

CHAPTER 7

Civil Engineering and Development Department

<h4>Works contracts for a Lantau development</h4>
--

**Audit Commission
Hong Kong
25 March 2008**

This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 50 of the Director of Audit contains 7 Chapters which are available on our website at <http://www.aud.gov.hk>.

Audit Commission
26th floor, Immigration Tower
7 Gloucester Road
Wan Chai
Hong Kong

Tel : (852) 2829 4210
Fax : (852) 2824 2087
E-mail : enquiry@aud.gov.hk

WORKS CONTRACTS FOR A LANTAU DEVELOPMENT

Contents

	Paragraph
PART 1: INTRODUCTION	1.1
Background	1.2 – 1.4
Audit review	1.5 – 1.6
Acknowledgement	1.7
 PART 2: SAND SUPPLY FOR RECLAMATION WORKS	 2.1
Reclamation works under Contract A	2.2 – 2.3
Sand supply from the East Lamma Channel	2.4 – 2.17
Audit observations and recommendations	2.18 – 2.21
Response from the Administration	2.22
Sand supply from Mainland waters	2.23 – 2.31
Audit observations and recommendations	2.32 – 2.34
Response from the Administration	2.35
 PART 3: CONTRACT VARIATIONS	 3.1
Award of Contracts B and C	3.2 – 3.3
Management of contract variations	3.4 – 3.6
Audit observations and recommendation	3.7 – 3.8
Response from the Administration	3.9
Duplication of planting works under Contracts B and C	3.10 – 3.14
Audit observations and recommendation	3.15 – 3.16
Response from the Administration	3.17

	Paragraph
PART 4: REVISIONS OF SITE HANDOVER DATES	4.1
Land grant conditions on site handover	4.2
Site handover dates under Contracts B and C	4.3 – 4.6
Revisions of site handover dates under Contracts B and C	4.7 – 4.11
Audit observations and recommendations	4.12 – 4.15
Response from the Administration	4.16

	Page
Appendices	
A : Organisation chart of the Civil Engineering and Development Department showing the relevant offices (1 July 2004)	32
B : Chronology of key events	33 – 35
C : Acronyms and abbreviations	36

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 In late 1999, the Government announced that it would proceed with the development of a theme park at Penny's Bay, Lantau. To support the theme park development, the Government needed to form about 200 hectares of land at Penny's Bay and to provide associated infrastructure. The land formation and infrastructure works had to be completed before the scheduled commissioning of the theme park in 2005.

1.3 In respect of Penny's Bay development, the Civil Engineering and Development Department (CEDD — Note 1) was responsible for:

- (a) carrying out the land formation and infrastructure works; and
- (b) coordinating the work of consultants, government departments and non-government parties involved in the development.

Note 1: *The CEDD was formed in July 2004 by merging the former Civil Engineering Department and the former Territory Development Department. An organisation chart of the CEDD is at Appendix A. For simplicity, the Civil Engineering Department is also referred to as the CEDD in this Report. Similarly, the Director of Civil Engineering is also referred to as the Director of Civil Engineering and Development.*

1.4 Table 1 shows the award and completion dates of three major contracts of the development.

Table 1
Three major works contracts

Contract	Contract award date	Scheduled completion date	Substantial completion date
(a) Forming 200 hectares of land at Penny's Bay by reclamation (Contract A)	29.4.2000	7.1.2003	7.12.2002
(b) Constructing infrastructure facilities at Penny's Bay excluding those within a former shipyard site (Contract B)	12.10.2001	14.4.2005	14.4.2005
(c) Decommissioning a former shipyard and constructing infrastructure facilities thereon (Contract C)	30.7.2002	19.8.2005	19.8.2005

Source: CEDD records

The CEDD was required to complete the three works contracts under tight time schedules. The three contracts were substantially completed on or before the scheduled completion dates.

Audit review

1.5 In 2003, the Audit Commission (Audit) conducted an audit review of the CEDD's administration of Contract A. The review results (mainly related to a supplementary agreement (Note 2) signed in August 2001 under Contract A) were included in Chapter 4 "Penny's Bay Reclamation Stage I Project" of the Director of Audit's Report No. 41 of October 2003.

Note 2: *The agreement was mainly related to the CEDD's buying back of extension of time (resulting from the need of the contractor to comply with some environmental requirements).*

1.6 In 2005, Contracts B and C were substantially completed. In April 2006, the CEDD entered into a settlement agreement with the contractor of Contract A (Contractor A) to resolve some contractual issues relating to the supply of sand for the reclamation works. Audit has recently conducted a review to examine the CEDD's administration of Contracts A, B and C. The review focused on the following areas:

- (a) sand supply for reclamation works (PART 2);
- (b) contract variations (PART 3); and
- (c) revisions of site handover dates (PART 4).

Audit has found that there are areas where improvements can be made by the CEDD in administering works contracts. Audit has made a number of recommendations to address the issues.

Acknowledgement

1.7 Audit would like to acknowledge with gratitude the full cooperation of the CEDD staff during the course of the review.

PART 2: SAND SUPPLY FOR RECLAMATION WORKS

2.1 This PART examines the CEDD's administration of sand supply for the reclamation works under Contract A.

Reclamation works under Contract A

2.2 On 29 April 2000, the CEDD awarded Contract A in the sum of \$3,977 million to Contractor A for forming about 200 hectares of land at Penny's Bay by reclamation. Under the contract, Contractor A was required to complete the reclamation works by January 2003. The CEDD appointed a consultant (Consultant A) as the Engineer for the Contract.

2.3 At the planning stage of the development, the CEDD estimated that about 60 million cubic metres (m³) of fill material (mainly marine sand) would be required for the reclamation works. The Marine Fill Committee (Note 3) identified that the required sand could be obtained from:

- (a) the East Lamma Channel (see paras. 2.4 to 2.17); and
- (b) Mainland waters near Wailingding Island (see paras. 2.23 to 2.31).

Figure 1 shows the locations of the East Lamma Channel and Wailingding Island.

Note 3: *The Marine Fill Committee (formerly the Fill Management Committee) is responsible for identifying and managing the supply of and demand for marine fill resources for engineering projects. The Committee is chaired by the Director of Civil Engineering and Development with representatives from relevant bureaux and departments as its members. The Fill Management Division of the CEDD provides support services to the Committee.*

Figure 1

The East Lamma Channel and Wailingding Island



Source: CEDD records

Sand supply from the East Lamma Channel

1992 site investigation

2.4 In 1990, the CEDD identified the East Lamma Channel as a potential site for supplying marine sand. In 1992, the CEDD commissioned a group of specialised consultants to carry out a site investigation of the East Lamma Channel. The investigation results revealed that:

- (a) the area could supply about 77 million m³ of sand; and
- (b) there were magnetic anomalies detected during a magnetic survey. Three significant magnetic anomalies detected were likely to be due to metallic debris which could represent some hazards to a dredger.

