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15 June 2018

Mr Anthony Chu
Clerk to Public Accounts Committee
Legislative Council Secretariat
Legislative Council Complex
1 Legislative Council Road
Central, Hong Kong

Dear Mr Chu,

Public Accounts Committee
Chapter 1 of Director of Audit's Report No. 70
Management of restored landfills

Thank you for your letter of 30 May 2018.

The supplementary information requested under Part IV of the follow-up action list is set out at **Enclosure** please.

Yours faithfully,

(Ms Eugenia CHUNG)
for Director of Home Affairs

Encl.

Director of Audit's Report No. 70

Chapter 1- Management of restored landfills

HAD's Response to the Public Accounts Committee

(IV) For the Home Affairs Department

- (a) with reference to Table 4 of paragraph 3.2, please explain and provide information on:
- (i) differences in role, division of work and responsibilities between EPD, LCSD and other departments which acted as the works agents in developing the seven recreational projects;

In the implementation of Wan Po Road Pet Garden, Ma Yau Tong West Sitting-out Area (SOA) and Ma Yau Tong Central SOA projects (items 2, 5 and 6 in Table 4), LCSD was the lead department and was responsible for awarding the works contracts on the advice on HAD. HAD was the project manager and administrator of the term consultant. EPD was the management authority of the restored landfills.

- (ii) factors and criteria when assigning which department as works agents for individual projects;

The District Minor Works (DMW) Programme funds district-based works projects approved and implemented by District Councils (DCs) costing up to \$30 million each (the current financial limit), to improve local facilities, living environment and hygienic conditions in the territory.

Under the DMW Programme, LCSD is the lead department in implementing minor works that are related to leisure, cultural, sports, soft landscaping works and recreation type of facilities (including pet garden). In general, ArchSD will be assigned as the works agent for projects in existing LCSD venues, while HAD (as project manager to oversee the term consultant) will be assigned projects in new LCSD venues if the projects meet the ambit and budget limits of DMW

Programme.

- (iii) relevant works agent for items 3, 4 and 7 sought funding approval from FC of LegCo after detailed design stage, which was different from projects under District Minor Works Programme (i.e. items 2, 5 and 6) in which funding was sought after feasibility study stage (Note 1 to the Table refers); the procedure and approval required for the change/increase in project cost;

The block allocation for District Minor Works Programme is provided under Subhead 7016CX – District Minor Works Programme of the Capital Works Reserve Fund. The allocation under this subhead is for District Councils to implement district-based works projects each costing up to \$30 million to improve local facilities, living environment and hygienic conditions in the territory. The Permanent Secretary for Home Affairs has been delegated with authority to authorise expenditure under Subhead 7016CX for projects costing up to \$30 million each, and the Director for Home Affairs and Director of Leisure and Cultural Services to authorise expenditure for projects costing up to \$20 million each.

In case an increase in the project estimate is required, they may also exercise authority to approve the increase in the project estimate provided that the applicable financial ceiling is not exceeded. The bureau or department proposing a project for funding allocation under the block allocation subhead has to prepare a submission to state the scope, cost and justification of the project. The officer exercising delegated authority would then consider the submission and grant approval only if satisfied that it is a justifiable use of public funds and a proper charge to the concerned block allocation subhead. If the project estimate is expected to exceed \$30 million, the approval of the Finance Committee will be required for such increase.

For projects in items 2, 5 and 6, the lead department was LCSD. To increase the approved project estimate (APE), LCSD would seek the views and agreement of the relevant District Council before seeking approval from the officer exercising delegated authority.

The projects in items 3 and 7 are under the purview of ArchSD and item 4 is under the purview of EPD. Please refer to the answers of the relevant departments.

Wan Po Road Pet Garden

- (b) workflow and procedures involved in determining the project scope and classification of the project under the District Minor Works Programme (paragraph 3.22 refers);

The following outlines the workflow of initiating project under DMW Programme involved:

