

**For Information
on 22 June 2020**

Legislative Council Panel on Economic Development

**Update on the Development of the Three-Runway System
at Hong Kong International Airport**

Purpose

This paper provides an update on the developments of the Three-Runway System (“3RS”) project (“the Project”) since the last reporting to this Panel in December 2019 (LC Paper No. CB(4)223/19-20(01)).

Background

2. During this reporting period, the outbreak of the Coronavirus Disease (“COVID-19”) from January 2020 onwards has affected all industries and livelihood in Hong Kong, including, to different degrees, the Project on different fronts. Against this backdrop, this paper presents updates on the overall progress of the Project as well as its key individual aspects: (a) construction; (b) labour supply; (c) construction safety; (d) environmental-related issues; and (e) financial arrangement plan.

Progress Update on 3RS Works

(a) Construction

3. The construction of the 3RS at Hong Kong International Airport (“HKIA”) comprises different components, including formation of about 650 hectares of land; construction of the Third Runway, taxiways and aprons, and the Third Runway Passenger Building (“TRPB”); expansion of the existing Terminal 2 (“T2”); provisions of a new automated people mover (“APM”) system and a high-speed baggage handling system (“BHS”); modification of the existing North Runway; and construction of airport support infrastructure, utilities and facilities. A layout plan showing the 3RS project scope is in **Annex A**.

(i) *Land Formation*

4. The marine Deep Cement Mixing (“DCM”) works, one of the major components of the reclamation, have been substantially completed. Reclamation filling continues to progress in full swing, and has reached sea level or above in almost all critical areas (**Annex B** refers). Land-based ground improvement works are also proceeding in multiple work fronts on the platforms of the reclaimed land. About 12 km of the 13.5km long seawall areas have been handed over from the DCM contractors to the main reclamation contractor (“the Contractor”), who has completed about 11km seawall rock core and vertical seawall blocks above sea level. Approximately 235 hectares of reclamation area has reached the required handover level, out of which about 112 hectares has been handed over to the follow-on contractors for construction of taxiways, airfield infrastructure and facilities, foundation and substructure of TRPB, APM/BHS Tunnels works, and the establishment of construction support facilities. More land parcels will be handed over to the contractors of TPRB and APM/BHS tunnels in 2020.

(ii) *Supply of Fill Materials*

5. The supply of fill materials in February 2020 was hard hit by the impact of COVID-19. Coupled with the Chinese New Year break in end January 2020, the lockdowns in nearly all fill sources outside Hong Kong cut off some of the major fill supplies during the period. Only the intake of public fill from the fill banks in Hong Kong could resume immediately after the Chinese New Year break. The overall supply of customised manufactured sand from Guangdong, Hainan and Fujian provinces, as well as fill materials from Guangxi and Taiwan, gradually resumed in March 2020, with intake from the various fill sources returned progressively to the targeted levels and above. The targets were achieved despite the disruption of fill material supply from Malaysia and the Philippines due to the lockdown implemented against the spread of COVID-19.

6. Given the highly competitive demand for fill materials from the construction industry in the region and the volume of fill materials needed for the Project, the Airport Authority Hong Kong (“AAHK”) in collaboration with the Government and the Contractor has been adopting the strategy of using multiple sources of fill materials for the reclamation works. The sources of fill materials include:

- (a) **Customised manufactured sand** - the Contractor has stepped up the operation of quarries in the nearby Guangdong province to produce manufactured sand in substantial quantities. The Contractor has additional facilities in the Fujian province.

- (b) **Other fill materials** – in addition to the introduction of marine sand supplies from Guangxi in end September 2019 and from Guangdong in May 2020, the Contractor’s sources of fill materials include supplies from the Philippines, Malaysia and Taiwan.
- (c) **Local public fill** – the Contractor has established four sorting facilities, three at the Tseung Kwan O Fill Bank and one at the Tuen Mun Fill Bank, for processing public fill for use in the reclamation works. To enhance productivity, the Contractor has, amongst others, procured additional self-propelled barges for transportation of public fill to the site to cope with the large quantities required and continues round-the-clock operation in three of the four sorting facilities.