Guidance note on dredging operations in Hong Kong waters

2.5 In the early 1990's, during the implementation of the port and airport development projects, the CEDD found that there was widespread distribution of various types of ordnance (mainly unexploded bombs, shells, grenades and mines left behind during wartime) in Hong Kong seabed. In 1993, the Marine Fill Committee issued a guidance note to relevant contractors and consultants for taking action to minimise the risk associated with ordnance during dredging operations in Hong Kong waters. The guidance note was subsequently updated in 1996 and 2000. The updated guidance note included the following salient points:

- (a) old military plans indicated that mines had been laid in different areas of Hong Kong waters, including the East Lamma Channel; and
- (b) there had been incidents of explosion of ordnance during excavation of materials from the seabed in Hong Kong waters, such as the west of Tsing Yi. Normally these explosions occurred in suction pumps or pipes. As a precautionary measure, excavation equipment should be fitted with a filtering device to prevent ordnance larger than 150 millimetres (mm) in diameter from entering suction pumps and pipes.

2000 marine magnetic survey

2.6 In January 2000, the CEDD commissioned a marine magnetic survey of the East Lamma Channel. The survey (completed in March 2000) also detected some magnetic anomalies. In March 2000, the Marine Fill Committee approved the excavation of sand from the East Lamma Channel for the Penny's Bay reclamation works subject to some conditions (such as the adoption of environmental mitigation measures during sand excavation operations).

Excavation works by Contractor A

2.7 In February 2000, the Secretary of the Marine Fill Committee proposed that the Special Duties Office of the CEDD (Note 4) should include in Contract A a clause drawing the contractor's attention to the possible presence of metallic obstructions in the East Lamma Channel (as revealed in the 1992 site investigation — see para. 2.4(b)). In April 2000, the CEDD awarded Contract A incorporating the abovementioned clause. According to a memorandum from the CEDD Fill Management Division to the CEDD Special Duties (Works) Division of February 2001, the proposed clause was brought up in February 2000 because of the presence of ordnance generally in Hong Kong seabed and the magnetic anomalies specifically in the East Lamma Channel.

2.8 In October 2000, Contractor A commenced sand excavation works at the East Lamma Channel using equipment fitted with a filtering device as recommended in the Marine Fill Committee's guidance note (see para. 2.5(b)). During the excavation works, Contractor A found unexploded ordnance items (see Table 2 in para. 2.10). In January 2001, the CEDD informed a steering committee on implementation of the theme park project (hereinafter referred to as the Steering Committee — Note 5) that the discovery of unexploded ordnance had affected the progress of the reclamation works.

Note 4: *The Special Duties Office was responsible for administering the Penny's Bay development works.*

Note 5: *In February 2000, the Steering Committee, chaired by the Financial Secretary, was set up to oversee the Penny's Bay development. Members of the Steering Committee included the Commissioner for Tourism, the Director of Civil Engineering and Development, and representatives from relevant bureaux.*

Scanning for unexploded ordnance in 2001 and 2002

2.9 In February 2001, the CEDD noted that:

- (a) Contractor A had fitted the sand excavation equipment used at the East Lamma Channel with a filtering device to screen out unexploded ordnance items of 150 mm or larger. The use of a filtering device for screening out unexploded ordnance items of 120 mm or larger had been examined but found unsuitable because it would reduce the sand excavation rate; and
- (b) the use of a device to screen out any unexploded ordnance during the pumping of sand ashore at Penny's Bay had been tried but it was found that this would increase the chance of setting off the ordnance. Instead, Contractor A would scan the reclaimed land at Penny's Bay for buried ordnance using equipment which could detect metallic objects 2 to 3 metres (m) below the formation level, depending on the dimensions of the objects.

In March 2001, Contractor A commenced scanning works on the reclaimed land formed by sand from the East Lamma Channel.

2.10 In March 2001, upon the CEDD's request, Consultant A identified a specialist (Specialist A) for ordnance detection. In the same month, the CEDD consulted the future land user on Specialist A's proposal to conduct an independent scanning of the reclaimed land, covering a depth of 2 m below the formation level. In June 2001, the CEDD appointed Specialist A to carry out the independent scanning works. In August 2002, Contractor A and Specialist A completed the scanning works. From October 2000 to August 2002, 427 items of unexploded ordnance were found (see Table 2).

Table 2
Number of unexploded ordnance items found
(October 2000 to August 2002)

Period	During sand excavation	In reclaimed land	Total
October to December 2000	11	— (Note 1)	11
January to March 2001	105	6	111
April to June 2001	78	2	80
July to September 2001	61	88	149
October to December 2001	1	68	69
January to March 2002	—	} (Note 2) 2 3 2	2
April to June 2002	—		3
July to August 2002	—		2
Total	256	171	427

Source: CEDD records

Note 1: The scanning works commenced in March 2001.

Note 2: The sand excavation works were completed in November 2001.

2.11 In October 2001, the CEDD informed the Steering Committee that:

- (a) Contractor A had taken precautionary measures to screen out unexploded ordnance items of 150 mm or larger during sand excavation operation, and conducted scanning of the reclamation areas to cover a depth of 2 m for buried ordnance items smaller than 150 mm; and
- (b) with the measures taken (see (a) above) and after the compaction of the reclaimed land, the risk of any remaining small items of ordnance exploding in the future was very low.

Scanning for unexploded ordnance in 2002 and 2003

2.12 Between November 2001 and June 2002, the CEDD discussed with the future land user on the ordnance issue. In June 2002, the CEDD agreed to review the need for further precautionary measures to reduce any residual risk of ordnance left in the reclaimed land.

2.13 In June 2002, on behalf of the CEDD, the Engineer for Contract B (i.e. Consultant B — see para. 3.3) engaged another specialist (Specialist B) to assess residual risks due to unexploded ordnance that might remain undetected at depths of up to 3 m in the reclaimed land. In late July 2002, based on the information gathered during the scanning works in 2001 and 2002, Specialist B completed the risk assessment and recommended that:

- (a) scanning for buried ordnance within the pertinent reclaimed land might be extended to cover a depth of 3 m to mitigate any effects due to spontaneous explosion of the ordnance; and
- (b) scanning should be carried out for future deep excavation for utilities works and foundation works for buildings within the reclaimed land.