1. The project proponent, either a DC member (as in the case of the Wan Po Road Pet Garden project) or a department, prepares project statement which includes the project scope, location, estimated cost, etc;
 2. Under DMW Programme, LCSD is the lead department in implementing minor works for leisure, cultural, sports, soft landscaping and recreation type of facilities, and HAD is the lead department for projects such as walkway covers and rain shelters. The lead department will consider the technical complexity of the proposed project. In general, for projects with high technical complexity and/or more design elements, HAD or LCSD will assign them to the term consultant as the term consultant has the expertise to provide a greater variety of designs, as opposed to design work conducted in-house by Works Section of HAD;
 3. Upon endorsement of the project by the relevant DC, the lead department will seek funding approval from the officer exercising delegated authority. After that, HAD will assign the project to the term consultant.
- (c) details regarding the selection, appointment and performance monitoring of the term consultant for the District Minor Works Programme, including the process of conducting the open expression-of-interest and shortlisting exercise for the consultancy service and whether the technical competence of the term consultant was taken into account in the selection exercise;

The process of selection and appointment of term consultant involves the following:

1. Invitation for expression of interest from the list of architectural consultants managed under Development Bureau's (DEVB's) purview;
2. Short-listing of interested consultants based on their submissions in response to the invitation for expression of interest and performance records of the consultants maintained by DEVB;
3. Invitation of short-listed consultants to submit Technical and Fee proposals; and
4. Award of the consultancy contract to the consultant with the highest overall score based on the Technical and Fee proposals. In the course of assessing technical proposal, the performance records of consultant maintained by DEVB will be taken into account.

The processes of performance monitoring of the term consultant involve the following:

- Regular management of the consultant by project managers, overseen by a senior architect and a chief engineer in HAD (Works Section) via written exchanges, meetings and interviews as appropriate.
- The execution of a three-tier system in performance monitoring which includes (i) Monthly progress meeting chaired by the senior architect; (ii) Quarterly Project Review meeting chaired by the chief engineer; and (iii) Quarterly Consultant Review Committee meeting chaired by an Assistant Director. The performance of term consultant will be rated and submitted quarterly to the Consultants' Performance Information System of DEVB which is an online system available to Government departments intending to engage consultants in the lists under the purview of DEVB.

- (d) given the technical complexity involved in developing restored landfills which were different from other sites, justifications for adopting a term contract for the project and whether technical advice was sought from EPD regarding site conditions, development constraints and possible mitigation measures before appointing Consultant A to provide consultancy services for the project, if yes, details of the advice sought and if no, reasons why not;

Consultant A was appointed by HAD in February 2007 as one of the pilot term consultants to carry out DMW projects in Sai Kung District for DMW projects commenced in the period from 27 February 2007 to 26 February 2008. Accordingly, Consultant A was assigned to implement relevant

DMW projects endorsed by SKDC to be carried out under the term consultancy approach during the period, including the Wan Po Road Pet Garden which was endorsed by SKDC in June 2007. EPD had no role to play in the appointment of term consultant and the assignment of projects to term consultant.

- (e) details on the calculation of consultancy fee under a term contract using the Wan Po Road Pet Garden as an illustration, and in what ways did HAD monitor the consultant's management of the project cost (Note 45 of paragraph 3.23 refers);

The consultancy fee is calculated based on the actual construction cost of the project multiplied by the proposed percentage fee submitted in the awarded tender by the consultant. For the pet garden project, the construction cost is \$22.7 million and the percentage fee is 6.8%, which was the percentage proposed by Consultant A in their Fee proposal. The consultancy fee is about \$1.54 million (i.e. \$22.7 million x 6.8%).

Project cost is affected by the project scope (i.e. what items of works are to be included in the project) and the prevailing pricing of the works involved. There is an established mechanism to control the project scope and ensure a competitive pricing for works through open selection of contractor -

1. in the case of Wan Po Road Pet Garden, the project scope was vetted by the lead department and endorsed by the DC. HAD, as the project manager overseeing the term consultant, provided professional advice to LCSD in vetting the project scope. Moreover, any additional work after the award of contract had to be endorsed by DC and approved by the relevant authority in the Government. HAD also gave professional advice to LCSD on any proposed additional work during the construction stage. In short, Consultant A could not vary the project scope or instruct the contractor to carry out additional work without the prior approval of DC, the lead department and the relevant authority in the Government;
2. In the case of Wan Po Road Pet Garden, an open tender exercise was conducted for the works contracts to ensure a fair, open and competitive selection process. The lowest returned tender was accepted. The

construction cost is therefore determined by the price in the returned tender for the works contract.