7. In addition to the above efforts in securing as many fill sources as possible, AAHK has also been continuously adjusting the reclamation as well as sequencing and phasing different works according to their criticality (see the Updated 3RS Reclamation Phasing Plan at **Annex B**) with a view to maintaining the steady progress of reclamation filling and ensuring the timely handover of parcels of reclaimed land to contractors responsible for subsequent construction works.

8. With the multiple fill material supplies as described above, sufficient fill sources have been identified for the Project. As the overall supply of the customised manufactured sand and marine sand from the Mainland gradually resumed in March 2020, the total intake from the various fill sources exceeded the monthly target in March, April and May. The significant progress in catching up the delay was a combined effort of AAHK and the Contractor in sourcing more fill material supplies; proactive programme re-phasing/re-prioritisation; adjustment of reclamation design, etc. Notwithstanding this, the outbreak of COVID-19 impacted significantly on the reclamation programme in terms of the delayed/lockdown of fill material supply for a period of time, and also the continuing delayed resumption of work for workers entering Hong Kong who need to undergo the 14-day mandatory quarantine requirement. Compared to the two progress updates to this Panel last year, the slippage has been controlled to 6 weeks in both critical and non-critical areas (**Annex B** refers) as of May this year. This was significantly reduced from the 18 weeks of slippage reported to this Panel in April 2019, and the several months of delay in the non-critical areas for land formation reported in December 2019.

9. In short, with a stable supply of fill materials from multiple sources and the implementation of the re-phasing and enhancement measures, the reclamation works are anticipated to continue proceeding according to the planned schedule, which will support **the overall project programme to achieve operation of the Third Runway in 2022 and commissioning of the entire 3RS in 2024.**

(iii) Buildings and Infrastructure Works

10. The site works relating to the foundation and substructure of the T2 expansion are continuing as planned with the diaphragm wall and South Annex Building (“SAB”) works completed and utilities diversions, basement excavation and piling works ongoing. After the decommissioning of T2 in end November 2019, the major reconfiguration of the facilities and the internal demolition works are now progressing. It is anticipated that the main works of the expanded T2 will be awarded in the third quarter of 2020 for completion in 2024 as a fully-fledged terminal.

11. The construction for the foundation and substructure of the TRPB commenced in the first quarter of 2020, while the construction contract for the main works of the TRPB is expected to be awarded in the fourth quarter of 2020. The advance works for the construction of the new Integrated Airport Centre (“IAC”) are substantially completed and the main works and system contracts for the new IAC have commenced. The construction of the airfield infrastructure and facilities in Western Support Area is progressing under the construction contract for the Third Runway and Associated Works. Works on the North Runway Crossover Taxiway are on target for timely completion, while the advance works for construction of the Eastern Vehicular Tunnel are continuing as planned.

12. In addition to the above works, the design-and-build contracts for the highly specialised APM system and the high-speed BHS are in progress. The Occupation Permit of the new APM Depot, which is located underneath the future SKYCITY, was obtained in December 2019. The construction of APM and BHS tunnels on the existing airport island, which commenced in mid-2017, are proceeding as planned whereas the construction contract for the APM and BHS tunnels and related works on the reclaimed land are scheduled for commencement in June 2020.

13. The majority of the licences for the construction support facilities and services, e.g. quay management services, catering and canteen services and medical services, have been awarded to facilitate construction works on the new reclaimed land. Site works, such as construction of temporary offices and laying of temporary utilities, have begun at the Western Support Area. To facilitate workers' access to the site, free ferry services from Tung Chung, Tuen Mun and Tsuen Wan commenced operation in March 2020.

(iv) 3RS Project Budget

14. AAHK continues to manage the 3RS project within budget. The total value of the major contracts awarded (about HKD62.6 billion) as at May 2020 is within the estimated budget. Details of the major construction works contracts are in **Annex C**. It remains AAHK's target to deliver the 3RS project within the budget of HKD141.5 billion.

(b) Labour Supply

15. AAHK always accords priority to recruitment of local workers. The demand for workers is set to reach the peak in 2022/23 to support the construction of the major airfield infrastructure works, tunnels and terminal buildings. It is anticipated that employment opportunities generated by the 3RS works for local workers will be available as the newly reclaimed land is progressively handed over, and will continue to increase in the years ahead. AAHK will continue to liaise closely with the Government and relevant authorities to project the capacity of the local labour market to ensure the employment opportunities of local workers on the one hand and a sufficient supply of skilled labour on the other.