2.14 In August 2002, the Steering Committee said that the CEDD was prepared to carry out 3-m scanning of the reclaimed land formed by sand from the East Lamma Channel. In the same month, the CEDD (through Consultant B) instructed the contractor of Contract B (Contractor B — see para. 3.2), who had commenced infrastructure works at Penny's Bay, to carry out scanning works to a depth of 3 m (Note 6) below the formation level. The scanning works covered areas formed by sand from the East Lamma Channel, but excluded some specific areas and areas where construction works had been substantially completed. In January and December 2003, after discussing with the future land user, the CEDD (through Consultant B) further instructed (Note 7) Contractor B to carry out scanning of some specific areas.

2.15 In March 2004, Contractor B completed the scanning works. From August 2002 to March 2004, Contractor B found 22 items of unexploded ordnance (see Table 3).

Note 6: *The scanning covered a depth of 6 m in some designated areas (see para. 2.13(b)).*

Note 7: *In February 2008, the CEDD informed Audit that it gave the instruction in the light of the future land user's request.*

Table 3
Number of unexploded ordnance items found
(August 2002 to March 2004)

Period	Number
August to September 2002	4
October to December 2002	15
January to March 2003	0
April to June 2003	1
July to September 2003	1
October to December 2003	0
January to March 2004	1
Total	22

Source: CEDD records

2.16 In September 2003, Consultant B advised the CEDD that:

- (a) the scanning works were variations under Contract B; and
- (b) such works had delayed Contractor B's works and Contractor B was entitled to an extension of time.

In November 2003, in view of the need to complete the project on time, the Financial Services and the Treasury Bureau (FSTB) gave approval for the CEDD to enter into a supplementary agreement with Contractor B. The CEDD paid a lump sum to Contractor B for measures taken to complete the Contract B works by the originally scheduled date. In addition, based on Consultant B's assessment, the CEDD paid a lump sum to Contractor B for the scanning works.

CEDD's view

2.17 In February 2008, the CEDD informed Audit that:

- (a) the seabed of Hong Kong had been installed with many pipelines/cables and had been littered with various magnetic objects over the years. It was not uncommon for marine magnetic surveys prior to dredging works to find magnetic objects in the seabed;
- (b) in March 2001, after receiving the CEDD's proposal of scanning the top 2 m of the reclaimed land (see para. 2.10), the future land user encouraged the CEDD to go ahead with the scanning works;
- (c) the unexploded ordnance items found mainly included shells, and no mines were found; and
- (d) as a result of the adoption of safety measures, there was no injury nor adverse incident arising from ordnance throughout the project.

Audit observations and recommendations

Need to specify precautionary measures in reclamation contract

2.18 According to the 1992 site investigation report, the three significant magnetic anomalies detected were likely to be due to metallic debris which could represent some hazards to a dredger (see para. 2.4(b)). On the understanding that there was presence of ordnance generally in Hong Kong seabed and magnetic anomalies specifically in the East Lamma Channel, the CEDD included a clause in Contract A drawing Contractor A's attention to the possible presence of metallic obstructions in the East Lamma Channel (see para. 2.7). While the Marine Fill Committee's guidance note recommended a precautionary measure of using a filtering device during dredging operations in Hong Kong waters to minimise the risk associated with ordnance (see para. 2.5), the measure was not specified in Contract A. Audit noted that Contractor A had taken the precautionary measure in accordance with the guidance note. **Audit considers that, as a good practice, the CEDD should specify precautionary measures required in similar reclamation contracts in future to minimise the risk associated with ordnance during dredging operations.**

Need to specify scanning works in infrastructure contract

2.19 During the sand excavation works, Contractor A found unexploded ordnance items (see para. 2.8). After discussing with the future land user (see para. 2.17(b)), the CEDD appointed Specialist A to scan the top 2 m of the reclaimed land formed by sand from the East Lamma Channel (see para. 2.10). Between August 2002 and March 2004, after the CEDD's consultation with the future land user and the Steering Committee, Contractor B carried out scanning works to a depth of 3 m below the formation level, covering areas formed by sand from the East Lamma Channel. The CEDD paid a lump sum to Contractor B for the measures taken to complete the Contract B works by the originally scheduled date (see para. 2.16).

2.20 Audit noted that the CEDD's subsequent action to ask Contractor B to carry out scanning works on the related reclaimed land was taken after discussions with the future land user. **Audit considers that, in future, for infrastructure works to be carried out on reclaimed land where a large number of unexploded ordnance items have been found, consideration should be given to specifying in the infrastructure contract the scanning works required after consulting, where appropriate, the future land user.**

Audit recommendations

2.21 **Audit has recommended that the Director of Civil Engineering and Development should:**

- (a) **for a reclamation contract using sand from seabed with potential presence of unexploded ordnance, specify in the contract the necessary precautionary measures to minimise the risk associated with ordnance (see para. 2.18); and**
- (b) **for infrastructure works to be carried out on reclaimed land where a large number of unexploded ordnance items have been found, specify in the infrastructure contract the scanning works required after consulting, where appropriate, the future land user (see para. 2.20).**

Response from the Administration

2.22 The **Director of Civil Engineering and Development** welcomes the audit recommendations in paragraph 2.21. He has said that:

- (a) the Marine Fill Committee had promulgated widely the necessary precautionary measures to minimise the risk in dredging operations associated with ordnance in the form of a guidance note issued to all dredging contractors in the construction industry before the award of Contract A. The guidance note was complied with by Contractor A in Contract A;
- (b) whilst the guidance note is found to be useful, the CEDD will consider the best approach to risk sharing between the Government and contractors for specifying the necessary precautionary measures as referred to in paragraph 2.21(a) in all future dredging contracts; and
- (c) the practicality of specifying in an infrastructure contract the scanning works required after consulting the future land user will depend on the timing of the infrastructure contract and the early identification of the future land user. The CEDD will implement the proposed measure in paragraph 2.21(b).

Sand supply from Mainland waters

1993 site investigation

2.23 In 1993, the Marine Fill Committee identified that sand could be supplied from Mainland waters. In late 1993, the CEDD commissioned a site investigation of the sand source in southern Mainland waters through an engineering consultant and a company (Company X — Note 8). The results of the site investigation indicated that areas around Wailingding Island contained sand suitable for reclamation. In July 1996, the CEDD was informed that marine sand near Wailingding Island could be made available for the Penny's Bay reclamation works.

