

資料文件

立法會小組委員會
跟進香港國際機場三跑道系統相關事宜

2017年4月11日會議的跟進事項

引言

於2017年4月11日舉行的小組委員會會議上，委員要求香港機場管理局（「機管局」）提供下列事宜的補充資料：

- (a) 就控制及監察三跑道系統填海工程所用填料的措施；
- (b) 機管局與承包商就三跑道系統填海工程所用填料簽訂的合約詳情，包括填料的分級及規格要求，以及承包商的供應商數目；
- (c) 機管局對收到約800艘作業躉船的填料進行檢驗的詳情，包括檢驗日期、躉船大小、檢驗項目及結果；
- (d) 機管局將採用的免挖式填海方法及海堤建造方法詳情，包括如港珠澳大橋香港接線工程（亦是採用免挖式填海方法）填海範圍向外伸延的同類事件的預防措施；
- (e) 就過去四個月水質監測站錄得懸浮固體超標情況，相關懸浮固體驗測的獨立化驗報告；
- (f) 機管局於2017年3月收到匿名信件，就指稱三跑道系統填海工程使用未符標準填料的調查結果；及
- (g) 機管局會否考慮安排委員在保密協議下，細閱機管局與承包商簽訂有關供應三跑道系統填海工程所用填料的填海合約。

2. 此外，以下議案（立法會CB(4)836/16-17(01)號文件）於當日的小組委員會會議通過：

「由於採購機三跑填海物料與工程成本、填海質量及環境影響關係密切，本小組委員會要求機管局提供承建商所有採購及訂購海砂和機砂的數量、價格（預算總價格及每公噸單價）、供砂企業及來源地。」

3. 此外，一封日期為2017年3月25日的匿名信件指稱三跑道系統填海工程使用未符標準的填料。朱凱迪議員於2017年4月7日及11日的兩封信件提出有關三跑道系統填海工程的事宜，包括上述匿名信件。

4. 本文件載列機管局就上文第1至3段所述事宜的綜合回應。

免挖式填海及興建海堤

5. 三跑道系統填海工程於2016年11月展開。機管局考慮到填海可能對環境造成影響，故採用多種免挖式方法填海。立法會CB(4)275/15-16(01)號文件載有以填海方式為三跑道系統項目拓地的內容。該文件有關免挖式填海方法及興建海堤的相關章節摘錄載於附件一。儘管在工程期間或須因應工地狀況輕微更改地質改良方法，施工方法大致維持不變。此外，三跑道系統項目的環境許可證第2.17項條件列明深層水泥拌合法的詳細計劃，已提交環境保護署（「環保署」），並載於機管局網站<http://env.threerunwaysystem.com/ep%20submissions/201607%20DPDCM.pdf>（只有英文版本）。

6. 就填海方法而言，免挖式填海有多種方法。據機管局所理解，港珠澳大橋香港接線工程所用的免挖式填海方法¹與三跑道系統填海工程使用的深層水泥拌合法不同。儘管深層水泥拌合法從未應用於香港的填海工程，該填海方法已在亞洲（尤其是日本及韓國）及歐美廣泛使用。機管局在開始三跑道系統填海工程前進行了連串測試，以增強在本地使用這種填海方法在施工及環保方面的信心。有關測試及相關的監察及試驗結果全部證實成功。

¹ <http://www.legco.gov.hk/yr16-17/chinese/panels/tp/papers/tp20170224cb4-621-2-c.pdf>

三跑道系統填海工程的填料要求

7. 機管局並無指定三跑道系統填海工程所用填料的來源，但所有填料必須符合相關工程合約所列規格及三跑道系統項目環境許可證所列嚴格規定，以緩解施工期間可能對水質造成的影響。環境許可證第2.26(i)項條件明確規定「在海堤建築完成前，砂墊層的細顆粒含量不能多於10%，而在主水平基準2.5米以下進行海上填料的細顆粒含量不能多於20%」。環境許可證可於環保署網站（<http://www.epd.gov.hk/eia/chi/register/permit/latest/ep4892014.pdf>）查閱。機管局亦就該環境許可證條件，於合約列明顆粒大小的特定規定。一般來說，用在主水平基準2.5米以下並符合要求的填海填料，主要有三類，即為海砂、機製砂及其他來自香港工地的合適填料。政府知悉以上填料要求，而有關要求亦沒有改變。

8. 如進行填海工程須進口填海用砂，承包商必須遵從相關法定規定，即規管沙粒進口的香港法例第147章《沙粒條例》²。

9. 截至2017年4月底，填海工程已使用約二百萬立方米的填料³，當中約二萬三千立方米為從越南進口的海砂、二萬立方米為來自香港工地的合適填料，其餘則為機製砂。

10. 上述所用的三類填料中，只有從越南進口的海砂須取得土木工程拓展署的搬運沙粒許可證（「許可證」）。土木工程拓展署發出了首批許可證，准許持證人於2017年1月27日至2月25日期間由越南運送海砂至半山石碇泊處。土木工程拓展署其後再發出第二批許可證，准許同一持證人於2017年2月6日至3月7日期間由半山石碇泊處運送海砂至三跑道系統工程範圍。有關許可證的副本載於**附件二**。承包商曾就進口的機製砂根據《沙粒條例》申請「香港天然砂進口最終用戶證明書」，但獲告知由於進口機製砂不受該條例規管，故無須領取有關證明書。

三跑道系統項目的主填海工程及相關合約

² 根據香港法例第 147 章第 1A 條，《沙粒條例》不適用於藉開採石礦或洗選其他物料以產生沙粒而產生的沙粒。

³ 二百萬立方米的填料計及所有三跑道系統填海合約。除主填海工程合約（合約 3206）外，機管局另有五份深層水泥拌合法的合約。

11. 香港國際機場主填海工程合約3206（「主填海工程合約」）經公開招標於2016年9月27日批授予振華工程有限公司、中國交通建設股份有限公司及中交疏浚（集團）股份有限公司組成的聯營公司（「主承包商」），合約總額為15,263,960,096港元。