16. While AAHK has always been highly cautious in importing skilled workers and will keep enhancing the local recruitment and training efforts for meeting the manpower needs of future works, it is crucial that the progress of reclamation works be maintained in order to ensure that the significant amount of job opportunities for local workers would come on stream according to the envisaged timeline. In April 2018, Labour Department ("LD") approved the Contractor's application for importing 518 skilled workers in the specialised marine trades under the Supplementary Labour Scheme ("SLS"). To continue maintaining the progress of the reclamation works in the run up to 2022, and in view of the significant shortage of local skilled workers in the specialised reclamation trades, the Contractor is importing another 200 skilled workers with LD's approval in January 2020. At the same time, AAHK and the Contractor continue to step up efforts in recruiting and training locally through different channels, including continuing advertisements in the media, and organising job

fairs with a wide range of job openings specifically for local workers. Some of the job fairs were however called off/postponed due to the outbreak of COVID-19, but they will be arranged when the situation allows. Apart from the ongoing recruitment of local workers through various channels, AAHK has been working with its reclamation contractor and the Construction Industry Council (“CIC”) to provide training courses under the “Construction Tradesman Collaborative Training Scheme” (“CTS”) in relation to the specialist marine specialist and reclamation trades for local workers. To date, the reclamation contractor has arranged CTS training courses across 11 different trades of marine works and seven out of them have been implemented with the CIC. As reclamation works approach completion in phases, the 3RS project will be able to provide job opportunities for 9 000 skilled workers.

17. The travel restrictions and the mandatory quarantine requirement imposed in the wake of COVID-19 by the Mainland and other places, as well as Hong Kong, have affected the returns/entries of skilled workers/professionals to Hong Kong. With detailed planning and all precautionary measures in place, the Mainland workers, having returned by batches and in good health conditions, are gradually returning to work. Notwithstanding so, some workfronts in the ground improvement works and subsequent site handover have been affected to various extent.

18. Precautionary measures have been proactively stepped up by AAHK and its contractors to protect staff and workers alike amid COVID-19. These include, among others, supplying face masks, temperature taking and access checks at site offices, and staff (including both the contractors’ staff and Mainland workers) are required to undertake the compulsory quarantine for 14 days after their return to Hong Kong. With all these measures in place, “zero infection” has been detected to-date among the workers.

(c) Construction Safety

19. AAHK is committed to maintaining the highest standard in construction safety. As of May 2020, the 12-month rolling Accident Frequency Rate (“AFR”¹) for the 3RS project was 3.8 which is substantially lower than the AFR of the Hong Kong construction industry of 31.7 in 2018 as released by the LD.

¹ AFR is the number of reportable accidents per 1 000 workers per year. This calculation is in accordance with the LD and is widely used in the Hong Kong construction industry.

20. AAHK and the contractors will continue to accord the highest priority to construction safety. Meanwhile on the education and publicity front, the promotion campaign under AAHK's "V Commit Safety Programme" continues, with a view to promoting high vigilance among the contractors and workers in maintaining construction safety. New safety initiatives are promulgated every quarter. During the year, two contractors of the Project received Contractor Safety Awards at the Lighthouse Club² in September 2019 achieving the Champion Award and Highly Commended respectively, both in the category of Recognizing Excellence in Safety – Safe Project Team Award.

(d) Environmental-Related Issues

21. The implementation of the Environmental Monitoring and Audit ("EM&A") programme for the 3RS project is ongoing. All EM&A information, including finalised Environmental Permit submissions, monitoring results, implementation status of mitigation measures, events of non-compliance and the corresponding follow-up actions etc., is reported on a monthly basis and made publicly available on a dedicated website³. The EM&A programme and all the required environmental mitigation measures for the 3RS project have been properly implemented since the commencement of construction.

22. AAHK continues to fulfil its commitments to enhancing marine ecology and fisheries for the benefit of marine ecology (including the Chinese White Dolphins) and fisheries resources in the vicinity of the project area. Since the setting up of a Marine Ecology Enhancement Fund ("MEEF") and a Fisheries Enhancement Fund ("FEF") with a total budget of HKD400 million from AAHK in late 2016, over HKD30 million was granted from the MEEF and FEF to 23 projects for years 2017/18, 2018/19 and 2019/20⁴. Details of the funded projects for the MEEF and FEF, including the reports of those completed projects, can be found on the dedicated websites⁵. These projects are managed and conducted by universities, research groups, or associations from the fisheries industry. The new applications received for 2020/21 are currently being reviewed, targeting for announcement in mid-2020.