- (f) information regarding duration of the term consultancy of Consultant A, whether there were any estimates on (i) the number of projects to be included in the term consultancy, and (ii) consultancy fee for each project. If yes, the basis for these estimates;

The duration of consultancy of Consultant A under the pilot scheme was one year from 27 February 2007 to 26 February 2008. According to the Agreement, HAD could assign projects to Consultant A upon request by the lead departments during the one-year term but consultant A was required to see through the project to completion which might span over one year, as in the case of the Wan Po Road Pet Garden project. There was no limit to the number of projects to be assigned to Consultant A. At the time of inviting proposals for the term consultancy, there was no estimate on the number of projects to be included in the consultancy.

As explained in (e) above, the consultancy fee is 6.8% of the actual construction cost of the assigned projects. This is the percentage proposed in the returned tender.

- (g) procedures for funding approval of a project under a block vote for the District Minor Works Programme and in case of an increase in the approved project estimate, procedures and authority for vetting and approval of the increase in cost;

Please refer to the reply to question (a)(iii).

- (h) according to paragraphs 3.26(a) and (b) and 3.27(c), EPD reminded Consultant A of the need to conduct an updated topographical survey in 2007 and that as a standard practice, consultants would conduct such a survey before works design to verify all site levels, dimensions or alignments shown on contract drawings before commencement of works. It was only until April 2009 that Consultant A conducted the topographical survey, which showed a

difference in site level of 0.7 metre at one of the surveyed points. Please explain and provide the following information:

- (i) average cost and time required for conducting a topographical survey;

The cost of such surveys varies according to the size, topography, accessibility, etc. of the site. The current cost for topographical surveys of DMW projects is generally below \$100,000. Normally, it takes several weeks including field work and preparation of reports.

- (ii) any guidelines issued by the Government on the number and location of survey points chosen in a topographical survey. If no, the basis for a consultant to choose the number and locations of survey points;

There are no standard guidelines on the number and location of survey points but the topographical survey shall cover adequately the existing ground levels and features within the site. It should be noted that the crux of the issue in the subject site was not about adequacy of the number of survey points, but continuous settlement of the site.

- (iii) reasons of not conducting a topographical survey before commencement of works design despite the reminder from EPD;

HAD could not trace any record of EPD reminding Consultant A of the need to conduct an updated topographical survey in 2007. Nevertheless, it is HAD's standard practice to conduct a topographical survey for all SOA (including pet garden) projects after funding approval. This standard practice was followed in the case of Wan Po Road Pet Garden project. The conceptual design in the feasibility report, which was a desktop study, was based on the record from EPD. Once the funding for the project was approved in April 2009, Consultant A engaged a land surveyor to carry out the topographical survey in the same month to verify the viability of the conceptual design.

It should be noted that, in the case of Wan Po Road Pet Garden project, even if topographical survey were conducted earlier than April 2009, it would not have obviated the need to revise design during the construction stage, because further settlement had taken place during the design stage and tendering stage, as revealed by the topographical survey conducted

by Contractor C between January to March 2011.

- (iv) reasons for HAD to allow Consultant A to deviate from the standard practice;

The standard practice is to carry out topographical survey for all SOA (including pet garden) projects after funding approval. Once the funding for the project was approved in April 2009, Consultant A engaged a land surveyor to carry out the topographical survey in the same month to verify the viability of the conceptual design. The standard practice was followed in the case of Wan Po Road Pet Garden Project. There was no deviation from the standard practice.

- (v) whether HAD had informed EPD and/or other departments after knowing the considerable site level difference and sought technical advice on remedy or mitigation measures; if yes, details; and if no, reasons why not;

Based on the site levels obtained in April 2009, Consultant A tackled the issue of site level differences by revising the design. HAD could not trace from record about communication with EPD on site settlement after the topographical survey.

In August 2009, Consultant A, HAD and EPD conducted a joint site visit for clarification of various site issues. Discrepancies of the existing drainage system were clarified and updated drainage drawings were provided to HAD by EPD.

- (i) according to paragraph 3.27(e), topographical survey results in March 2011 showed a significant difference in site levels of 1.59 metres as compared to the site levels recorded in 2009. Please explain and provide the following information:

- (i) details of the topographical survey(s) conducted by Consultant A, including when the survey(s) was/were conducted, the number and location of the survey points and findings;

Consultant A engaged a land surveyor to carry out the topographical survey in April 2009 (Appendix 1 refers) during the design stage. In

addition, Consultant A included in the works contract a requirement for the works contractor (Contractor C) to carry out a topographical survey to verify the site levels before construction. Contractor C conducted the survey in March 2011 (Appendix 2 refers). The comparison of record provided by EPD in 2007 and the surveys by Consultant A and Contractor C is at Appendix 3.