12. 機管局與主承包商訂立的主填海工程合約載有填料成本資料，屬商業文件故不得披露。惟以下資料可供委員參考：

- (a) 招標文件及主填海工程合約內清晰列明上文第7段所列的填料要求；
- (b) 主承包商透過不同供應商物色所需的填料來源，供應商則從數家石礦場取得填料。根據主填海工程合約，機管局無須批核主承包商的供應商，但會在填料的源頭進行檢測，以確保填料符合特定要求。
- (c) 因應2017年3月收到的匿名信件的指稱，機管局從主承包商非正式地得知，金鋒海事工程有限公司是為該承包商物色石礦場的其中一家代理人／供應商。然而，機管局與主承包商的代理人／供應商並沒有合約關係；及
- (d) 填海承包商須付的填料成本包括物料及運輸成本。除基於機管局與主承包商之間的商業機密外，填料成本資料亦包含主承包商與其分包商之間的商業協議，因此機管局不能透露填料成本資料。然而，涉及的成本屬機管局估算範圍內。

控制及監察三跑道系統填海工程的填料

13. 機管局從三方面監控三跑道系統填海工程的填料：

- (a) 填料來源；
- (b) 運送填料至香港的過程；及
- (c) 抽樣及檢驗。

填料來源

14. 即使填料採購工作實際上由機管局的填海承包商負責，機管局規定承包商須完全符合以下規定：

- (a) 符合上文第7段所列的填料要求。除上文第12(b)段所指於採料地點進行檢驗外，機管局亦會對每艘進入香港的運砂躉船進行抽樣檢驗。有關抽樣檢驗的詳請載於下文第17至19段；
- (b) 香港法例第147章《沙粒條例》所列規定；及
- (c) 每艘抵港的運砂躉船須提供以下文件，以證明每艘運砂躉船的出發地及已取得批核：
 - (i) 託運單；
 - (ii) 中華人民共和國海關出口貨物報關單；
 - (iii) 來往港澳船舶進口／出口貨物船單；及
 - (iv) 石場發貨單。

15. 在符合上述條件的情況下，機管局會向承包商建議的填料來源發出不反對證明書。至今，機管局並無對承包商建議的填料來源提出反對。

監督運送填料至香港的過程

16. 機管局對填料由來源地運送至工地實施嚴格規定。所有運送填料的躉船均須配備自動識別系統⁴。機管局密切監督躉船由填料來源地運往香港的航程。躉船進入香港水域前，承包商須向相關政府機關（即海事處、香港海關及入境事務處）通報躉船的預期抵港資料。除相關政府機關會按需要進行檢查外，機管局員工亦會檢查躉船，而至今未有發現不尋常情況。

抽樣檢驗

⁴ 自動識別系統是船上自動獨立追蹤系統。船隻電台的自動識別系統應答器設有全球衛星定位系統接收器，可收集目標船隻的位置及其移動資料。

17. 每艘運砂躉船⁵抵港時，承包商須出示相關文件（如託運單、進口／出口貨物單等）供機管局檢查。機管局會從每艘躉船抽取填料樣本，並貼上適當標籤，由機管局員工及承包商簽署後密封，然後送交香港實驗所認可計劃下認可的實驗所進行測試。

18. 每個樣本均會進行測試，確保符合要求。由填海工程於2016年11月展開至2017年4月底，機管局共測試了916個從運砂躉船抽取的填料樣本。所有樣本均通過實驗所的測試。按月收集的樣本數目分項及測試結果概列於附件三。

19. 根據環境許可證第3.5項條件，機管局已向環保署提交每月環境監察及審核（「環監」）報告，當中包括載有執行環境許可證有關細顆粒含量最高百分比條件（見上文第7段）的情況，並載於<http://env.threerunwaysystem.com/tc/em&a-reports.html>（只有英文版本）。所有已提交的每月環監報告經由環境小組檢閱及核證，而獨立環境查核人對每月報告並無其他意見。

監測懸浮固體

20. 機管局於施工工地附近和位於上游及下游的22個水質監測站進行水測監測。於2016年12月1日至2017年4月30日期間，從該22個水質監測站取得約2 400個懸浮固體監測結果，當中有62個超標個案。環境小組對每個超標個案作出調查，包括全面檢視水流、實地調查工地活動及觀察等，並比較其他控制監測站。環境小組及獨立環境查核人的調查結果顯示超標個案與三跑道系統項目無關。

21. 相關懸浮固體測試的獨立實驗所報告載於各每月環監報告的第4.5節，報告亦可於上文第19段的連結查閱。由於2016年12月至2017年4月期間有大量的實驗所報告（超過700頁），而且相關測試結果亦概列於每月環監報告內，故此載於附件四的實驗所報告副本應可提供足夠、有用的資料作參考。

⁵ 一般躉船可運載一千五百立方米至二千五百立方米的填料。

匿名信件及其他事宜

22. 如第3段所述，一封日期為2017年3月25日向（其中包括）機管局發出的匿名信件，指稱三跑道系統填海工程使用未符標準填料。儘管信件屬匿名性質，機管局作出了相應的查證工作。機管局對填料質素符合環境許可證的規定，一直採取嚴正態度。如上文所述，承包商已提供機管局規定的一切所需文件，而經測試的全部916個樣本均通過測試，故有關指稱並無事實根據。

於 2017 年 4 月 11 日的會議上通過的議案

23. 機管局就通過的議案（見上文第2段）的回覆載於附件五。

徵詢意見

24. 請委員留意本文件載列的補充資料。

香港機場管理局
2017年6月

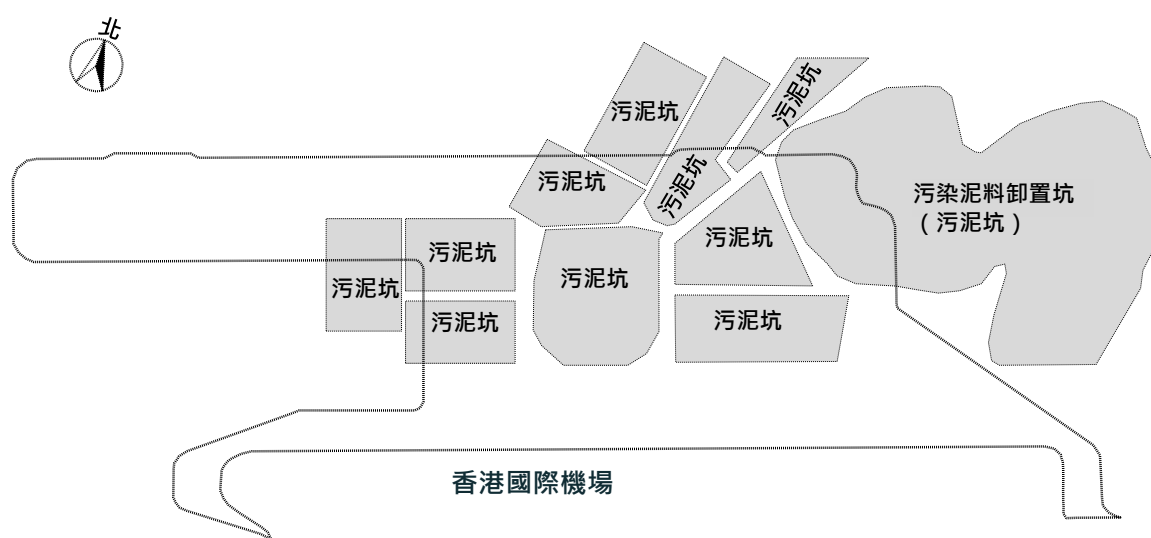
立法會小組委員會
跟進香港國際機場三跑道系統相關事宜
立法會 CB(4)275/15-16(01)號文件摘錄