² The Lighthouse Club, originally established in England and later becomes worldwide, promotes and improves health and safety in the construction industry, amongst its other work.

³ Dedicated 3RS webpage for environmental-related issues:
<http://env.threerunwaysystem.com/en/index.html>

⁴ For year 2020/21, the two funds were closed for new applications on 31 January 2020.

⁵ Marine Ecology Enhancement Fund webpage:
<http://env.threerunwaysystem.com/en/meef/index.html>
Fisheries Enhancement Fund webpage: <http://env.threerunwaysystem.com/en/fef/index.html>

23. Meanwhile, AAHK continues to provide funding, other than the above two funds, for several marine ecology and fisheries enhancement measures in Lantau waters on a voluntary basis. These include:

- (a) the eco-enhancement seawall design for the 3RS reclamation, which incorporates concrete seawall blocks and vertical seawall panels with rough surfaces to facilitate and promote colonisation of epifauna and to increase microhabitat complexity, was completed with the first batch of eco-seawall blocks casted and installed; and
- (b) the preparatory work for pilot tests on artificial reef (“AR”) deployment and fish restocking, intended to evaluate their effectiveness in the vicinity of the proposed 3RS Marine Park and the adjacent waters, is continuing. The first round of fish restocking was conducted in Q2/Q3 2019 with six months post-release monitoring completed, and the results showed that the released fishes were detected near the release location and at natural shores and artificial seawalls along north Lantau. Subject to gazettal under the Foreshore and Sea-bed (Reclamations) Ordinance (Cap. 127) and statutory authorisation, the pilot test on AR deployment would commence in late 2020/early 2021.

24. As recommended in the approved 3RS Environmental Impact Assessment Report, a new marine park (“the 3RS Marine Park”) comprising an area of approximately 2 400 hectares will be designated in north Lantau waters to tie in with the full operation of the 3RS project in 2024. AAHK continues to liaise with green groups, fishery sectors, marine users, local communities and other stakeholders to solicit their views on the goals, boundary and preliminary management plan for the proposed 3RS Marine Park. AAHK will continue working with the Agriculture, Fisheries and Conservation Department in the preparatory work for the designation of the proposed 3RS Marine Park.

25. On another front, the 3RS buildings are designed to optimise environmental performance. This year, the T2 expansion received a “Provisional Platinum” rating in a BEAM Plus⁶ Provisional Assessment. Meanwhile, the Third Runway and associated works obtained an “Excellent” rating in a sustainability performance assessment conducted under the Civil Engineering

⁶ BEAM Plus, being recognised and certified by the Hong Kong Green Building Council Limited, offers a comprehensive set of performance criteria for a wide range of sustainability issues relating to the planning, design, construction, commissioning, management, operation and maintenance of a building.

Environmental Quality Assessment and Awards Scheme's ("CEEQUAL")⁷ Interim Client and Design Award. Both BEAM Plus and CEEQUAL aim to promote sustainability in building and civil engineering projects.

26. To enhance transparency and communication with the community in a proactive way, AAHK continues to engage its stakeholders through meetings with the Professional Liaison Group ("PLG") and Community Liaison Groups ("CLG")⁸, with a view to facilitating communications, enquiries and complaints handling on environmental issues related to the 3RS project. Since the commencement of works of the 3RS project in August 2016, seven rounds of PLG meetings and eight rounds of CLGs meetings were held.

(e) Financial Arrangement Plan

27. With reference to the indicative implementation timeline of the detailed funding plan in **Annex D** to raise third-party debts from the market as advised by AAHK's financial advisor, The Hongkong and Shanghai Banking Corporation Limited ("HSBC"), AAHK's original plan was to issue a 3-year HKD5 billion fixed-coupon retail bond to retail investors in 2019/20. However, due to recent COVID-19 outbreak, the retail bond issuance is deferred to 2020/21.