Note 8: *In February 2008, the CEDD informed Audit that Company X held a permit (valid up to December 1999) for sand supply from the Wailingding area.*

Information provided to tenderers during prequalification

2.24 In September 1999, the FSTB gave approval for the CEDD to conduct a prequalification exercise for Contract A. In November 1999, the CEDD stated in the prequalification documents issued to prequalification applicants that 15 million m³ of sand could be obtained from the East Lamma Channel and the successful tenderer was responsible for procuring the remaining (45 million m³) sand from his own source. In this connection, the CEDD attached to the prequalification documents an information note on sand supply from Mainland waters for the applicants' reference. In the information note, the CEDD, among other things, indicated that rich sand source was available in the vicinity of Wailingding Island and a contractor who wished to use this sand source could make arrangements with Company X which would help the contractor to obtain the required licences. It was also stated in the prequalification documents that:

- (a) the Government did not have any contractual relationship with Company X or the contact person mentioned in the information note; and
- (b) **the information note was for reference only and did not form part of the prequalification documents.**

Tender invitation

2.25 On 29 January 2000, after legal vetting of the tender documents for Contract A, the CEDD invited tenders from the prequalified tenderers (Note 9). The tender closing date was 10 March 2000. In February 2000, four tenderers (including the one who was later awarded the contract, i.e. Contractor A) requested for an extension to the tender period for various reasons, including the need for more time for them to ascertain sufficient and suitable sand supply from their own sources. The CEDD did not accede to the request, owing to the fact that there were key milestone dates for the development. On 14 February 2000, in response to tenderers' request for information on surveys and soil investigation of the Wailingding area, Consultant A issued a letter to all tenderers stating that they would have to approach the local agent or authority responsible for marine sand supply from the Wailingding area for relevant information.

Note 9: *The information note mentioned in paragraph 2.24 was not incorporated into the tender documents or Contract A. The tender documents of Contract A required tenderers to include in their tenders information about their own sand sources.*

Sand supply from the Wailingding area

2.26 On 29 April 2000, the CEDD awarded Contract A. In July 2000, the CEDD noted that:

- (a) Company X had not obtained the permits (required under the prevailing (amended) regulations) for sand supply from the Wailingding area; and
- (b) Contractor A had to obtain sand for the reclamation works through another supplier.

2.27 In July 2001, Contractor A obtained agreement on sand supply from another company which was a permit holder for sand excavation in the Wailingding area. Between August 2001 and September 2002, Contractor A carried out the reclamation works using sand from the Wailingding area in addition to that from the East Lamma Channel.

2.28 In December 2001, Contractor A submitted a claim to the CEDD, on the grounds that he could not obtain sand from Company X as suggested in the 1999 information note (see para. 2.24). Contractor A requested payment for the additional cost incurred in obtaining sand from another supplier.

2.29 In September 2002, Contractor A requested Consultant A to make a decision on the claim. In the same month, Consultant A informed the CEDD and Contractor A that:

- (a) in accordance with the contract provisions, it was Contractor A's sole responsibility for procuring sand from his own source; and
- (b) as sand was subsequently obtained by Contractor A from the Wailingding area, it was feasible to do so.

2.30 In December 2003, all the works under Contract A were completed (Note 10). In April 2004, the CEDD noted Contractor A's request to settle his claim by arbitration. In this connection, the CEDD conducted a review of Contractor A's claim with the assistance

Note 10: *Under Contract A, unless with the written consent of the CEDD and Contractor A, a dispute should not be referred to an arbitrator until after the completion of the works.*

of the Legal Advisory Division (Works) of the Development Bureau (Note 11). The CEDD noted that:

- (a) while it was stated in the 1999 prequalification documents that the information note on sand supply from Mainland waters was for reference only and did not form part of the prequalification documents (see para. 2.24(b)), there was no explicit exclusion of liability for such information;
- (b) there was also no explicit statement that the information so provided was limited to the tender prequalification stage; and
- (c) despite the fact that the information note was not incorporated into the tender documents or Contract A, the CEDD's liability in relation to the statement contained in the information note was still continuing.

2.31 In January 2006, after obtaining the advice of the Legal Advisory Division (Works) of the Development Bureau and the FSTB's approval, the CEDD commenced negotiations with Contractor A over his claim. In April 2006, the CEDD and Contractor A entered into a settlement agreement. The CEDD subsequently paid Contractor A a lump sum in full and final settlement of his claim.

Audit observations and recommendations

Need for explicit statement on exclusion of liability

2.32 While the CEDD stated in the 1999 prequalification documents for Contract A that the information note on sand supply from Mainland waters was for reference only, there was no explicit exclusion of liability for such information (see para. 2.30(a)). There was also no explicit statement that the information so provided was limited to the tender prequalification stage (see para. 2.30(b)). **Audit considers that, in similar cases in future, the CEDD should consider including an explicit statement on exclusion of liability in prequalification documents after seeking legal advice.**

Note 11: *In July 2007, the Development Bureau was formed to take up the works policy portfolio of the former Environment, Transport and Works Bureau. For simplicity, the Environment, Transport and Works Bureau is also referred to as the Development Bureau in this Report.*

Need to seek legal advice for prequalification documents

2.33 According to the Project Administration Handbook, the tender documents of a works contract valuing \$300 million or more should be vetted by the Legal Advisory Division (Works) of the Development Bureau before tender invitation. However, there was no requirement for similar legal vetting of prequalification documents. **Audit considers that, in similar contracts in future, the CEDD should seek legal advice on relevant parts of prequalification documents which contain information involving significant financial implications or commercial sensitivity.**

Audit recommendations

2.34 **Audit has recommended that, in inviting tenders for a works contract in future, the Director of Civil Engineering and Development should:**

- (a) **consider including an explicit statement on exclusion of liability in prequalification documents after seeking legal advice (see para. 2.32); and**
- (b) **seek legal advice on relevant parts of prequalification documents which contain information involving significant financial implications or commercial sensitivity (see para. 2.33).**

Response from the Administration

2.35 The **Director of Civil Engineering and Development** welcomes the audit recommendations in paragraph 2.34 for application in future projects. He has said that the CEDD is taking action to develop relevant guidelines.

PART 3: CONTRACT VARIATIONS

3.1 This PART examines the CEDD's administration of works variations under Contracts B and C.

Award of Contracts B and C

3.2 In October 2001, the CEDD awarded Contract B in the sum of \$2,087 million to Contractor B for some infrastructure works at Penny's Bay. In July 2002, the CEDD awarded Contract C in the sum of \$1,382 million to a contractor (Contractor C) for decommissioning a former shipyard and constructing some infrastructure facilities on the site.

3.3 Under Contracts B and C, the contractors were required to carry out, among others, some landscape works (Note 12). The CEDD appointed Consultant B as the Engineer for both Contracts B and C and also a landscape consultant (the Landscape Consultant) to assist in administering the two contracts.

Management of contract variations

Regulations and guidelines on contract variations

3.4 During the course of a construction contract, the Engineer for the Contract may issue variation orders to the contractor. The regulations and guidelines governing the issue of a variation order under a works contract are shown in Table 4.