免挖式填海及興建海堤

6. 三跑道系統項目須進行填海，在現有機場以北開拓面積約 650 公頃的平台，以建設一條新跑道、所有相關滑行道、一座客運廊、停機坪及其他機場基礎建設。

7. 為全面了解目前填海範圍的地質狀況，機管局已進行全面的土地勘測研究（土地勘測點超過 650 個）。研究結果顯示，填海範圍的一般地質狀況包含不同厚度（平均為 15 米）的厚軟質海泥層，下面是 15 至 20 米厚的較堅硬沖積土層。如圖一所示，約 40% 的填海範圍位於海泥層內的已廢棄污染泥料卸置坑（「污泥坑」）之上。這些污泥的狀態極不穩定，亦較周圍的泥土鬆軟。

圖一：填海範圍內的污染泥料卸置坑



8. 填海工程包括三個主要部分：地質改良、興建海堤及拓地。基於地質狀況及環保考慮，工程將會採用多種符合岩土工程及環保規定的精密技術及程序，以鞏固工程範圍內的軟質海泥，讓泥土有足夠強度，建造穩固的平台。

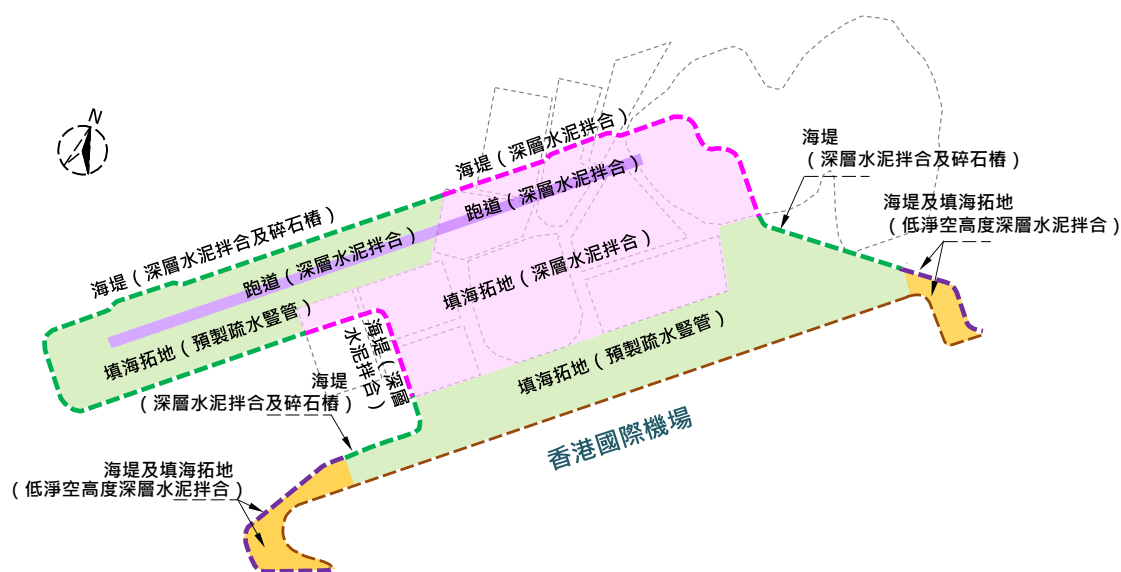
地質改良

9. 簡單來說，開拓土地的工作將在污泥坑及非污泥坑範圍進行。在考慮對環境可能造成的影響後，填海工程將會以多種免挖方式進行。在污泥坑範圍會採用深層水泥拌合法。這方法是以「攪拌」方式將水泥注入海泥，形成密集的水泥柱，以鞏固海泥，改良地質，從而承托上面的填海工程。深層水泥拌合法的優點是可以防止污染物從水中釋出。這項技術已在亞洲（主要是日本及韓國）¹、歐洲及美洲廣泛使用。為確保深層水泥拌合法無論在施工及環保角度均可接受，機管局進行了一系列測試，而這些測試及相關的監察和試驗結果全部證實成功。

10. 在其餘非污泥坑範圍的拓地工程，將會採用傳統的疏水填海法，在厚海泥層內安裝密集的疏水豎管，於填土時以便水份從海泥排走，令海泥加速穩固。此外，工程亦會在日後的平整層鋪上數米高的填料，以臨時加上額外負載（稱為「加載」），從而加快穩固過程。在移除加載的填料後，平整層上出現的過量沉降將會被填平，以供興建基礎建設及上層結構。

11. 以下的簡化布局（圖二）顯示在拓地範圍內採用的不同地質改良方法，以及有關分布位置及範圍。

圖二：擬採用的地質改良方法布局



¹ 在其他主要機場發展中採用深層水泥拌合法的例子包括大阪關西機場及東京羽田機場。

興建海堤

12. 填海範圍將被約 13.4 公里長的海堤圍繞。海堤工程主要包括興建傳統的堆石坡海堤，以保護填海工程範圍內的填料。海堤的設計運用了水動力的模擬及分析，以抵禦預計極端狀況下（包括颱風）水流及海浪的影響。按照政府間氣候變化專門委員會²（IPCC 2014）的建議，在模擬分析中已假定未來的颱風強度將提高 10%，海堤的頂部亦會加高，以應付有關影響。

13. 在海堤底將會採用兩種地質改良技術，包括建造深層水泥拌合牆板，為污泥坑範圍內的海堤底提供橫向阻力。在污泥坑範圍以外，將會安裝碎石樁（另一種常用於軟土的地質改良技術）以改良海泥土質，再加設深層水泥拌合牆板，以抵受橫向推力。

