

**For Discussion  
on 26 April 2004**

## **Legislative Council Panel on Economic Services**

### **Reconstruction of Sha Tau Kok, Wong Shek and Ko Lau Wan Public Piers**

#### **PURPOSE**

This paper briefs Members on the proposal to reconstruct the public piers at Sha Tau Kok, Wong Shek and Ko Lau Wan.

#### **PROPOSAL**

2. We propose to carry out the following works for the public piers at Sha Tau Kok, Wong Shek and Ko Lau Wan under the reconstruction project-

- (a) demolition of three existing piers at Sha Tau Kok, Wong Shek and Ko Lau Wan;
- (b) construction of three replacement piers at Sha Tau Kok, Wong Shek and Ko Lau Wan;
- (c) construction of three roof covers with associated lighting for the three new piers; and
- (d) environmental monitoring and mitigation measures for the proposed works.

3. The site and layout plans of the three piers are at **Enclosures 1 to 3** respectively.

#### **BACKGROUND AND JUSTIFICATIONS**

4. Over the years, a number of public piers were built and maintained to serve local and public users in the rural areas and the outlying islands. As some piers are approaching the end of their serviceable life, plans were drawn up to build new piers to replace and improve the facilities. In March 2002, Members supported the reconstruction of the public piers at Kat O, Peng Chau,

Cheung Chau and Wu Kai Sha. The reconstruction works for these four piers have either been completed or are near completion. The current proposal is part of the on-going exercise.

*Services Provided By The Piers*

5. Details of the berthing facilities provided by the three piers are tabulated below-

| <b>Location of the public pier</b> | <b>Berthing facilities</b>   |
|------------------------------------|--|
| Sha Tau Kok                        | For use by regular “kaito” services between Sha Tau Kok (沙頭角) and Kat O Chau (吉澳洲); local fishing vessels and government vessels   |
| Wong Shek                          | For use by regular “kaito” services between Ma Liu Shui (馬料水) and Wong Shek (黃石) via Ko Lau Wan (高流灣), and between Tap Mun (塔門) and Wong Shek via Ko Lau Wan; pleasure vessels operating in Sai Kung North area and government vessels   |
| Ko Lau Wan                         | For use by regular “kaito” services between Ma Liu Shui and Wong Shek via Ko Lau Wan, and between Tap Mun and Wong Shek via Ko Lau Wan; pleasure vessels operating in Sai Kung North area; local fishing vessels; Chee Wan Floating Clinic (醫療船慈雲號) and other government vessels |

*Structural Conditions of the Piers*

6. The existing public piers at Sha Tau Kok, Wong Shek and Ko Lau Wan were built in the 1960s and are currently maintained by Civil Engineering Department (CED). All three piers were constructed in the form of prestressed concrete structure. In conducting inspection for the piers during the past few years, CED found that the three piers are in poor condition. They are deteriorating with broken prestressed tendons and spalling concrete. The concrete cover to the steel reinforcements of the prestressed structural elements is significantly below the present standard for corrosion protection. The prestressed tendons in the concrete, which were designed for very high tensile stresses, are suffering from significant corrosion and cannot be repaired or restored to the original state. The partial loss of function of such essential structural element has significant impact on the integrity of prestressed concrete structure. Even with costly repair implemented, the long term durability of the structure will still be limited. In the interest of public safety, we propose to

reconstruct the piers.

### *Utilization Rates of the Piers*

7. Based on the statistics provided by District Offices, District Planning Offices and Transport Department, the utilization rates of the existing piers in terms of population served by the piers and the patronage by licensed ferries and kaito services are summarized in **Enclosures 4** and **5**. CED has conducted field surveys on the pier usage including number of vessels and users for each pier on selected weekdays, weekends and public holidays in January to April 2004. The results of the field surveys are summarized in Enclosure 6.

## **PUBLIC CONSULTATION**

8. We have consulted the North District Council on 21 July 2003 and the Sha Tau Kok Rural Committee on 24 June 2003 and 24 October 2003 on the proposed reconstruction of public pier at Sha Tau Kok. We have also consulted Sai Kung North Rural Committee and Tai Po District Council on 13 May 2003 and 18 July 2003 respectively on the proposed reconstruction of public piers at Wong Shek and Ko Lau Wan. The Committees/Councils supported the proposed reconstruction works.