Note 12: *The works included the construction of landscape berms, planting for roadside and re-formed slope areas.*

Table 4
Regulations and guidelines governing the issue of a variation order

Item	Regulation/guideline	Details
(a)	Stores and Procurement Regulation No. 520 and Appendix V(B) of the Regulation	<p>Any variation to a contract which would increase the original value of the contract must be approved by an appropriate authority, as follows:</p> <ul style="list-style-type: none"> (i) for a variation essential for the completion of works as defined in the original contract, the Controlling Officer's approval is required for a variation of such nature which would exceed \$3 million; and (ii) for additional works outside the terms of the original contract but within the project scope, the FSTB's approval is required for a variation of such nature which would exceed \$3 million.
(b)	Project Administration Handbook — Chapter 7, Section 13	<p>Prior to any variation being ordered by the Engineer, project staff should check whether or not the additional works are within the terms of the original contract and would increase the contract sum, to see if an approval from the appropriate authority (e.g. the Controlling Officer or the FSTB) is necessary. Such an approval must be sought prior to the ordering of the variation.</p>
(c)	CEDD Technical Circular No. 5/2007 (Note)	<p>The overall financial implications of ordering a variation must be ascertained before a decision to order the variation is made. When an approval from the Director of Civil Engineering and Development is required for the variation, project staff should prepare a written submission to the Director for approval upon the identification of the need.</p>

Source: CEDD records

Note: The 1999, 2004 and 2005 versions of this Technical Circular contained similar provisions on the issue of a variation order.

Audit examination

3.5 Audit selected the two highest-value variation orders issued under Contract B (Cases A and B) and the highest-value variation order issued under Contract C (Case C) for examination.

Case A (Contract B)

- In July 2002, Specialist B recommended that scanning works for buried ordnance within the reclaimed land might be extended to cover a depth of 3 m (see para. 2.13). In August 2002, the CEDD instructed Contractor B (through Consultant B) to carry out the scanning works. The works commenced in the same month.
- In September 2002, Consultant B submitted his initial assessment on the cost implication of the scanning works. In October 2002, the CEDD gave some comments to Consultant B on his cost assessment.
- In December 2002, Consultant B submitted to the CEDD a request for authorisation for the variation works together with a cost estimate. In the same month, the CEDD project staff made a submission to seek the Director of Civil Engineering and Development's approval for the scanning works. It was stated in the submission that:
 - ◆ there was no provision in Contract B for the scanning works. A variation to Contract B was necessary to cover the works; and
 - ◆ the estimated value of the works would exceed \$3 million. As required by the Stores and Procurement Regulations, the Director of Civil Engineering and Development's approval was necessary.
- In December 2002, the Director of Civil Engineering and Development gave covering approval for the scanning works (about 4 months after Contractor B was instructed to carry out the works).
- In January and December 2003, the CEDD instructed Contractor B (through Consultant B) to carry out further scanning works for some specific areas (see para. 2.14). The works were completed in March 2004.

Case A (Contract B)

- In August 2005, Consultant B submitted to the CEDD a request for authorisation for the variation works together with a cost estimate. In the same month, the CEDD project staff made a submission to seek the Director of Civil Engineering and Development's approval for the further scanning works. It was stated in the submission that the cost involved exceeded \$3 million.
- In September 2005, the Director of Civil Engineering and Development gave covering approval for the further scanning works (about 21 months after Contractor B was instructed to carry out the works in December 2003).

Source: CEDD records

Case B (Contract B)

- In July 2002, the CEDD instructed Contractor B (through Consultant B) to carry out some variations to the landscape works. In the same month, Consultant B advised the CEDD of his initial assessment of the cost involved, which would exceed \$3 million.
- In December 2002, after obtaining further substantiation from Contractor B, Consultant B submitted to the CEDD a request for authorisation of the variation works together with a revised cost estimate.
- In January 2003, the CEDD sought advice from an independent quantity surveyor on Consultant B's cost estimate. The surveyor's advice was forwarded to Consultant B in May 2003.
- In January 2004, Consultant B re-submitted to the CEDD a request for authorisation of the variation works together with a revised cost estimate.
- In April 2004, the CEDD project staff made a submission to seek the Director of Civil Engineering and Development's approval for the variation works. In the same month, the Director gave covering approval for the works (about 21 months after Contractor B was instructed to carry out the works).

Source: CEDD records

Case C (Contract C)

- In April 2003, the CEDD instructed Contractor C (through Consultant B) to carry out some variations to the landscape works.
- In August 2003, Consultant B submitted to the CEDD a request for authorisation of the variation works together with a cost estimate exceeding \$3 million.
- In September 2003, the CEDD gave some comments to Consultant B on his submission.
- In January 2004, Consultant B re-submitted to the CEDD a request for authorisation of the variation works together with a revised cost estimate.
- In February 2004, the CEDD project staff made a submission to seek the Director of Civil Engineering and Development's approval for the variation works. In the same month, the Director gave covering approval for the works (about 10 months after Contractor C was instructed to carry out the works).

Source: CEDD records

CEDD's views

3.6 In February 2008, the CEDD informed Audit that:

- (a) Cases A to C were very unique as the works were implemented under a very tight schedule. The CEDD had reported all variation works concerned to the Steering Committee in which the Director of Civil Engineering and Development was a member. The Director supported the variation works; and
- (b) the Director gave the formal written approvals after the issue of the instructions of the variations mainly because more time was taken to work out accurately the respective cost estimates of these cases.

Audit observations and recommendation

Need to comply with the Stores and Procurement Regulations

3.7 As required under Stores and Procurement Regulation No. 520, for a variation essential for the completion of works with an estimated value exceeding \$3 million, the Controlling Officer's approval is required (see Item (a)(i) in Table 4 in para. 3.4).

Furthermore, as stated in the Project Administration Handbook, such an approval must be sought prior to the ordering of the variation (see Item (b) in Table 4 in para. 3.4). However, Audit examination of Cases A to C revealed that the CEDD staff only sought the Director of Civil Engineering and Development's approvals after the ordering of the variation works. **Audit considers that there is room for improvement in this regard.**

3.8 **Audit has recommended that the Director of Civil Engineering and Development should remind CEDD staff of the need to seek his prior approval for a contract variation (with an estimated value exceeding \$3 million and is essential for the completion of the works) in accordance with the Stores and Procurement Regulations and the Project Administration Handbook (see para. 3.7).**

Response from the Administration

3.9 The **Director of Civil Engineering and Development** welcomes the audit recommendation in paragraph 3.8. He has said that the CEDD would remind its staff to follow the relevant guidelines.