² 政府間氣候變化專門委員會由聯合國環境規劃署及世界氣象組織於 1988 年成立，為評估氣候變化的權威國際組織，旨在就當前氣候變化及其對環境和社會經濟的潛在影響，向世界各地提供清晰的科學觀點。

土木工程拓展署發出的搬運沙粒許可證副本

a) 由越南運送海砂至半山石碇泊處

搬運沙粒許可證編號/ Sand Removal Permit No.	SRP-17-0019-1	有效期由: valid from:	2017年01月27日	至: to:	2017年02月25日
持證人 Permittee	[REDACTED]				
地址:	[REDACTED]				/電話: [REDACTED]

甲部 (Part A)

搬運沙粒許可證 (在香港境內搬運沙粒)
SAND REMOVAL PERMIT (for Removal and Transportation of Sand in HONG KONG)
 在本港境內進行搬運時，此證必須存放在船隻/車輛內。
 This Permit shall remain in the vessel/vehicle at all time during the period of removal and transportation in Hong Kong.
 (每一載由船隻/車輛運載的沙粒均須領有一張許可證。每一張許可證只可使用一次。)
 (One Permit is required for each vessel load/vehicle load and could be used for only one time)

土木工程拓展署
 Civil Engineering and Development Department
 香港法例第一四七章 沙粒條例
 Laws of Hong Kong Chapter 147 Sand Ordinance


茲根據沙粒條例第二及第三條及本許可證的條件之規定，准許下列：
 Under the provisions of Sections 2 & 3 of the Sand Ordinance and the Conditions of this Permit, permission is hereby given for the following:

船隻/車輛編號:
 Vessel/Vehicle Reg. No(s): [REDACTED]

搬走及運送沙粒(重量不能超過其准許載貨量)，
 to remove and transport sand (weight shall not exceed the carrying capacity permitted),

並循最便捷之航線由 Cua Hoi, Ha Tinh, Vietnam 運往以下地點
 for delivery by the most direct route from to the following place(s)

1. Puh Shan Shek Anchorage.



香港土木工程拓展署蓋印
 Chop of Civil Engineering and Development Department, HKSARG

YUNG Lai-kwan, Lisa

(L K YUNG, Engineer, FMD) 簽章 (Signature)
 香港土木工程拓展署署長代行
 for Director of Civil Engineering and Development
 發證日期: 2017年01月27日 (年/月/日)
 Issued on: (yyyy/mm/dd)

乙部 (Part B)

* 此證須於使用後 7 天內交回填料管理部總工程師。持證人亦須填報以下資料。
 * This Permit should be returned to Chief Engineer/Fill Management within 7 days after use. The Permittee is also required to fill the following part.

持證人或其授權人士已於_____年_____月_____日使用此許可證以船隻/車輛編號 _____搬走及運送上述沙粒。 Permittee or his authorized person have used this Permit to remove and transport the sand mentioned above by the vessel / vehicle reg. no. _____ on _____ (yyyy/mm/dd)	持證人公司蓋印 Company Chop of Permittee
--	--------------------------------------

(Version May 2008)

搬運沙粒許可證條件

1. 在香港特別行政區境內搬運沙粒的船隻/車輛須持有有效的搬運沙粒許可證(下稱“許可證”)。每一張許可證只適用於一次船隻/車輛的運載上並只可使用一次。
2. 許可證屬於香港特別行政區政府所有並不可轉讓。
3. 許可證乃根據申請人在其申請表上填報的資料簽發。若許可證上所载資料有更改,持證人須申領新的許可證,並把舊有的許可證交回土木工程拓展署填料管理部總工程師。
4. 除非已使用的許可證被填料管理部總工程師或其授權人員在指定卸下沙粒地點收回,否則,持證人須在卸下沙粒完畢後7天內把已使用的許可證親身或郵寄交回填料管理部總工程師。
5. 持證人須保管許可證,並於證上所定的有效期內使用。任何已過期或未經使用的許可證,須在有效期過後7天內交回填料管理部總工程師。
6. 持證人須於該船隻或車輛抵達許可證所示的指定目的地前最少8小時,填寫「表格A-送抵沙粒申報表」並以傳真((852)2714 9481)方式遞交填料管理部總工程師以作通知。
7. 於卸下沙粒完畢後2天內,持證人須填寫「表格B-沙粒送抵目的地申報表」並以傳真((852)2714 9481)方式遞交填料管理部總工程師以作通知。
8. 持證人及其最終用戶或零售客戶,須允許填料管理部總工程師或其授權人員在任何時間內進入許可證所示的卸下沙粒地點,並須提供一切所需協助,以便執行抽查工作。
9. 運送內地進口沙粒到香港特別行政區的船隻/車輛:
 - (i) 持證人須在每個月的第十日或之前,將前一個月份從內地進口沙粒的搬運資料填在「表格C-持證人每月由內地進口沙粒申報表」上,並以傳真((852)2714 9481)方式遞交填料管理部總工程師。
 - (ii) 持證人的每名最終用戶亦須在每個月的第十日或之前,把前一個月份的接收內地進口沙粒數量、已使用或零售沙粒數量和屯積沙粒數量等結存資料填在「表格D-最終用戶每月由內地進口沙粒申報表」上,並以傳真((852)2714 9481)方式遞交填料管理部總工程師。
 - (iii) 除非事先獲得填料管理部總工程師批准,否則不可將內地進口的沙粒轉出口至香港境外地區或國家。
 - (iv) 持證人及其最終用戶或零售客戶須知悉並同意遵守中華人民共和國商務部的規定,即從國內進口香港的天然沙(中華人民共和國海關稅則中‘2505100000’及‘2505900090’兩個稅號的商品),只可在香港境內使用,不可以轉出口至香港特別行政區境外地區或國家。
10. 如違反上述任何條件,填料管理部總工程師可全權取消許可證,事前毋須通知。

