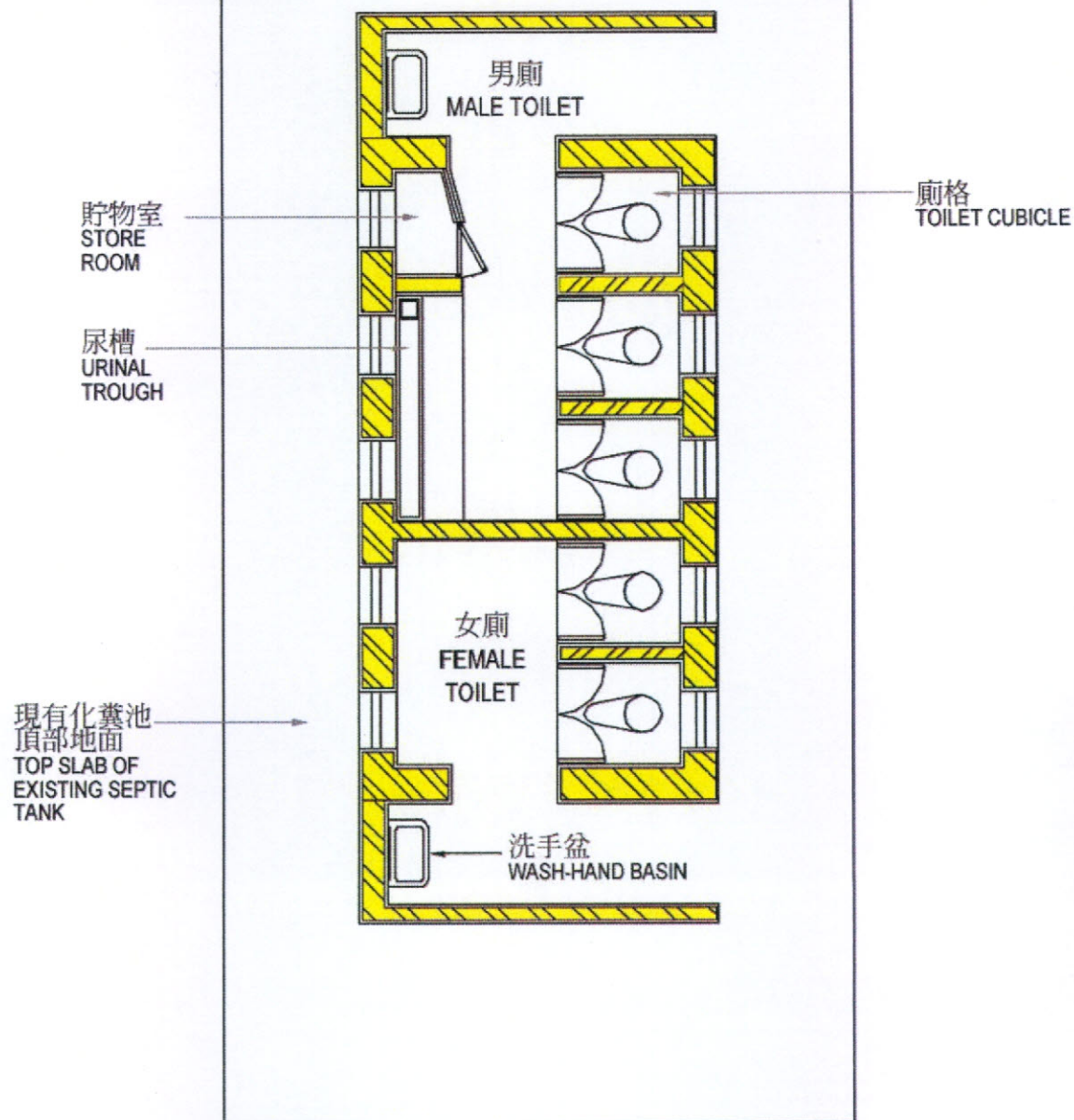
1. Shuen Wan Li Uk 船灣李屋

**Tsuen Wan District 荃灣區**


1. Tsing Fai Tong Village 清快塘村
2. Shu On Terrace Village 舒安台村

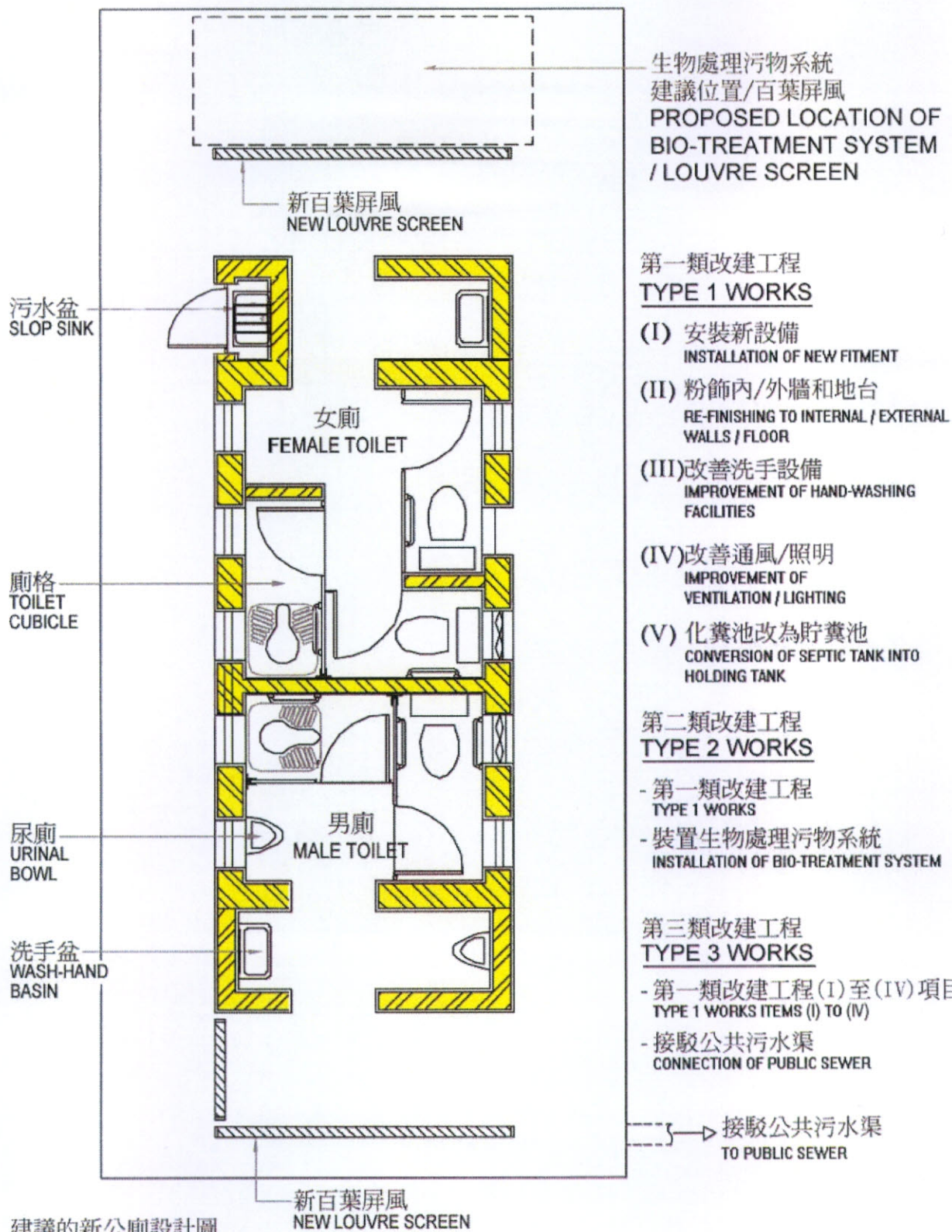
**Yuen Long District 元朗區**

1. Sai Pin Wai (2) 西邊圍(2)



現有旱廁平面圖的例子  
EXAMPLE OF AN EXISTING AQUA PRIVY LAYOUT

title 13NT 把旱廁改為沖水式廁所 - 第7期 CONVERSION OF AQUA PRIVIES INTO FLUSHING TOILETS - PHASE 7	drawn by	J.S.LUI	date	03.12.10	drawing no.	PMB/7837/P7/XA102e	scale	1:50
	approved	J. LAM	date	03.12.10				
	office	Project Management Branch			 ARCHITECTURAL SERVICES DEPARTMENT			



建議的新公廁設計圖

## TYPICAL SCHEMATIC LAYOUT PROPOSAL

第一類改建工程  
TYPE 1 WORKS

- (I) 安裝新設備  
INSTALLATION OF NEW FITMENT
- (II) 粉飾內/外牆和地台  
RE-FINISHING TO INTERNAL / EXTERNAL  
WALLS / FLOOR
- (III) 改善洗手設備  
IMPROVEMENT OF HAND-WASHING  
FACILITIES
- (IV) 改善通風/照明  
IMPROVEMENT OF  
VENTILATION / LIGHTING
- (V) 化糞池改為貯糞池  
CONVERSION OF SEPTIC TANK INTO  
HOLDING TANK

第二類改建工程  
TYPE 2 WORKS

- 第一類改建工程  
TYPE 1 WORKS
- 裝置生物處理污物系統  
INSTALLATION OF BIO-TREATMENT SYSTEM

第三類改建工程  
TYPE 3 WORKS

- 第一類改建工程 (I) 至 (IV) 項目  
TYPE 1 WORKS ITEMS (I) TO (IV)
- 接駁公共污水渠  
CONNECTION OF PUBLIC SEWER

title 13NT  
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- PHASE 7

drawn by J.S.LUI  
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date 03.12.10  
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PMB/7837/P7/XA103f

scale  
1:50



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# Example of Conversion of Aqua Privies into Flushing Toilets 把旱廁改為沖水式廁所的例子