9. In view of the potential for tourism development at Sha Tau Kok, the Sha Tau Kok Rural Committee proposed that two additional berths for the new Sha Tau Kok Public Pier should be constructed. This request has the support of the North District Council. In view of the inadequacy in handling the berthing needs at the existing Wong Shek Public Pier, an additional berth for reconstructed Wong Shek Public Pier is also proposed. The proposal has the support of the Sai Kung North Rural Committee and the Tai Po District Council.

10. Under the Foreshore and Sea-bed (Reclamations) Ordinance, Cap. 127, we gazetted the proposed reconstruction works at Wong Shek and Ko Lau Wan on 8 August 2003, and at Sha Tau Kok on 9 January 2004. No objection was received to the reconstruction works. We gazetted the authorization of the proposed reconstruction works at Wong Shek and Ko Lau Wan on 31 October 2003, and at Sha Tau Kok on 2 April 2004.

## **ENVIRONMENTAL IMPLICATIONS**

11. Reconstruction of Sha Tau Kok and Ko Lau Wan public piers are not designated projects under the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). For each of these two piers, we completed a Preliminary Environmental Review (PER) in 2003 which were agreed by the Director of Environmental Protection (DEP). The PERs concluded that with implementation of mitigation measures the works would not cause adverse environmental impact.

12. The reconstruction of Wong Shek Public Pier is a designated project under Schedule 2 of the EIA Ordinance as the site falls partly within the Sai Kung East Country Park. Having regard to the project profile, the DEP is satisfied that the environmental impact of the project can meet the requirements of the Technical Memorandum on EIA Process. With the consent of the Secretary for the Environment, Transport and Works, the permission to apply directly for an environmental permit was granted in July 2003.

13. We will carry out environmental mitigation measures set out in the PERs and the environmental permit, which include the installation of silt curtain around sea area where piling will be carried out. In addition, we will implement other standard pollution control measures such as silencers and siltation chambers to control short-term environmental impact during construction to within the established standards and guidelines. We will also implement Environmental Monitoring and Audit during construction.

14. We will require the contractors to submit waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reuse and recycle construction and demolition (C&D) materials. We will ensure that the day-to-day operations on site comply with the approved WMP. We will control the disposal of C&D materials to designated artificial reefs deployment site(s), public filling areas and/or landfills through a trip ticket system. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

15. We have considered in the planning and design stages the need to minimize the generation of C&D materials. We estimate that the proposed works will generate about 2 255 cubic metres (m<sup>3</sup>) of C&D materials, including broken concrete by the demolition of the existing piers and timber fenders in the existing piers. Of these, we will reuse about 1 668 m<sup>3</sup> (74.0%) of demolished pier elements as artificial reefs in appropriate deployment site(s) as

directed by the Director of Agriculture, Fisheries and Conservation, 512 m<sup>3</sup> (22.7%) as fill in public filling areas\* and 75 m<sup>3</sup> (3.3%) will be disposed of at landfills.

16. The proposed reconstruction of the existing public piers at Sha Tau Kok, Wong Shek and Ko Lau Wan will not involve any tree removal or planting proposals.

## **LAND ACQUISITION**

17. The proposed works do not require any land acquisition and clearance.

## **WAY FORWARD**

18. We included the project in Category B of the Public Works Programme in November 2002 which originally contained the reconstruction of public piers at Sha Tau Kok, Wong Shek, Ko Lau Wan, Sham Chung and Lai Chi Chong. CED has completed the design of the project using in-house resources and the piers will have a design life of 50 years in accordance with Port Works Design Manual. We will also take this opportunity to upgrade the facilities by providing roof covers to the replacement piers for shelter and shading purposes. The roof design will be compatible with the surrounding environment. During the reconstruction stage, we will provide temporary berthing and mooring facilities to the existing piers at Sha Tau Kok, Wong Shek and Ko Lau Wan. The operation of the piers will not be affected.

19. However, the reconstruction of public piers at Sham Chung and Lai Chi Chong will be deferred. There were objections lodged during the gazettal under the Foreshore and Sea-bed (Reclamations) Ordinance on 9 January 2004 and 13 February 2004 for these two piers which would take time to resolve. At the same time, we are reviewing the need for reconstructing these two piers in the light of recent usage patterns.