備注:表格A, B, C及D可在土木工程拓展署網頁內下載(網址:www.cedd.gov.hk)。

Conditions of Sand Removal Permit

1. Vessel/vehicle for removal and transportation of sand in the territory of Hong Kong Special Administrative Region (HKSAR) shall have a valid Sand Removal Permit (hereinafter called Permit). One Permit is used for a single vessel load/vehicle load and can be used for only one time.
2. The Permit is the property of the Government of HKSAR and is not transferable.
3. The Permit is granted in reliance on the information declared by the applicant on his application. If the information stipulated in the Permit has changed, the Permittee shall apply for a new Permit and return the obsolete Permit to the Chief Engineer/Fill Management (hereinafter called CE/FM) of Civil Engineering and Development Department.
4. The Permittee shall send the used Permit back to the CE/FM by post or by hand within 7 days from the date of completion of unloading sand unless it has been collected by the CE/FM or his authorized staff at the designated unloading place.
5. The Permittee shall keep care of the Permit and use it within the validity period stipulated at the Permit. Any unused or expired Permit should be returned to the CE/FM within 7 days after the expiry date of the Permit.
6. The Permittee shall inform the CE/FM at least 8 hours in advance prior to arrival at the destination shown on the Permit by completing the “Form A - Report on Sand Arrival” and faxing it to ((852) 2714 9481).
7. The Permittee shall inform the CE/FM by completing the “Form B - Report on Completion of Unloading Sand at Destination” and faxing it to ((852) 2714 9481) within 2 days after completion of unloading sand.
8. The Permittee and his final users or his customers shall allow access and provide all necessary assistance at any time to the CE/FM and/or his authorized staff to carry out the spot checking at the sand unloading places shown on the Permit.
9. For vehicle/vessel to deliver imported sand from the Mainland to HKSAR:
 - (i) The Permittee shall complete the “Form C - Permittee’s Monthly Return on Imported Sand from Mainland” showing the transportation data of the imported sand from the Mainland in the preceding month and fax it to CE/FM by fax ((852) 2714 9481) on or before the 10th day of each month.
 - (ii) The Permittee’s final users shall complete the “Form D - Final User’s Monthly Return on Imported Sand from Mainland” showing the ‘balanced’ records of the imported sand received, quantities of sand used or retailed, and quantities of sand stockpiled in the preceding month and fax it to CE/FM by fax ((852) 2714 9481) on or before the 10th day of each month.
 - (iii) Re-export of any sand imported from the Mainland is prohibited unless prior approval has been obtained from the CE/FM.
 - (iv) The Permittee and his final users or his customers shall observe and follow the requirement of Ministry of Commerce of the People’s Republic of China, i.e. the sand imported from the Mainland (中華人民共和國海關稅則中‘2505100000’及‘2505900090’兩個稅號的商品) can only be used within the Hong Kong Special Administration Region and cannot re-exported to other regions or countries.
10. In case of contravention of any of the conditions stipulated in the above, the CE/FM shall have the sole discretion of cancelling the Permit without any prior notice.

Remark: Form A, B, C and D can be downloaded from the website of the Civil Engineering and Development Department (www.cedd.gov.hk).

SRP Application Form (version January 2010)

b) 由半山石硤泊處運送海砂至三跑道系統工程範圍

搬運沙粒許可證編號/ Sand Removal Permit No.	SRP-17-0021-1	有效期由: valid from:	2017年02月06日	至: to:	2017年03月07日
持證人 Permittee	[Redacted]				
地址:	[Redacted]			/電話:	[Redacted]

甲部 (Part A)

搬運沙粒許可證 (在香港境內搬運沙粒)
SAND REMOVAL PERMIT (for Removal and Transportation of Sand in HONG KONG)
在本港境內進行搬運時, 此證必須存放在船隻/車輛內。
This Permit shall remain in the vessel/vehicle at all time during the period of removal and transportation in Hong Kong.
(每一載由船隻/車輛運載的沙粒均須領有一張許可證。每一張許可證只可使用一次。)
(One Permit is required for each vessel load/vehicle load and could be used for only one time)

土木工程拓展署
Civil Engineering and Development Department
香港法例第一四七章 沙粒條例
Laws of Hong Kong Chapter 147 Sand Ordinance

茲根據沙粒條例第二及第三條及本許可證的條件之規定, 准許下列:
Under the provisions of Sections 2 & 3 of the Sand Ordinance and the Conditions of this Permit, permission is hereby given for the following:

船隻/車輛編號:
Vessel/Vehicle Reg. No(s): [Redacted]

搬走及運送沙粒(重量不能超過其准許載貨量),
to remove and transport sand (weight shall not exceed the carrying capacity permitted),

並循最便捷之航線由 Puh Shan Shek Anchorage 運往以下地點
for delivery by the most direct route from to the following place(s)

1. HK International Airport Third Runway Project.



香港土木工程拓展署蓋印
Chop of Civil Engineering and Development Department, HKSARG

YUNG Lai-kwan, Lisa

(L K YUNG, Engineer, FMD) 簽章 (Signature)
香港土木工程拓展署署長代行
for Director of Civil Engineering and Development
簽發日期: 2017年02月06日 (年/月/日)
Issued on: (yyyy/mm/dd)

乙部 (Part B)

* 此證須於使用後 7 天內交回填料管理部總工程師。持證人亦須填報以下資料。
* This Permit should be returned to Chief Engineer/Fill Management within 7 days after use. The Permittee is also required to fill the following part.

持證人或其授權人士已於 2017年 2 月 6 日使用此許可證以船隻/車輛編號 [Redacted] 搬走及運送上述沙粒。 Permittee or his authorized person have used this Permit to remove and transport the sand mentioned above by the vessel/ vehicle reg. no. [Redacted] on 2017/02/06 (yyyy/mm/dd)	[Redacted] Company Chop of Permittee
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(Version May 2008)