28. Against the backdrop of uncertain global economic outlook, the recent social unrest in Hong Kong and the on-going epidemic have caused a detrimental impact to HKIA's business. During this difficult time, AAHK has been trying its best to support business partners and ease their liquidity. AAHK has so far provided a total of HKD4.6 billion in four rounds of relief package to provide support to airlines, airport retail tenants, aviation support services operators, airport staff, etc.

29. In order to maintain its own liquidity for funding the airport operation, the committed capital projects including the 3RS, and the above relief programmes, AAHK is arranging with major local and international lending banks a five-year, HKD20 billion bank credit facility consisting of two tranches: HKD10 billion term loan and HKD10 billion standby revolving credit facility (the latter is an upsize of the existing HKD5 billion standby revolving credit facility to be expired by December 2020). As the responses from banks have been positive, AAHK is considering to increase the size of these facilities and execute them in June 2020.

⁷ CEEQUAL is an international evidence-based sustainability assessment, rating and awards scheme for civil engineering, infrastructure, landscaping and public realm projects.

⁸ Five CLG were set up in the neighbouring districts of HKIA, namely Islands, Kwai Tsing, Shatin, Tsuen Wan and Tuen Mun.

30. In April and May 2020, AAHK has also issued four Hong Kong dollars bonds, which amounted to HKD2.9 billion with tenors of 7 and 10 years, through private placements to institutional investors (asset managers, financial institutions and life insurance companies) under AAHK's USD8 billion Medium Term Note programme. AAHK will continue to look out for potential bond issuances to further enhance the liquidity reserve.

31. Over the medium term, to broaden its capital access and to ride on its sustainability achievements, AAHK is preparing the Green Framework such that it can tap Green Financing, e.g. Green Bond, when the time is right.

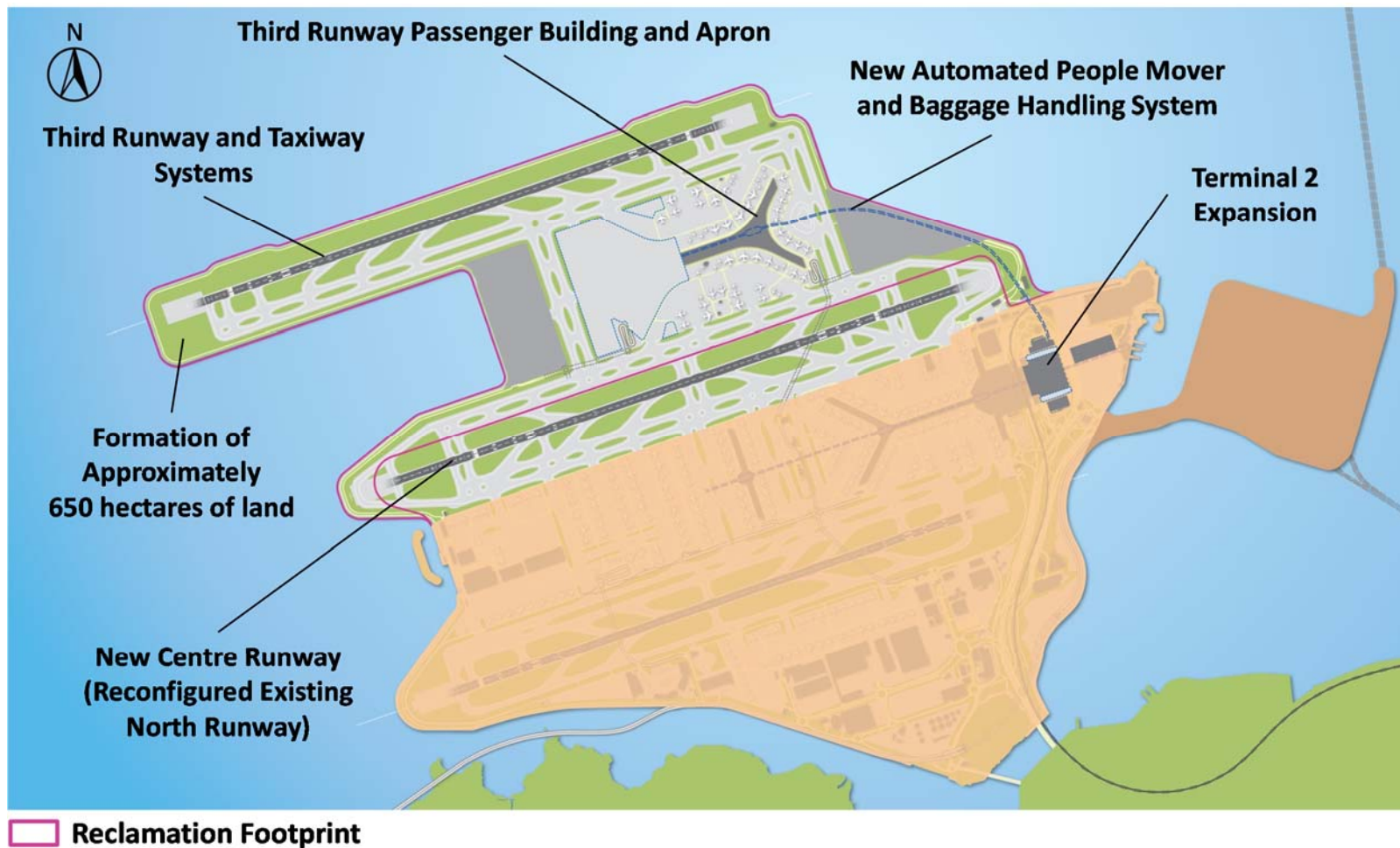
32. The final details and the timing of the execution of the above financings will depend on the funding needs of AAHK, the 3RS project progress, and the market environment. As and when the timing is appropriate and the market conditions allow, AAHK will execute these financing transactions accordingly. AAHK will continue to monitor the operating environment and market conditions in fiscal year 2020/21 and stay vigilant.