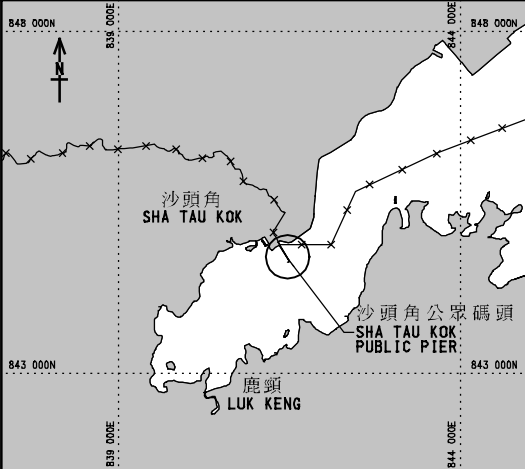
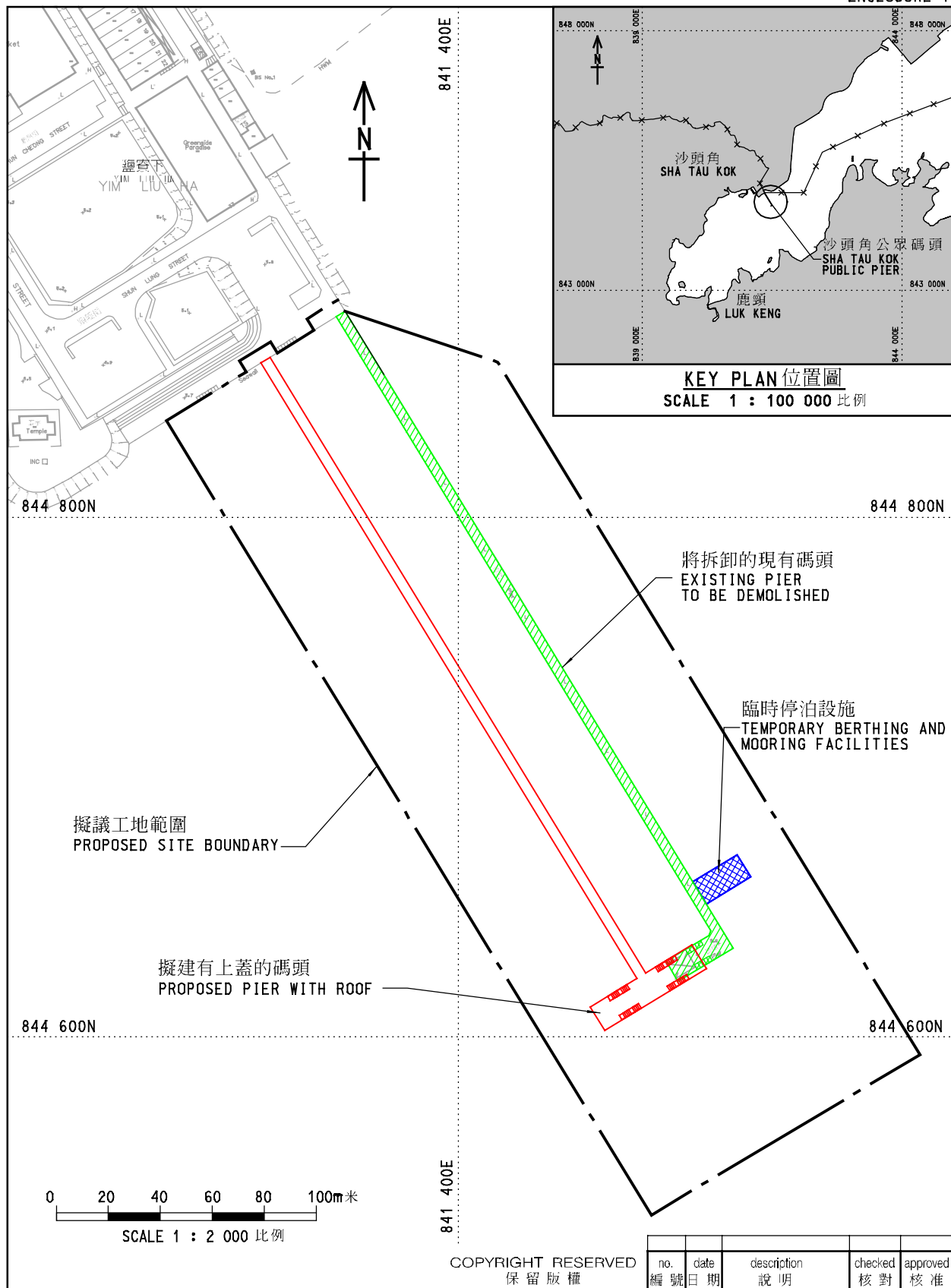
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\* A public filling area is a designated part of a development project that accepts public fill for reclamation purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering.