搬運沙粒許可證條件

1. 在香港特別行政區境內搬運沙粒的船隻/車輛須持有有效的搬運沙粒許可證(下稱“許可證”)。每一張許可證只適用於一次船隻/車輛的運載上並只可使用一次。
2. 許可證屬於香港特別行政區政府所有並不可轉讓。
3. 許可證乃根據申請人在其申請表上填報的資料簽發。若許可證上所載資料有更改,持證人須申領新的許可證,並把舊有的許可證交回土木工程拓展署填料管理部總工程師。
4. 除非已使用的許可證被填料管理部總工程師或其授權人員在指定卸下沙粒地點收回,否則,持證人須在卸下沙粒完畢後7天內把已使用的許可證親身或郵寄交回填料管理部總工程師。
5. 持證人須保管許可證,並於證上所定的有效期內使用。任何已過期或未經使用的許可證,須在有效期過後7天內交回填料管理部總工程師。
6. 持證人須於該船隻或車輛抵達許可證所示的指定目的地前最少8小時,填寫「表格A-送抵沙粒申報表」並以傳真((852)2714 9481)方式遞交填料管理部總工程師以作通知。
7. 於卸下沙粒完畢後2天內,持證人須填寫「表格B-沙粒送抵目的地申報表」並以傳真((852)2714 9481)方式遞交填料管理部總工程師以作通知。
8. 持證人及其最終用戶或零售客戶,須允許填料管理部總工程師或其授權人員在任何時間內進入許可證所示的卸下沙粒地點,並須提供一切所需協助,以便執行抽查工作。
9. 運送內地進口沙粒到香港特別行政區的船隻/車輛:
 - (i) 持證人須在每個月的第十日或之前,將前一個月份從內地進口沙粒的搬運資料填在「表格C-持證人每月由內地進口沙粒申報表」上,並以傳真((852)2714 9481)方式遞交填料管理部總工程師。
 - (ii) 持證人的每名最終用戶亦須在每個月的第十日或之前,把前一個月份的接收內地進口沙粒數量、已使用或零售沙粒數量和屯積沙粒數量等結存資料填在「表格D-最終用戶每月由內地進口沙粒申報表」上,並以傳真((852)2714 9481)方式遞交填料管理部總工程師。
 - (iii) 除非事先獲得填料管理部總工程師批准,否則不可將內地進口的沙粒轉出口至香港境外地區或國家。
 - (iv) 持證人及其最終用戶或零售客戶須知悉並同意遵守中華人民共和國商務部的規定,即從國內進口香港的天然沙(中華人民共和國海關稅則中‘2505100000’及‘2505900090’兩個稅號的商品),只可在香港境內使用,不可以轉出口至香港特別行政區境外地區或國家。
10. 如違反上述任何條件,填料管理部總工程師可全權取消許可證,事前毋須通知。

備注:表格A, B, C及D可在土木工程拓展署網頁內下載(網址:www.cedd.gov.hk)。

Conditions of Sand Removal Permit

1. Vessel/vehicle for removal and transportation of sand in the territory of Hong Kong Special Administrative Region (HKSAR) shall have a valid Sand Removal Permit (hereinafter called Permit). One Permit is used for a single vessel load/vehicle load and can be used for only one time.
2. The Permit is the property of the Government of HKSAR and is not transferable.
3. The Permit is granted in reliance on the information declared by the applicant on his application. If the information stipulated in the Permit has changed, the Permittee shall apply for a new Permit and return the obsolete Permit to the Chief Engineer/Fill Management (hereinafter called CE/FM) of Civil Engineering and Development Department.
4. The Permittee shall send the used Permit back to the CE/FM by post or by hand within 7 days from the date of completion of unloading sand unless it has been collected by the CE/FM or his authorized staff at the designated unloading place.
5. The Permittee shall keep care of the Permit and use it within the validity period stipulated at the Permit. Any unused or expired Permit should be returned to the CE/FM within 7 days after the expiry date of the Permit.
6. The Permittee shall inform the CE/FM at least 8 hours in advance prior to arrival at the destination shown on the Permit by completing the “Form A - Report on Sand Arrival” and faxing it to ((852) 2714 9481).
7. The Permittee shall inform the CE/FM by completing the “Form B - Report on Completion of Unloading Sand at Destination” and faxing it to ((852) 2714 9481) within 2 days after completion of unloading sand.
8. The Permittee and his final users or his customers shall allow access and provide all necessary assistance at any time to the CE/FM and/or his authorized staff to carry out the spot checking at the sand unloading places shown on the Permit.
9. For vehicle/vessel to deliver imported sand from the Mainland to HKSAR:
 - (i) The Permittee shall complete the “Form C - Permittee’s Monthly Return on Imported Sand from Mainland” showing the transportation data of the imported sand from the Mainland in the preceding month and fax it to CE/FM by fax ((852) 2714 9481) on or before the 10th day of each month.
 - (ii) The Permittee’s final users shall complete the “Form D - Final User’s Monthly Return on Imported Sand from Mainland” showing the ‘balanced’ records of the imported sand received, quantities of sand used or retailed, and quantities of sand stockpiled in the preceding month and fax it to CE/FM by fax ((852) 2714 9481) on or before the 10th day of each month.
 - (iii) Re-export of any sand imported from the Mainland is prohibited unless prior approval has been obtained from the CE/FM.
 - (iv) The Permittee and his final users or his customers shall observe and follow the requirement of Ministry of Commerce of the People’s Republic of China, i.e. the sand imported from the Mainland (中華人民共和國海關稅則中‘2505100000’及‘2505900090’兩個稅號的商品) can only be used within the Hong Kong Special Administration Region and cannot re-exported to other regions or countries.
10. In case of contravention of any of the conditions stipulated in the above, the CE/FM shall have the sole discretion of cancelling the Permit without any prior notice.

Remark: Form A, B, C and D can be downloaded from the website of the Civil Engineering and Development Department (www.cedd.gov.hk).

SRP Application Form (version January 2010)

測試符合環境許可證規定的填料樣本數目
 (由 2016 年 11 月至 2017 年 4 月)

月份	經測試的樣本數目	實驗所測試結果
2016 年 11 月	59	通過
2016 年 12 月	186	通過
2017 年 1 月	204	通過
2017 年 2 月	55	通過
2017 年 3 月	206	通過
2017 年 4 月	206	通過
合共：	916	全部通過

有關測試懸浮固體的獨立實驗所報告副本（式樣）

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : MOTT MACDONALD HONG KONG LIMITED
Contact : [REDACTED]
Address : [REDACTED]

Laboratory : ALS Technichem (HK) Pty Ltd
Contact : [REDACTED]
Address : [REDACTED]

Page : 1 of 12
Work Order : HK1711981

E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]
Project : EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM (3RS) - IMPACT MONITORING

E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]
Quote number : HK/637/2016

Date received : 30-MAR-2017

Order number : ----
C-O-C number : ----
Site : ----

Date of issue : 03-APR-2017
No. of samples - *Received* : 248
- *Analysed* : 248

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This document has been signed by those names that appear on this report and are the authorised signatories.

<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:</i>
Lin Wai Yu, Iris	Senior Chemist - Inorganics	Inorganics

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group



Page Number : 2 of 12
Client : MOTT MACDONALD HONG KONG LIMITED
Work Order : HK1711981



Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1711981 supersedes any previous reports with this reference. Testing period is from 30-MAR-2017 to 03-APR-2017. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1711981 :

Sample(s) were received in chilled condition.