Advice Sought

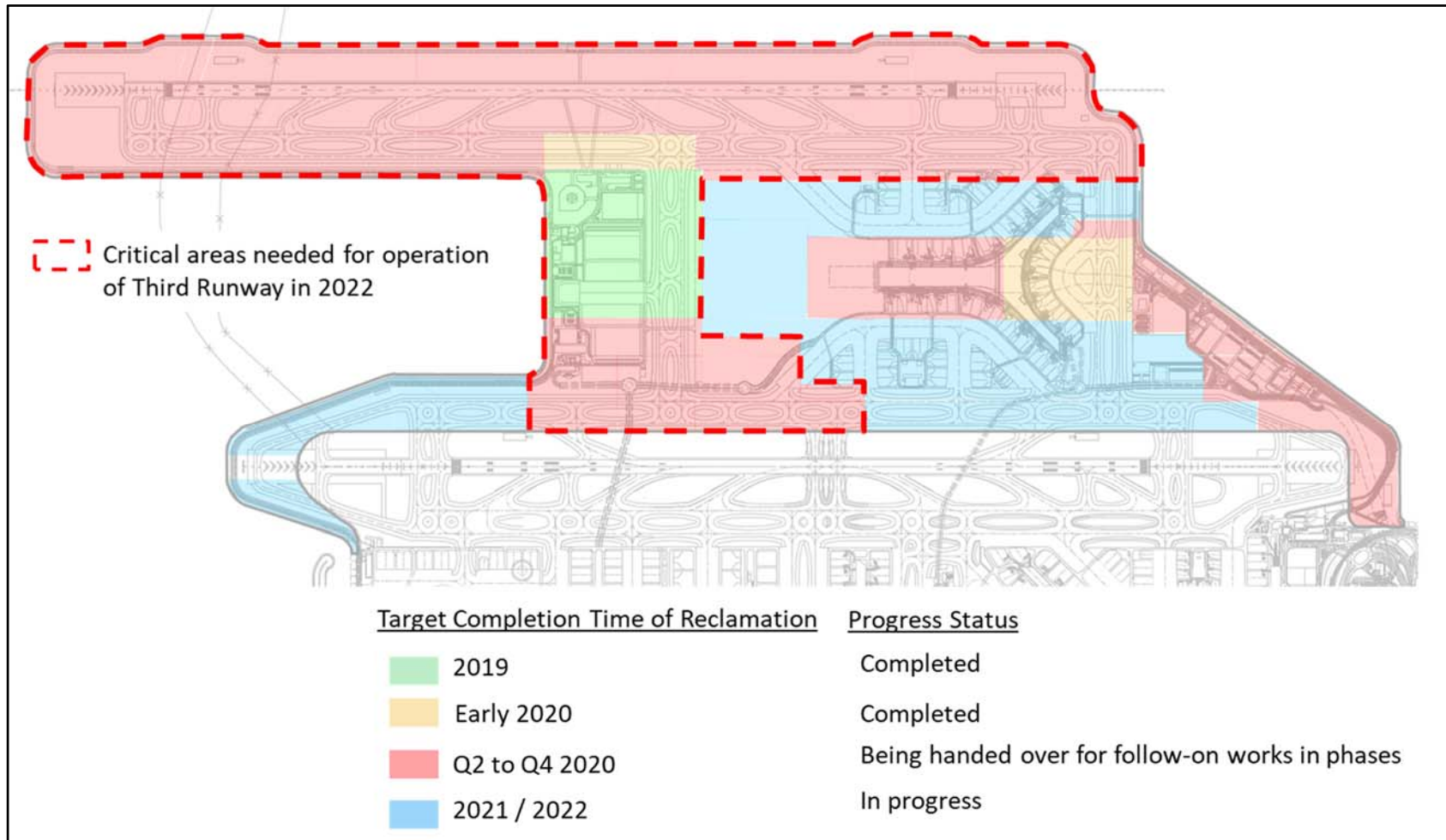
33. Members are invited to note the above.

