

*Chapter 6: Site formation and associated infrastructure works
for development near Choi Wan Road and Jordan Valley*

The Audit Commission ("Audit") conducted a review to examine the work of the Civil Engineering and Development Department ("CEDD") in managing the implementation of the site formation and associated infrastructure works for the development near Choi Wan Road and Jordan Valley ("the Project").

2. Between November 2001 and January 2007, CEDD awarded three works contracts (Contracts A, B and C)¹ to three contractors (Contractors A, B and C respectively) for the implementation of the Project, and their completions were 8.8 to 13.9 months later than scheduled. The Project was subsequently completed in October 2010. The expenditure of the three contract works was 5% to 27% higher than their original contract sums, resulting in an increase of 24.7% in the original overall contract sum of the Project.² As of October 2020, \$2,057.4 million had been incurred for the Project (i.e. 99% of the approved project estimate at \$2,084 million).

3. The Committee noted the following findings from the Director of Audit's Report No. 76 ("the Audit Report"):

Contractual disputes under Contract A

- in November 2018, the Government paid \$32 million to Contractor A to settle contractual disputes, including claims from Contractor A and counterclaims against Contractor A, resulting in the total contract expenditure amounting to \$1,701.9 million;
- one of the claims from Contractor A was related to the handling of disposal materials. Contractor A was required to transport the excavated disposal materials from the development site to a site in Kai Tak for delivery to disposal sites. Contractor A contended that CEDD was not able to arrange acceptance of disposal materials from disposal sites in a timely manner and claimed for additional payment for stockpiling and handling of disposal materials at the Kai Tak site;

¹ Contract A mainly involved the excavation by blasting of about 9 million cubic metres of in-situ materials and formation of building platforms of about 20 hectares and associated slopes and retaining walls. Contract B mainly involved the construction of two slip road bridges and a footbridge (Footbridge A), and taking over and maintenance of the completed works under Contract A. Contract C mainly involved the construction of two footbridges (Footbridges B and C).

² Please refer to Table 4 of paragraph 1.7 of the Director of Audit's Report No. 76 ("the Audit Report") for details.

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- another claim from Contractor A involved the valuation of concrete buttress works. Contractor A disagreed with the rate applied by the Project consultant in the Bills of Quantities ("BQ")³ for measuring the concrete buttress works involving a type of concrete and claimed for additional payment on top of the amount certified by the consultant. The dispute arose from different contractual interpretations on the applicability of particular BQ items in valuing the concrete buttress works involving the type of concrete in question and the root cause was the inconsistency between contract drawings and BQ in the type of concrete used for the construction of concrete buttresses;
- the counterclaims against Contractor A were related to the rock materials delivered by Contractor A to Shek O Quarry under another contract (Contract D),⁴ which was entered into between CEDD and Contractor D. Contractor D claimed for additional payment for the inadequate quantity and unsatisfactory quality of rock materials delivered by Contractor A to Shek O Quarry. The Government paid a lump sum to Contractor D for settlement of the disputes and counterclaimed Contractor A;

Other issues under Contract A

- before the commencement of Contract A, site investigation had been carried out to ascertain the geological conditions of the site for the design of the Project. However, during the construction stage of Contract A, unforeseeable soil and rock profiles in various areas within the development site were encountered, resulting in an increase of \$230 million in the approved project estimate to cover additional costs arising mainly from variations and additional works under Contract A;
- only 200 boreholes had been included in the original site investigation works for the Project involving a site of about 35 hectares as CEDD discovered the aforesaid geological conditions of the site only after the commencement of the works;

³ According to the Project Administration Handbook for Civil Engineering Works issued by CEDD, BQ is a list of items giving brief identifying descriptions and estimated quantities of the works to be performed. BQ forms a part of the contract documents, and is the basis of payment to the contractor. The main functions of BQ are to allow a comparison of tender prices and provide a means of valuing the works.

⁴ Please refer to paragraph 2.23 of the Audit Report for details of Contract D.

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- two flyrock incidents occurred following the blasting activities at the works site under Contract A in February and June 2003 respectively. Causes of such incidents included unfavourable ground condition in the blasting area and some required protective and precautionary measures not taken or not taken effectively by Contractor A;

Administration of Contracts B and C

- Contract A included the formation works of two slopes, which were substantially completed in December 2006. In March 2008, Contractor B took over the two slopes from Contractor A as required by Contract B for maintenance prior to handing over to the future maintenance government departments. The Project consultant made submissions to the Geotechnical Engineering Office of CEDD in January and July 2008 (i.e. more than one year after the substantial completion of Contract A) for final checking of the two slopes, which found that slope enhancement works were required. As Contract B included no contractual provisions for slope enhancement works, two variation orders at a total cost of \$1.3 million were issued to instruct Contractor B to carry out the related works;
- for three variation orders issued under Contract C, their actual costs increased by 280% to 327% as compared with the estimated costs and exceeded the approving authority of the officer approving their issuance. At the time of implementing Contract C, CEDD had no specific guidelines for dealing with such situation. It was not until May 2019 (after the award of Contract C) that CEDD promulgated guidelines for dealing with a variation with value exceeding its estimate made at the time of approval; and
- contract drawings of Contract C required the use of two specific grades of steel for the steelwork of two footbridges. However, Contract C only included BQ items of another grade of steel which did not fulfill the requirement. The Project consultant thus considered that the steelwork of the two footbridges was omitted in BQ, and CEDD paid \$1.2 million to Contractor C for carrying out the works of the omitted items.

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4. The Committee asked for written responses regarding granting of extensions of time for the Project and the additional expenditure incurred, handling of excavated materials, vetting of contract documents, conduct of pre-tender site investigations, monitoring and reporting of blasting activities, issuance of variation orders, and measures to minimize discrepancies between BQ items and contract drawings. The replies from the **Director of Civil Engineering and Development** are in *Appendices 14 to 17*.

5. The Committee wishes to be kept informed of the progress made in implementing the various recommendations made by Audit.