- (ii) whether HAD has conducted or instructed Consultant A to continuously monitor the ground settlement after knowing that the site was susceptible to ground settlement problems between April 2009 and March 2011; if no, reasons why not;

Consultant A conducted a topographical survey in April 2009. With the agreement of HAD, Consultant A included the additional requirement in the works contract for Contractor C to carry out a topographical survey before construction in order to ensure that the design of the Pet Garden would fit the latest site conditions.

- (iii) measures taken by HAD in response to the ground settlement problem of the site and in anticipation of the delay in project completion;

The inclusion of the additional requirement for topographical survey in the works contract is one of the measures taken in response to the special condition of the project site being a restored landfill site. In anticipation of the delay in project completion, HAD had issued warning letters to Consultant A and urged the latter to expedite the revision of design and to supervise the project progress with due diligence.

- (j) with reference to paragraph 3.30, a breakdown of the estimated project cost of \$9.6 million and the assumptions made;

With assumptions based on the scope of works stated in the feasibility study report, the breakdown of the estimated project cost is as follows:

1. Excavation	\$0.60 million
2. Building works	\$2.30 million

3. Building services works	\$3.00 million
4. Landscape works	\$1.79 million
5. Preliminaries	\$1.16 million
6. Contingency	\$0.77 million
Total	\$9.62 million

- (k) experiences/lessons learnt from the development of the project on the necessity to employ quantity surveyor in estimating the cost of project components in future (paragraph 3.31 (a) refers);

Since April 2008, HAD has engaged an independent Quantity Surveyor for all term consultancy agreements to provide comprehensive advice on cost items and control, including the updating of the latest project cost estimates at each work stage, working out the pre-tender estimates and post-contract valuations in the case of variation of works order during the construction stage.

- (l) reasons why only three months were allowed for the tender stage, which would normally take six months to complete (paragraph 3.31 (c) refers);

Consultant A had under-estimated the time needed for tendering process of government projects.

- (m) according to paragraphs 3.33(b) and 3.35, \$3.2 million were related to additional works items requested from SKDC and in July 2008, the Development Bureau informed FC of the Administration's objective to contain the need for changes to user requirements to those that were absolutely essential and necessary to prevent cost overrun. Please provide the following information:

- (i) measures taken by HAD/LCSD to minimize the need for changes in users' requirements for budgetary control and steps taken by HAD/LCSD to communicate with SKDC of the Administration's intent above;

HAD required the Consultant to obtain comments from the lead

department and other relevant departments to ensure all user requirements were captured at each stage and fully incorporated in the tender documents, such that late changes were contained as far as possible. Any proposed additional works would also be vetted by HAD and endorsed by the DC and the lead department.

- (ii) reasons for the additional works requests from SKDC during construction stage and justifications to demonstrate that they were absolutely essential and necessary;

The main reason for the additional works requested by SKDC was to suit future operational needs. In the beginning, it was proposed that the Pet Garden would be open from 7:00 hours to 18:00 hours or 19:00 hours only. It is now opened until 9:00 pm, with lighting provided until 9:30 pm. Please also refer to reply to question (m)(iii) below.

- (iii) discussion details, including dates of meetings and discussion summary, between LCSD/HAD and SKDC on providing lighting at the Pet Garden;

1	May 2008	The District Works Working Group of the District Facilities Management Committee (DFMC) under the SKDC discussed and supported the proposed facilities and project estimate of \$11 million for the proposed facilities. Having considered the potential problem of light pollution and the views of residents of the nearby Oscar by the Sea, Members agreed that the facilities should be open during day time only. Apart from the emergency lighting at the entrance, there would not be any lighting facility.
2	April 2012	LCSD submitted the papers titled “The management and mode of operation of the pet garden at Wan Po Road, Tseung Kwan O” for the discussion of the DFMC of SKDC. It was proposed that from September every year to April of the next year, the pet garden would be open from 07:00 hours to 18:00 hours; whereas from May to August every year the opening hours would be from 07:00 hours to 19:00 hours. Members endorsed the

		arrangement. Nevertheless, the DFMC suggested that LCSD should review the usage pattern of the Pet Garden 3 months after its opening and look into the feasibility of extending the opening hours of the garden to night time having regard to general users' comments.
3	October 2012	The District Works Working Group of the DFMC under the SKDC discussed and endorsed the revised project estimate of \$21 million. Amongst the additional facilities, there was provision for installation of underground cabling. The provision was to cater for the need for lighting at the sitting-out area if it were to be opened at night in future.