## Exterior View of Toilet 廁所外觀

Before conversion 改建前



After conversion 改建後



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03.12.10

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# Example of Conversion of Aqua Privies into Flushing Toilets 把旱廁改為沖水式廁所的例子

## Interior View of Toilet 廁所內貌

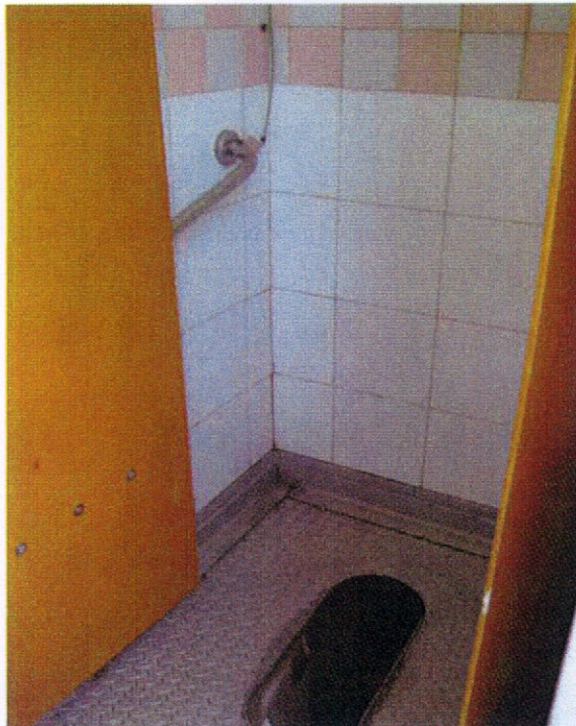
Before conversion 改建前



After conversion 改建後



Before conversion 改建前



After conversion 改建後



title 13NT  
把旱廁改為沖水式廁所  
- 第7期  
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date 03.12.10

office Project Management Branch

drawing no. PMB/7837/P7/XA104-1c

scale NTS



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**13NT – Conversion of aqua privies into flushing toilets – phase 7****Breakdown of the estimates for consultants' fees and resident site staff costs  
(in September 2010 prices)**

		Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a) Consultants' fee for contract administration (Note 2)	Professional	—	—	—	2.4
	Technical	—	—	—	2.9
				Sub-total	5.3
(b) Resident site staff costs (Note 3)	Technical	47	14	1.6	1.5
				Sub-total	1.5
Comprising –					
(i) Consultants' fees for management of resident site staff					0.4
(ii) Remuneration of resident site staff					1.1
				<b>Total</b>	<b>6.8</b>

\* MPS = Master Pay Scale

**Notes**

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of resident site staff supplied by the consultants. (As at now, MPS salary point 14 = \$19,945 per month.)
2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **13NT**. The assignment will only be executed subject to Finance Committee's approval to upgrade **13NT** to Category A.
3. The consultants' staff cost for site supervision is based on the estimate prepared by the Director of Architectural Services. We will only know the actual man-months and actual costs after completion of the construction works.

**13NT – Conversion of aqua privies into flushing toilets – phase 7**

**13NT – 把旱廁改為沖水式廁所 – 第 7 期**

**List of District Councils/ Subcommittees Consulted**

**已諮詢的區議會或其轄下委員會名單**

<b>District 區</b>	<b>District Councils/Subcommittees consulted 已諮詢的區議會或其轄下委員會</b>	<b>Date of Consultation 諮詢日期</b>
Islands 離島區	Tourism, Agriculture, Fisheries & Environmental Hygiene Committee 旅遊漁農及環境衛生委員會	16.3.2009 20.9.2010
Kwai Tsing 葵青區	Community Affairs Committee 社區事務委員會	19.2.2008 18.10.2010
North 北區	District Minor Works & Environmental Improvement Committee 地區小型工程及環境改善委員會	16.3.2009 20.9.2010
Sai Kung 西貢區	Housing & Environmental Hygiene Committee 房屋及環境衛生委員會	29.9.2009 15.9.2010
Sha Tin 沙田區	Health and Environment Committee 衛生及環境委員會	15.10.2010
Tai Po 大埔區	Environment, Housing & Works Committee 環境、房屋及工程委員會	11.3.2009 15.9.2010
Tsuen Wan 荃灣區	Environmental and Health Affairs Committee 環境及衛生事務委員會	28.2.2008 5.3.2009
Tuen Mun 屯門區	Environment, Hygiene & District Development Committee 環境、衛生及地區發展委員會	20.3.2009 17.9.2010
Yuen Long 元朗區	Environmental Improvement Committee 環境改善委員會	13.9.2010