Water sample(s) analysed and reported on an as received basis.



Analytical Results

Sub-Matrix: SEAWATER

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	EA025: Suspended Solids (SS)			
			LOR Unit	2 mg/L	EA/ED: Physical and Aggregate Properties		
C1/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-001		10			
C1/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-002		10			
C1/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-003		11			
C1/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-004		12			
C1/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-005		12			
C1/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-006		13			
C2/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-007		11			
C2/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-008		12			
C2/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-009		11			
C2/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-010		12			
C2/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-011		15			
C2/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-012		15			
C3/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-013		10			
C3/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-014		10			
C3/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-015		10			
C3/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-016		12			
C3/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-017		11			
C3/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-018		12			
IM1/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-019		12			
IM1/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-020		12			
IM1/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-021		13			
IM1/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-022		14			
IM1/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-023		14			
IM1/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-024		13			
IM2/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-025		12			
IM2/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-026		13			
IM2/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-027		12			
IM2/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-028		14			
IM2/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-029		13			
IM2/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-030		15			
IM3/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-031		12			
IM3/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-032		12			
IM3/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-033		11			
IM3/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-034		12			
IM3/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-035		15			



Sub-Matrix: SEAWATER

			Compound	EA025: Suspended Solids (SS)			
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
IM3/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-036	14				
IM4/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-037	14				
IM4/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-038	16				
IM4/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-039	19				
IM4/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-040	16				
IM4/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-041	18				
IM4/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-042	17				
IM5/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-043	17				
IM5/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-044	18				
IM5/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-045	19				
IM5/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-046	17				
IM5/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-047	19				
IM5/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-048	19				
IM6/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-049	16				
IM6/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-050	16				
IM6/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-051	16				
IM6/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-052	16				
IM6/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-053	18				
IM6/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-054	20				
IM7/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-055	21				
IM7/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-056	20				
IM7/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-057	20				
IM7/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-058	21				
IM7/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-059	23				
IM7/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-060	24				
IM8/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-061	12				
IM8/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-062	13				
IM8/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-063	15				
IM8/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-064	15				
IM8/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-065	16				
IM8/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-066	18				
IM9/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-067	12				
IM9/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-068	14				
IM9/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-069	13				
IM9/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-070	15				



Sub-Matrix: SEAWATER

			Compound	EA025: Suspended Solids (SS)			
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
IM9/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-071	13				
IM9/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-072	13				
IM10/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-073	12				
IM10/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-074	14				
IM10/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-075	13				
IM10/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-076	14				
IM10/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-077	14				
IM10/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-078	15				
IM11/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-079	10				
IM11/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-080	10				
IM11/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-081	10				
IM11/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-082	11				
IM11/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-083	14				
IM11/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-084	13				
IM12/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-085	13				
IM12/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-086	15				
IM12/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-087	13				
IM12/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-088	15				
IM12/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-089	13				
IM12/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-090	14				
SR2/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-109	12				
SR2/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-110	11				
SR2/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-113	13				
SR2/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-114	11				
SR3/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-115	17				
SR3/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-116	16				
SR3/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-117	15				
SR3/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-118	17				
SR3/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-119	16				
SR3/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-120	18				
SR4A/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-121	17				
SR4A/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-122	17				
SR4A/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-123	17				
SR4A/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-124	19				
SR4A/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-125	18				



Sub-Matrix: SEAWATER

			Compound	EA025: Suspended Solids (SS)			
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
SR4A/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-126	20				
SR5A/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-127	12				
SR5A/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-128	14				
SR5A/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-131	16				
SR5A/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-132	15				
SR6/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-133	18				
SR6/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-134	20				
SR6/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-137	20				
SR6/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-138	20				
SR7/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-139	8				
SR7/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-140	7				
SR7/ME/M/REPLICATE 1	[30-MAR-2017]	HK1711981-141	9				
SR7/ME/M/REPLICATE 2	[30-MAR-2017]	HK1711981-142	7				
SR7/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-143	6				
SR7/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-144	8				
SR8/ME/S/REPLICATE 1	[30-MAR-2017]	HK1711981-145	13				
SR8/ME/S/REPLICATE 2	[30-MAR-2017]	HK1711981-146	15				
SR8/ME/B/REPLICATE 1	[30-MAR-2017]	HK1711981-149	14				
SR8/ME/B/REPLICATE 2	[30-MAR-2017]	HK1711981-150	15				
C1/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-151	66				
C1/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-152	61				
C1/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-153	168				
C1/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-154	163				
C1/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-155	168				
C1/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-156	166				
C2/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-157	16				
C2/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-158	16				
C2/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-159	15				
C2/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-160	15				
C2/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-161	15				
C2/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-162	15				
C3/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-163	5				
C3/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-164	7				
C3/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-165	6				
C3/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-166	8				



Sub-Matrix: SEAWATER

			Compound	EA025: Suspended Solids (SS)			
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
C3/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-167	14				
C3/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-168	14				
IM1/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-169	32				
IM1/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-170	32				
IM1/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-171	52				
IM1/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-172	53				
IM1/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-173	66				
IM1/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-174	70				
IM2/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-175	42				
IM2/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-176	40				
IM2/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-177	82				
IM2/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-178	83				
IM2/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-179	91				
IM2/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-180	84				
IM3/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-181	85				
IM3/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-182	88				
IM3/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-183	89				
IM3/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-184	87				
IM3/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-185	97				
IM3/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-186	96				
IM4/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-187	56				
IM4/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-188	52				
IM4/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-189	67				
IM4/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-190	71				
IM4/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-191	68				
IM4/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-192	68				
IM5/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-193	42				
IM5/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-194	44				
IM5/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-195	52				
IM5/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-196	53				
IM5/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-197	139				
IM5/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-198	148				
IM6/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-199	48				
IM6/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-200	48				
IM6/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-201	70				