**Airport Authority Hong Kong
June 2020**

Three-Runway System Layout Plan Illustrating the Project Scope



Updated 3RS Reclamation Phasing Plan
(as at May 2020)

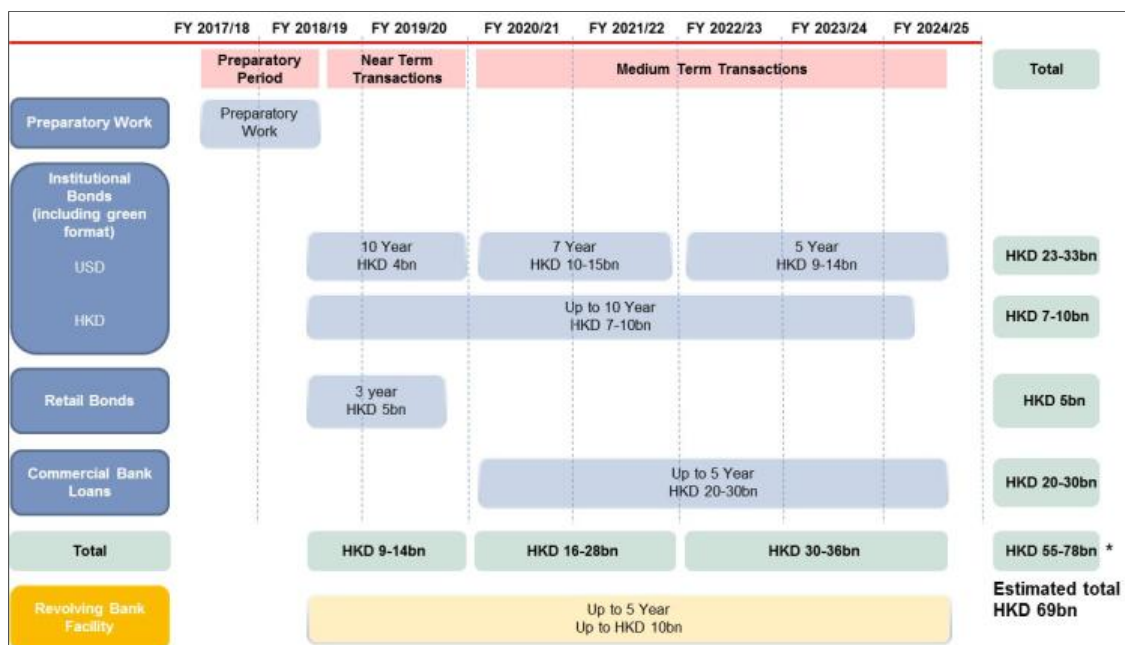


**Three-Runway System Project
An Overview of the Major Construction Works
(as at May 2020)**

	Construction Works Contract	Works Contract Award Date	Contract Sum (HKD)
1.	Contract No.: P560(R) Aviation Fuel Pipeline Diversion Works	29 July 2015	1,289,000,000
2.	Contract No.: 3201 Deep Cement Mixing Works (Package 1)	28 July 2016	3,686,890,096
3.	Contract No.: 3202 Deep Cement Mixing Works (Package 2)	28 July 2016	2,813,918,000
4.	Contract No.: 3203 Deep Cement Mixing Works (Package 3)	28 July 2016	2,120,914,933
5.	Contract No.: 3204 Deep Cement Mixing Works (Package 4)	28 July 2016	1,800,000,000
6.	Contract No.: 3205 Deep Cement Mixing Works (Low Headroom)	27 September 2016	3,314,806,000
7.	Contract No.: 3206 Main Reclamation Works	27 September 2016	15,263,960,097
8.	Contract No.: 3602 Existing APM System Modification Works	30 March 2017	843,430,000
9.	Contract No.: 3301 North Runway Crossover Taxiway	3 April 2017	356,277,178
10.	Contract No.: 3501 Antenna Farm and Sewage Pumping Station	9 June 2017	67,628,000
11.	Contract No.: 3601 New Automated People Mover System (TRC Line)	13 June 2017	1,668,324,457
12.	Contract No.: 3801 APM and BHS Tunnels on Existing Airport Island	14 June 2017	2,370,896,942
13.	Contract No. : 3402 New Integrated Airport Centres Enabling Works	30 October 2017	59,151,346
14.	Contract No.: 3503 Terminal 2 Foundation and Substructure Works	28 November 2017	2,435,123,581
15.	Contract No.: 3603 3RS Baggage Handling System	28 November 2017	3,076,491,885
16.	Contract No.: 3302 Eastern Vehicular Tunnel Advance Works	28 November 2018	682,000,000
17.	Contract No.: 3303 Third Runway and Associated Works	8 April 2019	6,273,725,171
18.	Contract No.: 3305 Airfield Ground Lighting System	1 August 2019	835,760,167

	Construction Works Contract	Works Contract Award Date	Contract Sum (HKD)