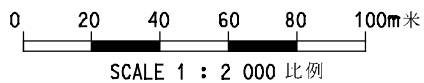
20. We plan to submit the proposed project for reconstructing public piers at Sha Tau Kok, Wong Shek and Ko Lau Wan to the Public Works Sub-Committee on 9 June 2004 for upgrading part of the project to Category A at an estimated cost of \$109.0 million in money-of-the-day prices. The cost breakdown is set out at **Enclosure 7**. The cost for Sha Tau Kok Public Pier is higher due to a longer catwalk and two additional berths. The annual recurrent expenditure arising from this project is estimated to be \$210,000 which will be absorbed by the concerned departments. Subject to the funding approval of the Finance Committee, we plan to commence the reconstruction works in October 2004 for completion in October 2006.

21. We estimate that the part of the project we now propose to upgrade to Category A will create about 90 jobs (78 for labourers and another 12 for professional/technical staff) providing a total employment of 2 160 man-months.


Economic Development and Labour Bureau  
April 2004



KEY PLAN 位置圖  
SCALE 1 : 100 000 比例



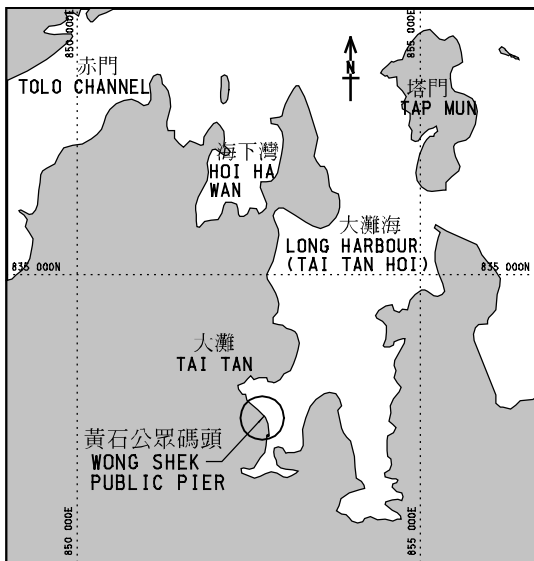
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| no.<br>編號  | date<br>日期 | description<br>說明   | checked<br>核對 | approved<br>核准 |
|--|------------|---|---------------|----------------|
| drawing no. 圖則編號   |            | TS 2267   | scale 比例      |                |
|  |            |   | 1:2 000       |                |
| office TECHNICAL SERVICES DIVISION 工程技術部<br>CIVIL ENGINEERING OFFICE 土木工程處 |            |  <b>CIVIL ENGINEERING DEPARTMENT 香港<br/>HONG KONG 土木工程署</b> |               |                |

