

**For Information
on 23 May 2022**

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 since last reported to this Panel in October 2021 (LC Paper No. CB(4)1696/20-21(01)).

Background

2. This paper presents updates on the overall progress of the 3RS project as well as its individual key aspects: (a) construction; (b) preparatory work necessary for commissioning the Third Runway; (c) labour supply; (d) construction safety; (e) environment-related issues; and (f) financial arrangement.

Progress Update on 3RS Works

(a) Construction

3. The construction of the 3RS at the Hong Kong International Airport (“HKIA”) comprises different components, including the formation of about 650 hectares of land; expansion of the existing Terminal 2 (“T2”); construction of the Third Runway, taxiways and aprons, and the T2 Concourse (“T2C”); provision of a new automated people mover (“APM”) system and a high-speed baggage handling system (“BHS”); reconfiguration of the Centre Runway¹ and construction of airport support infrastructure, utilities and facilities (scope of the 3RS project at **Annex 1**).

¹ The former North Runway was re-designated as the Centre Runway in December 2021 while the Third Runway was designated as the North Runway in February 2022.

4. Despite the intensifying impact of the fifth wave of the Coronavirus Disease 2019 (“COVID-19”) pandemic in Q1 2022, the Airport Authority Hong Kong (“AAHK”) had successfully completed the essential works to support the flight check for the Third Runway, which was conducted between 26 March and 10 April 2022, and continues to maintain the construction progress towards the target to commission the Third Runway in 2022. As detailed in the ensuing paragraphs, the fifth wave of the pandemic has affected the labour force and material supply chains across various construction fronts, in particular those related to the expanded T2, T2C and the tunnels for the APM system and BHS. In response, AAHK has implemented various effective measures as follows to ease the impact:

- (a) phased handover of/early access to works areas among different contractors;
- (b) deployment of extra resources to extend working hours;
- (c) use of modular pre-cast/pre-fabricated units;
- (d) close liaison with the Government departments to streamline the statutory inspection arrangement and priorities; and
- (e) re-sequencing of works to prioritise the completion of all critical works.

5. However, there remains various challenges to the project that could impact individual construction fronts. AAHK keeps monitoring and assessing the situation and endeavours to minimise the impacts on the project with a view to completing the 3RS project in 2024 according to plan.

(i) *Impact of COVID-19 on 3RS Works*

6. As last reported in October 2021, Members were advised of the impact of the COVID-19 pandemic on the 3RS works and AAHK’s implementation of a host of precautionary measures. Since the outbreak of the fifth wave of the pandemic in early 2022, a considerable number of infection cases were detected among the staff and workers of 3RS project. Infected staff and workers, as well as their close/work contacts, are required to undergo quarantine or work from home until tested negative following the latest guidelines of the Government and AAHK. Since February 2022, AAHK has stepped up pandemic control and prevention by requiring all AAHK staff of the 3RS project to obtain a negative Rapid Antigen Test (“RAT”) result before

returning to work each day. Contractors are also encouraged to follow suit for their staff and workers.

7. Since early 2022, all AAHK staff, except those with medical reasons, have received at least two doses of COVID-19 vaccine. AAHK continues to encourage staff to take the booster shots. Besides, following the Government's guidelines on "Vaccine Pass" arrangements for public works sites, all 3RS workers are required to have at least one shot of COVID-19 vaccine on or before 14 March 2022, and to have received at least two doses on or before 14 April 2022.

8. Apart from the impact on the labour force, quarantine requirements, as well as the local lockdowns and restrictions at some sourcing locations outside Hong Kong, continue to pose challenges to the supply chains of the 3RS project. Cross-boundary land-borne deliveries of essential construction materials have also been constrained since mid-March 2022. Nevertheless, AAHK has managed to sustain the construction progress through advance planning and alternative arrangements, such as early stockpiling of aggregates on-site and off-site to support critical work fronts; arranging marine transportation of construction materials from the Mainland; delegating local specialists with third party witnesses for factory acceptance tests outside Hong Kong to ensure compliance of the off-site works with AAHK's specifications and statutory requirements, as well as arranging special air freight of critical equipment/materials to meet the planned delivery schedules. The impact brought about by the COVID-19 pandemic is, however, expected to pose continuing challenges to the 3RS project in the foreseeable future.