19.	Contract No.: 3403 New Integrated Airport Centres - Building and Civil Works	9 August 2019	440,698,000
20.	Contract No.: 3404 Integrated Airport Control Systems	9 August 2019	172,345,000
21.	Contract No.: 3721 Construction Support Infrastructure Works	16 August 2019	488,477,541
22.	Contract No.: 3713 Third Runway Concourse and Infrastructure Site Investigation Works	25 September 2019	127,388,888
23.	Contract No.: 3722A Western Support Area - Site Office	13 December 2019	103,929,300
24.	Contract No.: 3722B Western Support Area - Canteen, Safety Induction Centre and Medical Centre	13 December 2019	59,988,000
25.	Contract No.: 3722C Western Support Area - Material Testing Laboratories	13 December 2019	64,064,500
26.	Contract No.: 3722D Western Support Area - Typhoon Shelter, Vehicle Maintenance Facility and Fuel Storage Facility	30 January 2020	74,557,290
27.	Contract No.: 3405 Third Runway Concourse Foundation and Substructure Works	6 February 2020	4,639,777,000
28.	Contract No.: 3307 Fire Training Facility	23 March 2020	301,450,000
29.	Contract No.: 3802 APM and BHS Tunnels and Related Works	25 May 2020	7,202,948,752
Total :			62,633,922,124

The Detailed Funding Plan and Indicative Implementation Timeline



Source: AAHK, 3RS Consultancy Study: Detailed Funding Plan for Three-runway System (3RS) at HKIA – Financial Advisor Report, HSBC (2017)

Notes:

1. Revolving bank facilities serve to provide liquidity only and do not form part of the core debt funding required for the 3RS.
2. As market conditions and the terms of different instruments would vary from time to time, ranges indicating the potential issuance sizes for each debt instrument in the medium term are used to provide flexibility for AAHK to optimise the choice of instruments closer to the time of fund raising.
3. For the avoidance of doubt, the total aggregate debt issuance across all instruments in the recommended funding plan is not expected to exceed the debt requirement to fund the 3RS.
4. HKD55-78 billion represents the summation of the lowest and highest range of each debt instrument type.