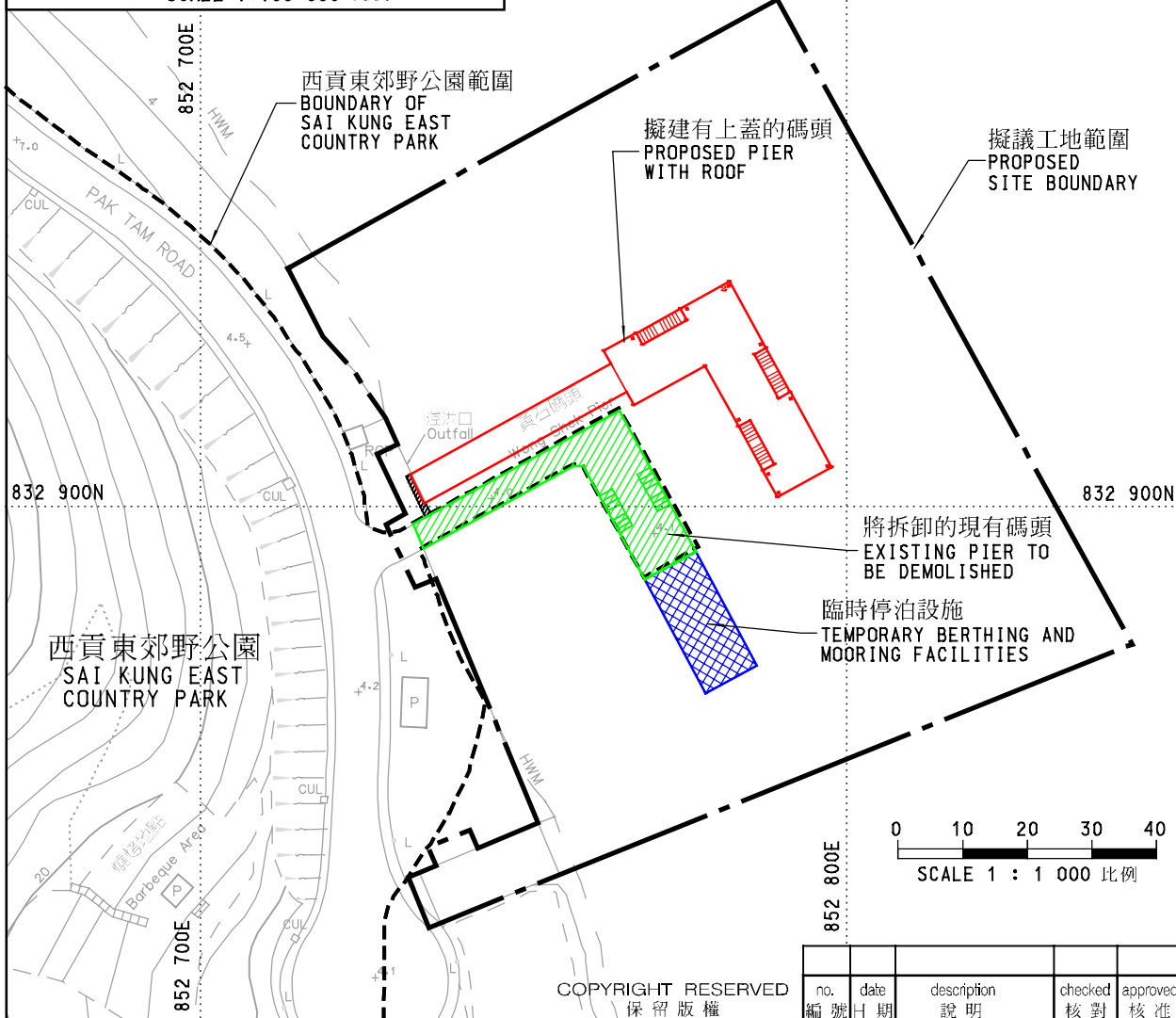
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沙頭角公眾碼頭重建  
工程-總平面圖  
RECONSTRUCTION OF  
SHA TAU KOK PUBLIC  
PIER-  
GENERAL LAYOUT

|             | name 姓名  | initial 簡簽 | date 日期  |
|-------------|----------|------------|----------|
| designed 設計 | N H SHUM |            | 2.3.2004 |
| drawn 繪畫    | K L CHAN |            | 2.3.2004 |
| checked 核對  | Y W LI   |            | 2.3.2004 |
| approved 核准 | N P TONG |            | 2.3.2004 |

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**KEY PLAN 位置圖**  
SCALE 1:100 000 比例



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title 名稱  
黃石公眾碼頭重建  
工程 - 總平面圖  
**RECONSTRUCTION OF  
WONG SHEK PUBLIC  
PIER -  
GENERAL LAYOUT**

|             | name 姓名   | initial 簡簽 | date 日期  |
|-------------|---|------------|----------|
| designed 設計 | K W MO  |            | 2.3.2004 |
| drawn 繪畫    | K L CHAN  |            | 2.3.2004 |
| checked 核對  | W L CHAN  |            | 2.3.2004 |
| approved 核准 | N P TONG  |            | 2.3.2004 |
| office      | TECHNICAL SERVICES DIVISION 工程技術部<br>CIVIL ENGINEERING OFFICE 土木工程處 |            |          |

| no. 編號 | date 日期 | description 說明 | checked 核對 | approved 核准 |
|--------|---------|----------------|------------|-------------|
|        |         |                |            |             |