Sub-Matrix: SEAWATER

			Compound	EA025: Suspended Solids (SS)			
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
IM6/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-202	77				
IM6/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-203	84				
IM6/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-204	80				
IM7/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-205	59				
IM7/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-206	61				
IM7/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-207	100				
IM7/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-208	99				
IM7/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-209	128				
IM7/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-210	121				
IM8/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-211	16				
IM8/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-212	17				
IM8/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-213	18				
IM8/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-214	19				
IM8/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-215	21				
IM8/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-216	23				
IM9/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-217	14				
IM9/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-218	16				
IM9/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-219	16				
IM9/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-220	16				
IM9/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-221	16				
IM9/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-222	16				
IM10/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-223	15				
IM10/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-224	16				
IM10/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-225	16				
IM10/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-226	16				
IM10/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-227	16				
IM10/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-228	15				
IM11/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-229	21				
IM11/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-230	21				
IM11/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-231	23				
IM11/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-232	25				
IM11/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-233	25				
IM11/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-234	27				
IM12/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-235	22				
IM12/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-236	24				



Sub-Matrix: SEAWATER

			Compound	EA025: Suspended Solids (SS)			
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
IM12/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-237	24				
IM12/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-238	25				
IM12/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-239	25				
IM12/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-240	24				
SR2/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-259	24				
SR2/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-260	24				
SR2/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-263	23				
SR2/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-264	24				
SR3/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-265	16				
SR3/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-266	16				
SR3/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-267	16				
SR3/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-268	17				
SR3/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-269	20				
SR3/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-270	22				
SR4A/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-271	14				
SR4A/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-272	15				
SR4A/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-273	16				
SR4A/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-274	15				
SR4A/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-275	14				
SR4A/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-276	15				
SR5A/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-277	23				
SR5A/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-278	23				
SR5A/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-281	24				
SR5A/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-282	24				
SR6/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-283	13				
SR6/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-284	12				
SR6/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-287	16				
SR6/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-288	16				
SR7/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-289	7				
SR7/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-290	8				
SR7/MF/M/REPLICATE 1	[30-MAR-2017]	HK1711981-291	9				
SR7/MF/M/REPLICATE 2	[30-MAR-2017]	HK1711981-292	8				
SR7/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-293	7				
SR7/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-294	9				
SR8/MF/S/REPLICATE 1	[30-MAR-2017]	HK1711981-295	15				



Sub-Matrix: SEAWATER

			Compound	EA025: Suspended Solids (SS)				
			LOR Unit	2 mg/L				
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties					
SR8/MF/S/REPLICATE 2	[30-MAR-2017]	HK1711981-296	15					
SR8/MF/B/REPLICATE 1	[30-MAR-2017]	HK1711981-299	15					
SR8/MF/B/REPLICATE 2	[30-MAR-2017]	HK1711981-300	17					



Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method; Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4455847)								
HK1711981-001	C1/ME/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	10	10	0.0
HK1711981-011	C2/ME/B/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	15	14	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4455848)								
HK1711981-021	IM1/ME/M/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	13	12	8.4
HK1711981-031	IM3/ME/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	12	12	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4455849)								
HK1711981-041	IM4/ME/B/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	18	17	0.0
HK1711981-051	IM6/ME/M/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	16	16	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4455850)								
HK1711981-061	IM8/ME/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	12	12	0.0
HK1711981-071	IM9/ME/B/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	13	13	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4455851)								
HK1711981-081	IM11/ME/M/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	10	11	10.1
HK1711981-109	SR2/ME/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	12	10	11.6
EA/ED: Physical and Aggregate Properties (QC Lot: 4455852)								
HK1711981-121	SR4/ME/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	17	17	0.0
HK1711981-133	SR6/ME/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	18	19	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4455853)								
HK1711981-145	SR8/ME/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	13	14	8.4
HK1711981-157	C2/MF/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	16	14	9.7
EA/ED: Physical and Aggregate Properties (QC Lot: 4455854)								
HK1711981-167	C3/MF/B/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	14	16	8.9
HK1711981-177	IM2/MF/M/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	82	85	4.1
EA/ED: Physical and Aggregate Properties (QC Lot: 4455855)								
HK1711981-187	IM4/MF/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	56	56	0.0
HK1711981-197	IM5/MF/B/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	139	146	4.8
EA/ED: Physical and Aggregate Properties (QC Lot: 4455856)								
HK1711981-207	IM7/MF/M/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	100	104	4.9
HK1711981-217	IM9/MF/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	14	15	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4455858)								
HK1711981-227	IM10/MF/B/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	16	16	0.0
HK1711981-237	IM12/MF/M/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	24	24	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4455860)								
HK1711981-267	SR3/MF/M/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	16	15	0.0
HK1711981-277	SR5A/MF/S/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	23	23	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4455861)								
HK1711981-291	SR7/MF/M/REPLICATE 1	EA025: Suspended Solids (SS)	----	2	mg/L	9	8	0.0

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 4455847)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455848)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	96.0	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455849)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	106	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455850)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	107	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455851)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455852)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	95.5	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455853)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	109	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455854)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455855)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455856)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455858)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	107	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455860)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	109	----	85	115	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 4455861)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	108	----	85	115	----	----

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

立法會小組委員會
跟進香港國際機場三跑道系統相關事宜

於 2017 年 4 月 11 日會議通過的議案

引言

於2017年4月11日舉行的小組委員會會議通過以下議案：

「由於採購機三跑填海物料與工程成本、填海質量及環境影響關係密切，本小組委員會要求機管局提供承建商所有採購及訂購海砂和機砂的數量、價格（預算總價格及每公噸單價）、供砂企業及來源地。」

本文件載列香港機場管理局（「機管局」）的回應。

機管局的回應

2. 三跑道系統項目填海工程於2016年11月展開。截至2017年4月底，填海工程已使用約二百萬立方米的填料，當中約二萬三千立方米為從越南進口的海砂、二萬立方米為來自香港工地的合適填料，其餘則為從珠江三角洲地區石礦場進口的機製砂。
3. 填海承包商負責工程所需填料的採購工作。由於承包商按照機管局於合約所訂明要求物色填料來源及採購填料屬其商業決定，機管局並無其承包商所採購不同填料的物料價格及數量的資料，亦無規定承包商須通知機管局填料供應商的名稱。
4. 然而，就承包商所用的機製砂，機管局要求其承包商提交砂來源的建議，包括提供相關採礦許可證、營業執照及測試報告

等資料。承包商亦須向各政府部門提交相關資料，以確定所進口的機製砂並不受香港法例第147章《沙粒條例》所規管。當符合一切規定後，機管局將對承包商的砂來源建議發出不反對證明書。至今，機管局就承包商主要位於珠江三角洲地區的九個石礦場採購機製砂，發出了不反對證明書。

香港機場管理局
2017年6月