Duplication of planting works under Contracts B and C

3.10 According to the drawings of Contract B (awarded in October 2001), Contractor B was required to carry out planting works for an area (Site L) of about 6,000 square metres. According to Contract C (awarded in July 2002), Contractor C would take over Site L in April 2005 for carrying out some planting works.

3.11 In October 2002, Contractor B (which was the same company as Contractor C) noted that the planting works for Site L were included in the drawings of both Contracts B and C. He then sought clarification from Consultant B. In December 2002, after consulting the Landscape Consultant, Consultant B informed Contractor B that the planting works for Site L should be carried out under Contract B.

3.12 In January 2003, Consultant B sought the CEDD's approval to delete the planting works for Site L from Contract C. In February 2003, having considered that trees under Contract B had already been procured, and the cost of planting materials for Site L under Contract B was lower than that under Contract C, the CEDD approved Consultant B's proposal. In the same month, Consultant B instructed Contractor C to delete the pertinent planting works.

3.13 In view of the inclusion of planting works for Site L under both Contracts B and C, the CEDD instructed the Landscape Consultant to review the planting designs of the two contracts. The CEDD informed Audit that no other discrepancies were subsequently found in the planting designs.

3.14 In September 2003, Consultant B informed the CEDD that there was no additional cost arising from the deletion of planting works under Contract C. Consultant B said that:

- (a) by the time Contractor C took over Site L in 2005, the planting works at the site would have been completed under Contract B. There was no need for planting works to be carried out under Contract C; and
- (b) the deletion of such works from Contract C was therefore a valid instruction under the terms of the contract.

Audit observations and recommendation

Need to strengthen checking of contract documents

3.15 The planting works for Site L were included in the drawings of both Contracts B and C. According to the Project Administration Handbook, all drawings forming part of a contract should be checked before tender invitation. **Audit considers that the CEDD should take measures to strengthen the checking of contract documents before tender invitation.**

3.16 **Audit has recommended that, in administering a works contract in future, the Director of Civil Engineering and Development should take effective measures to strengthen the checking of contract documents to ensure that the Project Administration Handbook requirements are complied with (see para. 3.15).**

Response from the Administration

3.17 The **Director of Civil Engineering and Development** welcomes the audit recommendation in paragraph 3.16. He has said that CEDD would review the relevant departmental guidelines for application to its future projects.

PART 4: REVISIONS OF SITE HANDOVER DATES

4.1 This PART examines the revisions of site handover dates under Contracts B and C.

Land grant conditions on site handover

4.2 In late September 2000, the Lands Department (Lands D) issued a land grant document to the Grantee for the use of reclaimed land at Penny's Bay. According to the land grant conditions, the Government would hand over to the Grantee the reclaimed land by two phases (Note 13) after the certified completion of the infrastructure works (Note 14). At that time, the CEDD planned that the works on a piece of reclaimed land (including two sites, hereinafter referred to as **Site M** and **Site N**) would be completed by **6 July 2003**. (Subsequently, in November 2001, the CEDD noted that the relevant parties had agreed to this works completion date.)

Site handover dates under Contracts B and C

4.3 In October 2001, the CEDD awarded Contract B. According to Contract B, Contractor B should return Site M to the Government by **April 2005**. In February 2008, the CEDD informed Audit that Consultant B considered that Contractor B would need Site M (as a works area with seafront) until the completion of the contract works scheduled for April 2005.

4.4 On 30 April 2002, the CEDD invited tenders for Contract C. The tender documents specified that the successful tenderer should return Site N (a works area under Contract C) to the Government by **July 2005**.

4.5 On 12 July 2002 (after the close of tender of Contract C), the CEDD consulted the Department of Justice and the Lands D about the possibility of retaining Site M (for use by Contractor B) and Site N (for use by Contractor C) for a period after July 2003 (see para. 4.2). On 20 July 2002, the CEDD was informed that Sites M and N were required to be handed over to the Grantee within a reasonable time after July 2003.

Note 13: *The handover dates were not specified in the land grant document.*

Note 14: *An independent consultant was appointed to inspect the infrastructure works for issuing completion certificates.*

4.6 On 30 July 2002, the CEDD awarded Contract C (which required Contractor C to return Site N to the Government by July 2005 — see para. 4.4). Between July 2002 and mid-2003, noting the advice from the Department of Justice and the Lands D (see para. 4.5), the CEDD discussed with the Grantee on arrangements to hand over Sites M and N by phases.

Revisions of site handover dates under Contracts B and C

4.7 In mid-July 2003, the Grantee agreed to the CEDD's proposal that:

- (a) part of Site M would be handed over to the Grantee by August 2003 and the remaining part by October 2004; and
- (b) part of Site N would be handed over to the Grantee by August 2003 and the remaining part by January 2005.

4.8 In September 2003, with the FSTB's approval, the CEDD entered into a supplementary agreement with each of Contractor B and Contractor C for repossessing Sites M and N earlier than the contract requirements (under which Contractors B and C could retain Sites M and N until April and July 2005 respectively). Subsequently, the CEDD paid the two contractors each a lump sum for settling the issue. The CEDD also provided some sites in Siu Ho Wan (located to the west of Penny's Bay) to Contractors B and C as temporary works areas.

CEDD's internal investigation

4.9 Between July and September 2003, an Independent Investigation Panel of the CEDD (the Panel — Note 15) conducted an investigation with a view to providing an independent view. In the investigation, the Panel focused on Contract B (Note 16). In its report of October 2003, the Panel said that:

Note 15: *The members of the Panel included an Assistant Director of the CEDD (as the chairman) and three professional staff of the CEDD, who were not staff of the Special Duties Office of the CEDD.*

Note 16: *In February 2008, the CEDD informed Audit that the handover dates in Contracts B and C were handled together as one issue.*

- (a) there was no provision in Contract B for the return of Site M in mid-2003;
- (b) there was no documented arrangement (before the close of tender of Contract B) for deferring the handover of Site M to the Grantee;
- (c) the CEDD Special Duties Office responsible for coordinating the Penny's Bay development works had not identified and rectified the problem in the handover date of Site M prior to the award of Contract B; and
- (d) within the Special Duties Office, the Special Duties (Coordination) Division was responsible for liaising with the Lands D on land grant matters, and the Special Duties (Works) Division was responsible for administering Contract B. While the Special Duties (Works) Division was responsible for ensuring that the terms in Contract B were compatible with the conditions of the land grant, the following factors had contributed to an oversight of the incompatible contract terms:
 - (i) the workload of the Special Duties (Works) Division at the time of the incident was very heavy. The Division staff had to complete many tasks within a very tight schedule, such as the checking of thousands of drawings within a short period, and the liaison with various parties to incorporate their requirements into Contract B;
 - (ii) the division of responsibilities between the Special Duties (Coordination) Division and the Special Duties (Works) Division on some issues might not be clearly understood, resulting in misunderstanding among the staff concerned on the person responsible for taking follow-up action; and
 - (iii) tenders for Contract B were prepared under a very tight programme in order to meet the scheduled completion dates of the Penny's Bay development works. Tenders were invited before all major issues had been completely resolved, which resulted in the issue of five substantial tender addenda. Under such circumstances, time might not allow the relevant staff to carry out a thorough and detailed vetting of the contract documents.