(ii) Airfield Works

9. Construction works continue to progress towards the target to commission the Third Runway in 2022, after which the Centre Runway will be temporarily closed for reconfiguration. The flight check for the Third Runway was successfully completed in April 2022, with the remaining construction works and system installation, testing and commissioning ("T&C") for commissioning the Third Runway approaching the final stages. The Third Runway has been connected to the existing airport with a cross-field taxiway link (see [Annex 2](#)). Installation of the final parcels of the airfield ground lighting and signage is underway in tandem with the T&C works. Meanwhile, the construction of the road network, as well as the installation and T&C of the security fences and other key airfield and airport systems, are close to completion. T&C activities at most of the key buildings/facilities, including the Aircraft Recovery Equipment Store and Interim Air Traffic Control Tower (also known

as “Observation Facility”), Airport North Fire Station and associated rescue and fire-fighting facilities, and the aeronautical supporting facilities housing the systems and equipment of the Civil Aviation Department (“CAD”) and Hong Kong Observatory (“HKO”), have been progressing as planned with relevant system trials up and running for some time. Statutory processes and handover arrangement for the completed works and systems are progressing as scheduled to support the final preparation works for commissioning the Third Runway.

(iii) Land Formation

10. Upon the substantial completion of reclamation filling works, intake of fill has correspondingly tailed off. The seawall construction was substantially completed in Q4 2021. The main reclamation contractor will complete the final parcels of filling operations for 3RS by 2023. Meanwhile, the follow-on contractor will complete the filling operations in the wraparound area at the western end of the Centre Runway after its temporary closure for reconfiguration.

(iv) Building and Infrastructure Works

11. In December 2021, the final parcels of the foundation and substructure works of T2 were handed over to the follow-on superstructure contractor to facilitate integrated work and schedule planning. Bulk excavation at the areas for the Baggage Hall and APM Interchange Station has been substantially completed while the basement construction at these areas are proceeding up to ground level progressively. Superstructure construction continues at the south-eastern corner of the expanded T2 with good progress, and is progressing northward. Out of the 21 roof modules, the first has been assembled on site and will be lifted to its final position in Q3 2022. The on-site assembly of the second module has commenced. Piling works for the viaducts connecting the expanded T2 with the Hong Kong Port and the nearby road network are progressing on multiple work fronts.

12. Works under the foundation and substructure contract for the T2C are proceeding in full swing. Bored piling works at the T2C node area are substantially completed. Excavation at the tunnel area leading to the T2C and at the T2C node area continues, while tunnel and basement construction commenced on multiple fronts. Sheet piling works at the northern approach section of the Eastern Vehicular Tunnel are near completion. As regards the new Integrated Airport Centre (“IAC”), the contractor is putting final touches on the architectural, building services and external civil works to conclude the statutory processes for occupation. Installation of system and equipment, as well as their

T&C activities, are also progressing to establish the readiness required for the operational trial. The new IAC is targeted to commission in 2022.

13. Manufacture of the BHS conveyor equipment and APM system components are in progress. Assembly of the first six-car APM train has been completed and is under T&C at an off-site workshop in the Mainland. Guide beam installation works within the new APM depot on the existing airport island are ongoing in tandem with the tunnel box construction for the APM system and BHS. For the segments of tunnel box underpassing the Airport Express Line (“AEL”), underground box jacking method has been adopted. The jacking process commenced in end 2021, and continues to advance the tunnel box segments progressively underneath the operating AEL tracks under a delicate movement monitoring system. No issue has been reported on the normal operation of the AEL so far. On the reclaimed land, excavation and tunnel construction for the APM system and BHS are ongoing at the section leading to T2C. Piling and slurry wall installation works are substantially completed, and are ready to support the follow-on excavation and tunnel construction at the section heading to the existing airport island.

14. The 3RS is a highly complex project comprising numerous components with intertwined works and programme interfaces. Various challenges such as the COVID-19 pandemic, disruptions in supply chains, inclement weather, etc., could impact individual construction fronts. Notwithstanding these ongoing challenges, with various programme control and enhancement measures in place, AAHK is confident that the Third Runway could commence operation in 2022 as planned whilst continuing its endeavours to minimise the impact of any progress slippage on its plan to complete the 3RS project in 2024.

(v) *Government Facilities*

15. To ensure better coordination and management of interface issues, AAHK has undertaken the design and construction of essential Government facilities² for airport operations in connection with the 3RS project. Construction of the Government facilities to support the Third Runway operation are making good progress. As of end April 2022, various Government facilities are ready for occupation by relevant Government departments, and the architectural and building services works for the Decontamination and Rescue

² For example, air traffic control facilities for CAD; aviation weather services facilities for HKO; rescue and firefighting facilities for the Fire Services Department, customs, immigration, quarantine, port health control and law enforcement facilities, etc.