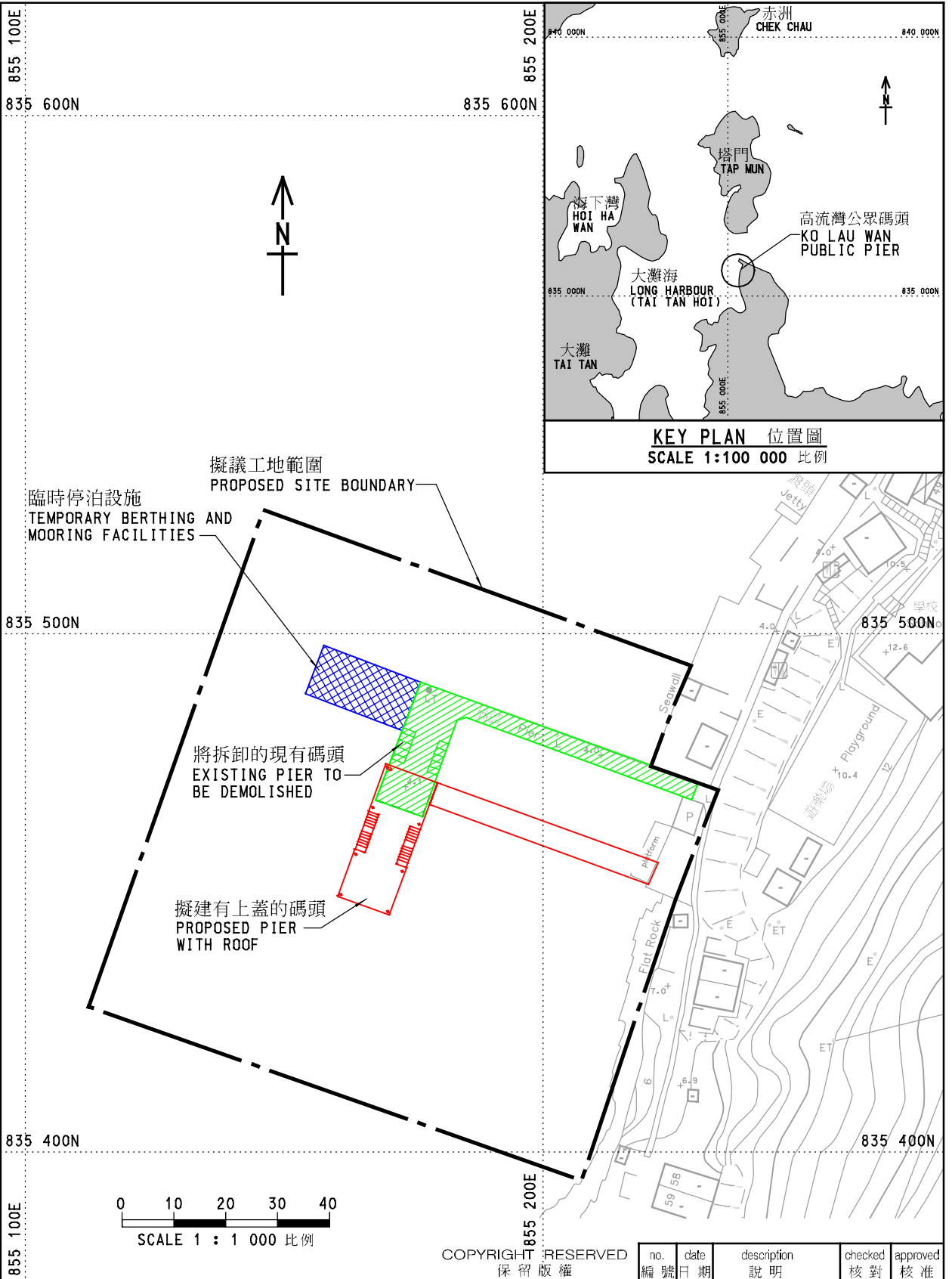
drawing no. 圖則編號  
**TS 2265**

scale 比例  
1:1000

 **CIVIL ENGINEERING  
DEPARTMENT 香港  
HONG KONG 土木工程署**


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title 名稱  
**高流灣公眾碼頭重建工程 - 總平面圖**  
**RECONSTRUCTION OF KO LAU WAN PUBLIC PIER - GENERAL LAYOUT**