- (n) according to paragraph 3.36, LCSD identified the technical difficulties in handling the project and that HAD's Works Section was unable to provide expert advice and timely assistance due to limited resources; number of staff in HAD's Works Section, their titles, ranks and profession, number of projects supervised by the Section during the period of developing the project. When was HAD aware of LCSD's above comments and follow-up actions taken by HAD in this regard;

HAD could not trace from record about communication with LCSD regarding resources issue in 2013. HAD only came to know about the comments from the Audit Report.

During the period of developing the pet garden project from 2008 to 2013, HAD Works Section had increased the number of project managers (architects) to 7, who were overseen by a senior architect and a chief engineer to manage the projects assigned to term consultants. The number of DMW projects handled by the term consultants during the period was 354 with a total project value of some \$850 million.

- (o) referring to paragraph 3.37, lessons learnt and remedy to be taken to address the ground settlement problem in the development of restored landfills in future;

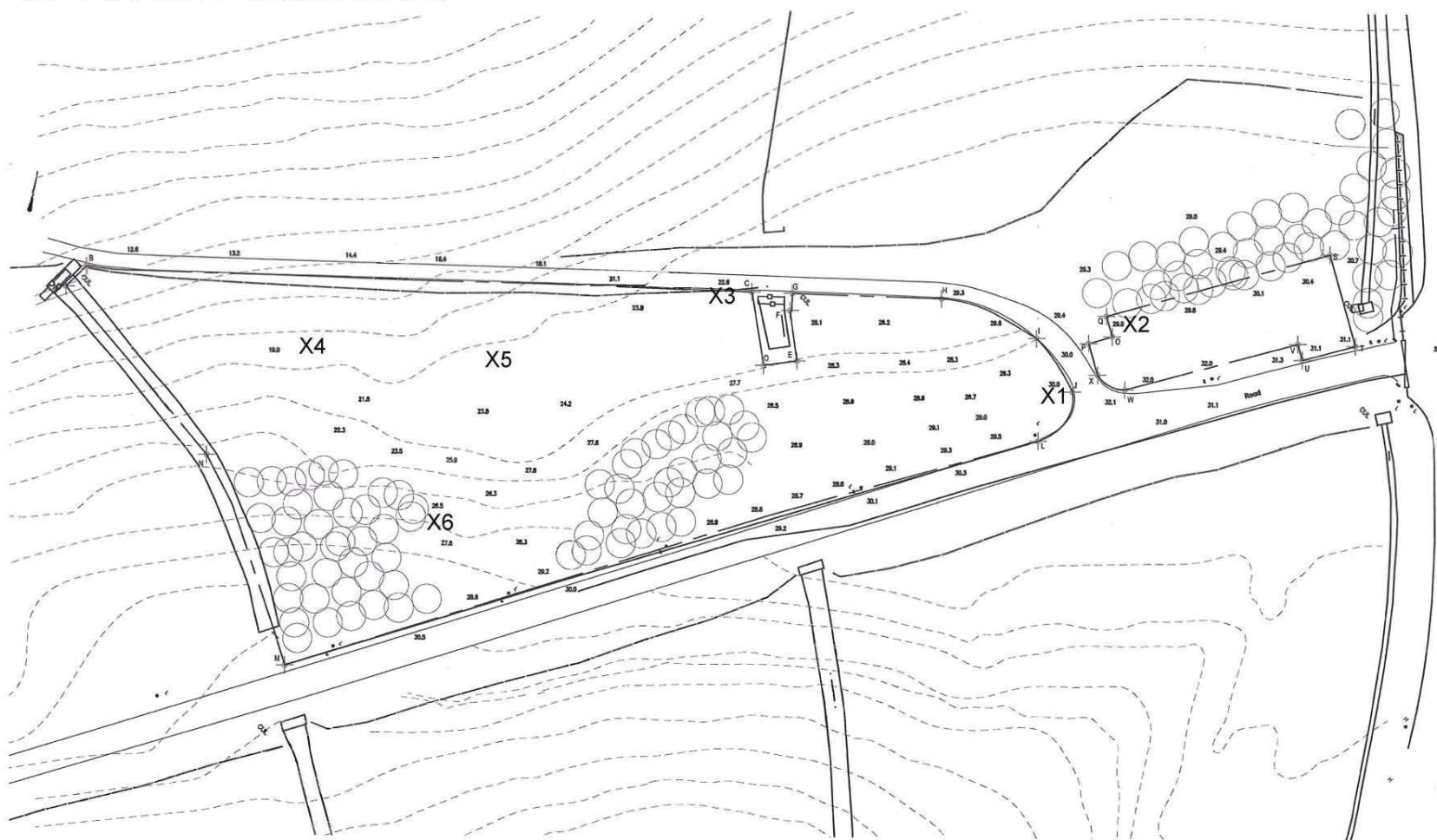
For future works projects involving restored landfills or sites susceptible to ground settlement, HAD will seek expert advice from EPD in the course of implementing project, just as in the case of Wan Po Road Pet Garden project. Also, where time and resources permit, we would recommend consultants to ascertain up-to-date site conditions for design work before tendering (particularly in situations where ground settlement has already been observed in a topographical survey carried out by a consultant at an early stage and where the design stage takes a longer duration).