Facility³ are near completion for the subsequent statutory inspection. Meanwhile, superstructure construction of the New Air Traffic Control Tower is in progress. As for the new Airport District Police Operational Base, Airport East Fire Station and Chek Lap Kok North Fire Station cum Ambulance Depot, tender preparation for the respective construction works contracts is underway. Separately, the Fire Services Department has to procure the respective fire services vehicles to be provided at the aforementioned fire stations with an aim to provide swift aircraft firefighting, rescue and emergency ambulance services to support the 3RS operation. Details of the procurement proposal are provided at **Annex 3**.

(vi) Project Cost

16. AAHK continues to manage the project expenditure within budget. The total value of the major construction contracts awarded (about HKD95.8 billion) as at April 2022 is within the estimated budget. Details of the construction contracts are in **Annex 4**. AAHK will continue to closely monitor the budget situation and manage the project expenditure, taking account of the cost implications due to the impact of the COVID-19 pandemic. It remains AAHK's target to deliver the 3RS project within the budget of HKD141.5 billion.

(b) Preparatory Work Necessary for Commissioning the Third Runway

17. Flight check for the Third Runway was successfully completed in April 2022 to ensure that the new air navigation services equipment, flight procedures and airfield ground lighting system are in compliance with the requirements of the International Civil Aviation Organization and CAD. Taking into account the results of the flight check and the operational readiness of the Third Runway, CAD issued an Aeronautical Information Publication Supplement on 21 April 2022 to notify the planned commissioning of the Third Runway in 2022 to allow time for the relevant stakeholders to complete the preparatory work and ensure their operational readiness when the Third Runway is put into operation. In the meantime, an aircraft crash and rescue exercise is planned for May 2022 to assess the airport's readiness to handle a simulated aircraft accident on the Third Runway with persons-on-board. AAHK has been working closely with CAD to meet the necessary requirements for obtaining the aerodrome licence by the end of May 2022 for the operation of the Third Runway and the associated taxiways, after which a series of on-site familiarisation, operational trials and drills will take place with relevant stakeholders before the commissioning of the Third Runway.

³ Formerly known as Decontamination Facility.

18. Upon commissioning the Third Runway in 2022, the Centre Runway will be closed for reconfiguration for about two years and the Interim Two-Runway System (“I-2RS”) will come into operation. In conjunction with the construction works, AAHK continues to undertake various tasks on the operational readiness and transition (“ORAT”) of the I-2RS as per schedule. AAHK has also coordinated with relevant Government departments and airport stakeholders to ensure the smooth transition to I-2RS. In this connection, AAHK has updated the existing manuals (such as Aerodrome Manual and Airport Operations Manual (“AOM”)) and issued the draft AOM amendment in April 2022 to all relevant stakeholders. AAHK also coordinates with individual stakeholders to update their operation manuals and prepare staff training and familiarisation plans. Meanwhile, the restrictions and areas necessary for commissioning the Third Runway will take effect on 31 May 2022⁴.

(c) Labour Supply

19. Starting from 2021, the demand for workers is set to rise and anticipated to reach peak level in FY2022/23, with approximately 9 000 skilled workers to be deployed in the construction of the major airfield infrastructure works, tunnels, terminal buildings and associated system works. Employment opportunities generated by the 3RS project for local workers will continue to increase in the years ahead.

20. To meet the manpower requirements, AAHK, in collaboration with its contractors, continues its recruitment efforts to reach out to job seekers in the local market in spite of the constraints posed by the pandemic. Subject to the pandemic situation, AAHK will continue to organise job fairs and work with trade unions to promote the 3RS construction job opportunities. As a number of mega-size construction projects with associated system works are set to commence in the near future, the supply of construction workers in relevant trades is expected to become tight. AAHK will continue to work together with the Government, the Construction Industry Council and other stakeholders to assess the labour market situation with a view to ensuring an adequate supply of skilled labour for the 3RS project.

⁴ The legislative procedures for amending the restrictions and areas necessary for commissioning the Third Runway, namely the Airport Height Restrictions prescribed under the Hong Kong Airport (Control of Obstructions) Ordinance (Cap. 301), the Hong Kong International Airport Approach Area under the Shipping and Port Control Regulations (Cap. 313A), and the Maps of Airport Area and the Maps of Restricted Area under the Airport Authority Ordinance (Cap. 483), have been completed by way of subsidiary legislation amendments.