4.10 The Panel recommended that the CEDD should:

- (a) review the organisation of the Special Duties Office including the adequacy of resources, division of responsibilities among its different Divisions and the overall control of critical issues;
- (b) review the definition and documentation of the roles and responsibilities of each Division (of the CEDD Special Duties Office) and its staff; and
- (c) improve the internal communication, particularly between the management and the professional staff involved in the day-to-day operation.

4.11 In March 2004, the CEDD informed the Development Bureau that it had implemented the Panel's recommendations. The CEDD said that:

- (a) it had restructured the Special Duties (Works) Division and the Special Duties (Coordination) Division with a view to streamlining communication (both internally and externally); and
- (b) the responsible Deputy Director of the CEDD held weekly management meetings with the relevant professional staff with a view to enhancing communication.

Audit observations and recommendations

Need to include proper site handover dates in works contracts

4.12 According to the land grant conditions, the Government would hand over a piece of reclaimed land (including Site N) to the Grantee after the certified completion of the infrastructure works thereon. **In November 2001, the CEDD noted that the relevant parties had agreed that the works would be completed by 6 July 2003 (see para. 4.2).** In April 2002, the tender documents of Contract C specified that Site N should be returned to the Government in July 2005 (see paras. 4.4 and 4.9(d)). On 20 July 2002, after the close of tender of Contract C, the CEDD noted that there could be a problem in handing over Site N to the Grantee in mid-2003 (see para. 4.5). **On 30 July 2002, the CEDD awarded Contract C under which Contractor C was required to return the site by July 2005.** In the event, the CEDD entered into a supplementary agreement with Contractor C so that the contractor would return Site N earlier. The CEDD had to provide temporary works sites nearby for the contract and paid a lump sum to Contractor C for settling the issue. After a subsequent review in 2003, the CEDD had introduced

improvements to streamline communication internally and externally (see para. 4.11). Audit noted that the CEDD needed to meet tight time schedules in administering Contract C. **Audit considers that, in future, the CEDD should remind CEDD staff of the need to check vigilantly the site handover dates in works contracts with a view to ensuring that they are compatible with related land grant conditions. The CEDD should also incorporate this checking procedure into the tender procedure checklist.**

Need to inform the relevant tender board of special circumstances

4.13 According to the Stores and Procurement Regulations (Regulation No. 220 and Chapter III), works departments should:

- (a) seek the approval of the Public Works Tender Board for awarding a contract costing over \$3 million but under \$30 million or the Central Tender Board for a higher-value contract; and
- (b) state in the tender report to the relevant tender board any special circumstances governing the tender recommendations.

However, in its tender report for Contract C submitted to the Central Tender Board on 22 July 2002, the CEDD did not report the site handover problem. In fact, the CEDD noted the problem on 20 July 2002 (see para. 4.5). **Audit considers that there is scope for improvement in this area.**

Need for issuing general guidelines

4.14 Subsequent to the review of the incident on handover date in Contract B, the CEDD Independent Investigation Panel recommended that the CEDD should improve its internal communication (see para. 4.10(c)). The CEDD had restructured its Special Duties (Works) Division and Special Duties (Coordination) Division to make improvement in internal and external communication (see para. 4.11(a)). **Audit considers that the CEDD should issue guidelines so that the CEDD staff of other project offices involved in project administration could also make improvement.**

Audit recommendations

4.15 **Audit has recommended that the Director of Civil Engineering and Development should:**

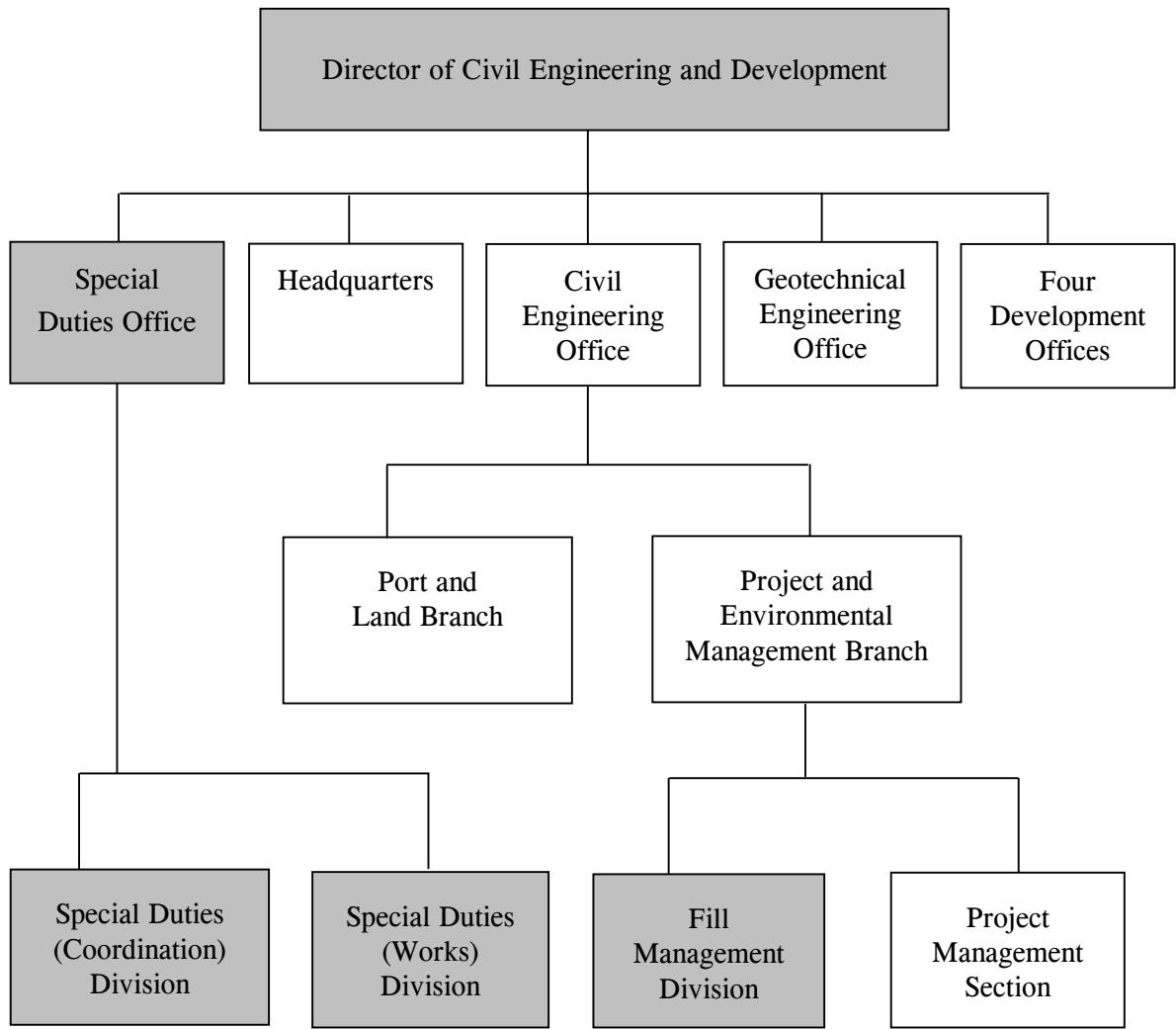
- (a) **remind CEDD staff of the need to check vigilantly site handover dates in a works contract with a view to ensuring that the dates are compatible with related land grant conditions (see para. 4.12);**
- (b) **include in the tender procedure checklist a procedure to check site handover dates in tender documents with a view to ensuring that they are compatible with related land grant conditions (see para. 4.12);**
- (c) **inform the relevant tender board of special circumstances governing a tender recommendation in accordance with the Stores and Procurement Regulations (see para. 4.13); and**
- (d) **issue guidelines to CEDD staff involved in project administration with a view to improving communication in administering works projects (see para. 4.14).**