|  | name 姓名  | initial 簡簽 | date 日期  |
|--|----------|------------|----------|
| designed 設計  | T W MOK  |            | 2.3.2004 |
| drawn 繪畫   | K L CHAN |            | 2.3.2004 |
| checked 核對   | Y W LI   |            | 2.3.2004 |
| approved 核准  | N P TONG |            | 2.3.2004 |
| office TECHNICAL SERVICES DIVISION 工程技術部<br>CIVIL ENGINEERING OFFICE 土木工程處 |          |            |          |

| no. 編號   | date 日期 | description 說明   | checked 核對 | approved 核准 |
|--|---------|--|------------|-------------|
| drawing no. 圖則編號   |         | <b>TS 2266</b>   | scale 比例   |             |
|  |         |  | 1:1000     |             |
|  |         | <b>CIVIL ENGINEERING DEPARTMENT 香港</b><br><b>HONG KONG 土木工程署</b> |            |             |
|  |         |  |            |             |

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### Population Serviced by the Piers

| Pier                    | Name of Local Village(s) served by the Pier   | Villages Covered in the Census                                | Population served by the Pier  |  | Remarks   |
|-------------------------|---|---|--|--|---|
|                         |   |   | Figures provided by <u>District Office Consulting Village Representatives</u> (Note) | Figures provided by <u>District Planning Office</u> based on 2001 Census |   |
| Sha Tau Kok Public Pier | Kat O; Ap Chau; Sai Lau Kong; Yung Shue Au; Kuk Po; Fung Hang; 7 Villages in Hing Chun Yeuk | Kat O; Ap Chau; Sai Lau Kong; Yung Shue Au; Kuk Po; Fung Hang | 274  | 117  | There are 10 restaurants near Sha Tau Kok Public Pier with around 600 daily customers   |
| Wong Shek Public Pier   | Ko Lau Wan Village; Tap Mun Village; Tap Mun Fishermen Village                              | --  | 8,700  | --   | There is no local village in the vicinity of Wong Shek Public Pier, but Wong Shek Public Pier serves as the major land access point for Tap Mun and Ko Lau Wan. |
| Ko Lau Wan Public Pier  | Ko Lau Wan Village  | Ko Lau Wan Village  | 600  | 227  | --  |

Note – Figures include local villagers, fishermen and other mariculturists served by the piers.

**Patronage by Licensed Ferries and Kaito Services**  
**(Figures provided by Transport Department)**

| <b>Pier</b>                   | <b>Licensed Ferries and Kaito Services</b>                  | <b>Average Daily Arrivals &amp; Departures</b> | <b>Average Daily Patronage of the Pier by Licensed Ferries</b> |
|-------------------------------|---|--|--|
| Sha Tau Kok Public Pier       | Kaito (Sha Tau Kok to Kat O Chau)                           | 5  | 8  |
| Wong Shek Public Pier         | Kaito (Ma Lui Shui to Tap Mun via Wong Shek and Ko Lau Wan) | 2  | 467  |
|                               | Kaito (Wong Shek to Chek Keng)                              | 8 on weekends & holidays                       |  |
|                               | Kaito (Wong Shek to Tap Mun via Ko Lau Wan)                 | 7 on weekdays<br>12 on weekends & Holidays     |  |
| Ko Lau Wan Public Pier (Note) | Kaito (Ma Lui Shui - Tap Mun via Wong Shek and Ko Lau Wan)  | 2  | 329  |
|                               | Kaito (Wong Shek to Tap Mun via Ko Lau Wan)                 | 7 on weekdays<br>12 on weekends & Holidays     |  |

Note – There are also 2-day per week services provided by Chee Wan Floating Clinic at Ko Lau Wan Public Pier.