(d) Construction Safety

21. AAHK is committed to maintaining the highest safety standards in construction. As at end March 2022, the 12-month rolling Accident Frequency Rate⁵ (“AFR”) for the 3RS project was 10.5, which is higher than the figure shown in the last progress report but still remains substantially lower than the industry-wide accident rate of 26.1 per 1 000 workers for 2020 as released by the Labour Department (“LD”). To ensure work safety and address related issues, AAHK, together with the contractors, continues to proactively assess the effectiveness of the safety measures implemented across the 3RS project and take responsive actions against any deficiencies identified. Special attention is paid to identifying any inherent safety issues in critical areas such as airfield works, terminals and tunnel construction.

22. In Q1 2022, the “VCommit” Safety Campaign⁶ was rolled out with a focus on housekeeping through the launch of the “Safety into Family” video competition to raise safety awareness among workers, and the introduction of new safety initiatives which include the installation of 360-degree cameras on heavy plants and machineries, and implementation of a driver monitoring system. In addition, the “Safety Learning Commons - VCommit Safety Training Centre” on the 3RS works site was launched in Q4 2021, providing 1 500 square metres of space for classrooms, safety-supplier booths, an external mobile elevating working platform training area, and facilities for workers’ virtual experience of the safety-hazard situations.

23. The safety risk profile evolves to cover an extensive range of land-based construction activities, with specific safety issues involved, such as working at height, heavy lifting operations, safety of temporary works related to excavation and lateral support installation, and people-plant interface. AAHK continues to reinforce safety management in “Temporary Work Control” and “Electrical Safety System of Works” in view of the increasing volume of related works. AAHK also continues to implement the “Inspection and Test Plan on Quality and Safety” to ensure that key safety check and control points are included as part of the engineering control process. The Independent Safety Assessment of VCommit has been further enriched in Q1 2022, putting stronger focus on the deep excavation for tunnels/basement construction, work above ground, confined space works and its access control. All major high-risk activities and their associated risks will be discussed in the Method Statement

⁵ AFR is the number of reportable accidents per 1 000 workers per year. This calculation is in accordance with LD and is widely used in the Hong Kong construction industry.

⁶ The campaign is an AAHK-led Safety and Social Responsibility promotion programme targeting at caring of 3RS staff, workers and their families.

Review meetings between AAHK and the contractors to ensure that all identified risks have been addressed before the commencement of works. Internal safety workshops are also conducted regularly.

(e) Environment-Related Issues

24. The implementation of the Environmental Monitoring and Audit (“EM&A”) programme for the 3RS project is ongoing. All EM&A information, including monitoring results, implementation status of mitigation measures, events of non-compliance and the corresponding follow-up actions, etc., are reported on a monthly basis. The environmental submission required under the Environmental Permit (“EP”) for the operation of the Third Runway has been approved by the Director of Environmental Protection in March 2022 according to the requirements specified in the EP. The EM&A information together with the finalised EP submissions are publicly available on a dedicated website⁷. The EM&A programme and all the required environmental mitigation measures for the 3RS project have been properly implemented since the commencement of construction.

25. AAHK continues to fulfil its commitments to enhance marine ecology and fisheries resources. Over HKD56 million has been granted to 41 projects since the setting up of the Marine Ecology Enhancement Fund and the Fisheries Enhancement Fund in late 2016. Details of the funded projects, including the reports of those completed projects, are posted on dedicated websites⁸. These projects are managed and conducted by universities, research groups, or associations from the fisheries industry. The second joint sharing session was held in early November 2021 to share the findings and achievements of the funded projects, which was attended by academics, and representatives from the fishery sector, Government departments, professional bodies and non-governmental organisations.

26. In addition, AAHK continues to explore and/or implement marine ecology and fisheries enhancement measures in Lantau waters beyond the EP requirements. In 2021, AAHK deployed 100 artificial reef units in waters to the west of the South Runway and a number of clusters of shellfish reefs at selected locations along the northern section of the newly completed seawall of the Third Runway. AAHK, working with the specialists, is monitoring and evaluating the

⁷ Dedicated 3RS webpage for environmental-related issues:
<http://env.threerunwaysystem.com/en/index.html>

⁸ 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>

effectiveness of the deployed reefs in enhancing local marine ecology and fisheries resources over a 12-month post-deployment period. Regarding the proposed North Lantau Marine Park, the Agriculture, Fisheries and Conservation Department will undertake the statutory procedures for its designation targeting in 2024 in accordance with the Marine Parks Ordinance (Cap. 476).