Response from the Administration

4.16 The **Director of Civil Engineering and Development** welcomes the audit recommendations in paragraph 4.15. He has said that:

- (a) the CEDD would review the relevant departmental guidelines for application to its future projects; and
- (b) as regards the audit recommendation in paragraph 4.15(b), in February 2008, the CEDD promulgated a revised tender procedure checklist in the Project Administration Handbook. The revised checklist includes a checking that the handover dates of land in tender documents are in line with interfacing arrangements agreed with other parties.

**Organisation chart of the
Civil Engineering and Development Department
showing the relevant offices
(1 July 2004)**



Legend: *Offices referred to in this Report*

Source: *CEDD records*

Chronology of key events

Sand supply from the East Lamma Channel (paras. 2.4 to 2.17 of PART 2 refer)

1992	A site investigation of the East Lamma Channel commissioned by the CEDD detected magnetic anomalies.
1993	The Marine Fill Committee issued a guidance note on actions to minimise the risk associated with ordnance during dredging operations in Hong Kong waters.
January to March 2000	<p>A marine magnetic survey of the East Lamma Channel commissioned by the CEDD detected magnetic anomalies.</p> <p>The Marine Fill Committee approved the excavation of sand from the East Lamma Channel for the reclamation works under Contract A.</p>
April 2000	The CEDD awarded Contract A (with a clause drawing Contractor A's attention to the possible presence of metallic obstructions in the East Lamma Channel).
October 2000	Contractor A commenced sand excavation works at the East Lamma Channel. Subsequently, unexploded ordnance was found.
March 2001	Contractor A commenced scanning for unexploded ordnance in the reclaimed land formed by sand from the East Lamma Channel.
June 2001	The CEDD appointed Specialist A to carry out independent scanning works.
June 2002	Consultant B engaged Specialist B to assess residual risks due to unexploded ordnance that might remain undetected at depths of up to 3 m in the reclaimed land.
July 2002	Specialist B recommended that scanning works for buried ordnance within the reclaimed land might be extended to cover a depth of 3 m.

Appendix B
(Cont'd)

August 2002	The CEDD (through Consultant B) instructed Contractor B to conduct scanning of the reclaimed land formed by sand from the East Lamma Channel, covering a depth of 3 m.
January and December 2003	After discussing with the future land user, the CEDD (through Consultant B) further instructed Contractor B to carry out scanning of some specific areas.
November 2003	The FSTB gave approval for the CEDD to enter into a supplementary agreement with Contractor B to settle the extension of time issue.

Sand supply from Mainland waters (paras. 2.23 to 2.31 of PART 2 refer)

November 1999	The CEDD attached to the prequalification documents an information note on sand supply from Mainland waters for the prequalification applicants' reference.
April 2000	The CEDD awarded Contract A.
July 2000	The CEDD noted that Company X had not obtained the required permits for sand supply from the Wailingding area, and Contractor A had to obtain sand through another supplier.
July 2001	Contractor A obtained agreement on sand supply from another company which was a permit holder for sand excavation in the Wailingding area.
December 2001	Contractor A submitted a claim to the CEDD.
April 2006	The CEDD and Contractor A entered into a settlement agreement in full and final settlement of his claim over the sand supply issue.

Revisions of site handover dates (paras. 4.2 to 4.11 of PART 4 refer)

September 2000	The Lands D issued a land grant document to the Grantee. The CEDD planned that the works on a piece of reclaimed land (including Sites M and N) would be completed by 6 July 2003.
October 2001	The CEDD awarded Contract B which required Contractor B to return Site M to the Government by April 2005.
November 2001	The CEDD noted that the relevant parties had agreed that the completion date of the works on the reclaimed land would be 6 July 2003.
April 2002	The CEDD invited tenders for Contract C. The tender documents specified that the successful tenderer should return Site N to the Government by July 2005.
20 July 2002	The CEDD was informed that Sites M and N were required to be handed over to the Grantee within a reasonable time after July 2003.
30 July 2002	The CEDD awarded Contract C which required Contractor C to return Site N to the Government by July 2005.
Mid-July 2003	The Grantee agreed to the CEDD's proposals on handing over Site M and Site N by phases commencing August 2003.
September 2003	With the FSTB's approval, the CEDD entered into a supplementary agreement with each of Contractor B and Contractor C for repossessing Sites M and N earlier than the contract requirements.
October 2003	The CEDD's Independent Investigation Panel completed its investigation of the incident and made a number of recommendations.
March 2004	The CEDD informed the Development Bureau that it had implemented the Independent Investigation Panel's recommendations.

Acronyms and abbreviations

Audit	Audit Commission
CEDD	Civil Engineering and Development Department
FSTB	Financial Services and the Treasury Bureau
Lands D	Lands Department
m	metre(s)
m ³	cubic metres
mm	millimetres