**Field Survey Results**  
(Surveys conducted by CED)

| Date of Survey               | Number of Pier Users       |                          |                           |
|------------------------------|----------------------------|--------------------------|---------------------------|
|                              | Sha Tau Kok<br>Public Pier | Wong Shek<br>Public Pier | Ko Lau Wan<br>Public Pier |
| Weekends and Public Holidays |                            |                          |                           |
| 25/1/2004                    | (no survey taken)          | 738                      | 314                       |
| 1/2/2004                     | (no survey taken)          | 881                      | 150                       |
| 21/3/2004                    | 286                        | 881                      | 297                       |
| 28/3/2004                    | 232                        | 690                      | (no survey taken)         |
| 5/4/2004                     | 267                        | 1324                     | 253                       |
| 10/4/2004                    | 172                        | 2309                     | 664                       |
| 11/4/2004                    | 224                        | 1474                     | 558                       |
| Weekdays                     |                            |                          |                           |
| 23/3/2004                    | 113                        | 170                      | 42                        |
| 24/3/2004                    | 103                        | 253                      | 51                        |
| 25/3/2004                    | 116                        | 148                      | 25                        |
| 26/3/2004                    | 77                         | 204                      | 21                        |
| 27/3/2004                    | 122                        | 232                      | 27                        |
| 29/3/2004                    | 107                        | 222                      | 42                        |

| Date of Survey               | Number of Vessels          |                          |                           |
|------------------------------|----------------------------|--------------------------|---------------------------|
|                              | Sha Tau Kok<br>Public Pier | Wong Shek<br>Public Pier | Ko Lau Wan<br>Public Pier |
| Weekends and Public Holidays |                            |                          |                           |
| 25/1/2004                    | (no survey taken)          | 64                       | 14                        |
| 1/2/2004                     | (no survey taken)          | 59                       | 11                        |
| 21/3/2004                    | 34                         | 41                       | 23                        |
| 28/3/2004                    | 21                         | 33                       | (no survey taken)         |
| 5/4/2004                     | 26                         | 129                      | 21                        |
| 10/4/2004                    | 18                         | 85                       | 25                        |
| 11/4/2004                    | 14                         | 88                       | 30                        |
| Weekdays                     |                            |                          |                           |
| 23/3/2004                    | 24                         | 36                       | 11                        |
| 24/3/2004                    | 28                         | 69                       | 15                        |
| 25/3/2004                    | 28                         | 52                       | 11                        |
| 26/3/2004                    | 14                         | 74                       | 9                         |
| 27/3/2004                    | 25                         | 64                       | 17                        |
| 29/3/2004                    | 25                         | 57                       | 14                        |

**Project Cost Breakdown**

| Works Items  | Project Cost<br>\$ million (in September 2003 prices) |           |            |              |
|--|---|-----------|------------|--------------|
|  | Sha Tau Kok   | Wong Shek | Ko Lau Wan | Total        |
| (a) Demolition of three existing piers   | 2.9   | 0.6       | 0.8        | 4.3          |
| (b) Construction of three replacement piers (including provision of temporary berthing and mooring facilities to the existing piers) | 48.5  | 21.8      | 16.6       | 86.9         |
| (c) Construction of three roof covers with associated lighting   | 6.5   | 2.6       | 2.0        | 11.1         |
| (d) Environmental monitoring and mitigation measure for the proposed works   | 0.8   | 0.5       | 0.5        | 1.8          |
| (e) Contingencies  | 5.4   | 2.1       | 2.1        | 9.6          |
|  | 64.1  | 27.6      | 22.0       | <b>113.7</b> |

**Forecast Cashflow**

| Year         | \$ million<br>(Sept 2003) | Price<br>Adjustment<br>Factor | \$ million<br>(MOD) |
|--------------|---------------------------|-------------------------------|---------------------|
| 2004 – 05    | 22.2                      | 0.97150                       | 21.6                |
| 2005 – 06    | 62.4                      | 0.95450                       | 59.6                |
| 2006 – 07    | 21.1                      | 0.95450                       | 20.1                |
| 2007 – 08    | 8.0                       | 0.96643                       | 7.7                 |
| <b>Total</b> | <b>113.7</b>              |                               | <b>109.0</b>        |