- (p) given the complexity of works involved, does HAD have the relevant expertise and experience to assume the role of works agent for developing the Pet Garden, and the appropriateness of including the project under District Minor Works Programme from project management perspective.

In general, HAD is capable of conducting minor works costing not more than \$30 million. As works agent, HAD has also developed a number of pet garden projects under the DMW Programme in various districts since 2008. Drawing from the experiences of Wan Po Road Pet Garden project, we note that carrying out works project on restored landfill site requires special attention, as the site may be susceptible to settlement and there are other issues such as different utilities below the surface. While we had already sought expert advice from EPD in the course of implementing the project in view of the special conditions of restored landfills site, we consider that the extent of settlement at the project site of Wan Po Road Pet Garden during the design and tender stage was unusual and should have posed challenges to any works agents.

Wan Po Road Pet Garden, TKO

將軍澳環保大道寵物公園



Topographical Survey conducted by Consultant in 2009

於2009年由顧問公司安排的地形測量圖

Wan Po Road Pet Garden, TKO

將軍澳環保大道寵物公園



1:1000 (A0 size)

Topographical Survey conducted by Contractor in 2011

於2011年由承建商安排的地形測量圖



Wan Po Road Pet Garden, Tseung Kwan O 將軍澳環保大道寵物公園

Comparison of site levels at Wan Po Road Pet Garden, Tseung Kwan O

將軍澳環保大道寵物公園地面水平對比

Stage	Site Levels* 地面水平*					
	X1 (near the main entrance 近地盤入口) (m above Principal Datum 主水平基準以上 米)	X2 (at Car park 於停車場) (m above Principal Datum 主水平基準以上 米)	X3 (m above Principal Datum 主水平基準以上 米)	X4 (m above Principal Datum 主水平基準以上 米)	X5 (m above Principal Datum 主水平基準以上 米)	X6 (m above Principal Datum 主水平基準以上 米)
1. Feasibility Stage: Survey plan provided by EPD in 2007 可行性階段: 測量圖由環保署於 2007 年提供	+30	+30	+23.5	+19	+24	+27
2. Design Stage: Topographical Survey by Consultant A in April 2009 設計階段: 2009 年四月由顧問 A 安排地形測量圖	+30	+29.9	+22.8	+19	+23.8	+26.5
3. Construction Stage: Topographical survey by Contractor C in March 2011 施工階段: 2011 年三月由承建商 C 安排地形測量圖	+29.08	+29.4	+22.69	+17.41	+22.53	+25.42
4. Settlement between Feasibility Stage and Design Stage 可行性階段與設計階段沉降比較 (2) - (1)	0.0	0.1	0.7	0.0	0.2	0.5
5. Settlement between Design Stage and Construction Stage 設計階段與施工階段沉降比較 (3) - (2)	0.92	0.5	0.11	1.59	1.27	1.08
6. Settlement between Feasibility Stage and Construction Stage: 可行性階段與施工階段沉降比較 (3) - (1) Overall Settlement 整體沉降	0.92	0.6	0.81	1.59	1.47	1.58

*Refer to Site Plan for the locations of the measurement points 測量點位置可參考地盤平面圖