27. To enhance transparency and communication with the community proactively, AAHK continues to engage stakeholders through the Professional Liaison Group (“PLG”) and the Community Liaison Groups (“CLGs”), with a view to facilitating communication, enquiries and complaints handling on environmental issues related to the 3RS project. During the pandemic period, AAHK has kept the CLGs and PLG members posted on the 3RS development covering updates on construction works and also environment-related matters through paper circulation. The next round of PLG and CLGs briefings is planned for the second half of 2022, subject to the pandemic situation.

(f) Financial Arrangement

28. In the last report to this Panel in October 2021, Members were briefed that AAHK would continue to finance the 3RS project through three sources, including retaining its operating surplus, collecting the airport construction fee (“ACF”) and raising funds from the market.

29. In early January 2022, AAHK successfully issued USD4 billion (or HKD31.2 billion equivalent) multi-tranche institutional bonds in accordance with its funding plan in the midst of volatile rates markets as follows –

- (i) USD1.0 billion 5-year green bond;
- (ii) USD1.2 billion 10-year bond;
- (iii) USD1.2 billion 30-year bond; and
- (iv) USD600 million 40-year bond.

The weighted average interest cost of this multi-tranche bond issuance is 2.73% per annum.

30. This offering marks the largest USD bond issued by a Hong Kong issuer since 2003 and the 40-year tranche is the longest tenor benchmark USD bond of a Hong Kong issuer. The transaction is also the largest aviation bond offering in Asia, with the longest tenor from all issuances amongst global airport issuers. Of particular significance, the 5-year green tranche received an encouraging global demand from both conventional investors and green investors, whereas the green investors accounted for 59% of final allocation of

the green bond. More than 200 professional and institutional investors including sovereign wealth funds, asset managers, corporations, banks and insurance companies across Asia, Europe and the United States participated in one or across multi-tranches. The overwhelming response from investors around the world is a solid testament to the support for HKIA's long-term development.

31. As of end March 2022, after taking into account the latest USD4 billion bond issuance above, AAHK's total executed external financing was about HKD85 billion⁹. Despite the increase in leverage, AAHK is expected to maintain its investment grade credit rating. AAHK is currently rated "AA+" by S&P Global, Inc. and will continue to leverage its strong credit profile to raise capital from the market at reasonable cost.

(i) AAHK's Traffic and Financial Performances in FY2021/22

32. In FY2021/22, the HKIA recorded 1.4 million passengers and handled 144 505 aircraft movements, which represented a year-on-year increase of 70% and 13% respectively, but the volume of passengers and aircraft movements continued to remain significantly lower than the pre-pandemic level recorded in 2019, albeit cargo and airmail business remained strong and the throughput increased by 7% to 4.9 million tonnes in FY2021/22 over the previous year. During FY2021/22, AAHK continued to extend its relief package to support the airport community against the prolonged impact of COVID-19 on the aviation industry. As a result of the mixed traffic performance and relief measures, AAHK reported a marginal Earnings before Interest, Taxes, Depreciation and Amortisation deficit of HKD0.2 billion and a net loss of HKD1.4 billion in the first half of FY2021/22.

(ii) 3RS funding plan update

33. The prolonged COVID-19 pandemic for more than two years as well as the recent emergence of novel COVID variants have triggered another round of flight reductions, posing setbacks to the air traffic recovery. Under such conditions and coupled by the uncertainty in traffic outlook, AAHK anticipates further reductions in contributions from its operating surplus and ACF and hence additional fund raising from the market are needed to bridge the funding gap.

⁹ Including external debts of approximately HKD73 billion and USD1.5 billion (or HKD11.6 billion equivalent) perpetual capital securities (accounted as equity) issued.

34. In its 3RS funding plan updated in March 2022, AAHK projected that its total debt level would be raised from HKD89 billion to HKD111 billion. Together with USD1.5 billion (or HKD11.6 billion equivalent) of perpetual capital securities (accounted as equity) issued, the amount of external financing from the market would become HKD123 billion, which would still be within the estimated debt capacity under the downside scenario previously assessed by AAHK's financial advisor¹⁰ (see **Annex 5** for the updated 3RS funding plan). AAHK is actively evaluating its financing standings and the 3RS funding plan to ensure its long-term financial healthiness and sustainability. Nevertheless, AAHK believes it does not require any form of financial guarantees from the Government in funding the 3RS project.

(iii) Financings in FY2022/23

35. While the above recent bond issuance proceeds will be sufficient to serve AAHK's funding needs until end FY2022/23, AAHK plans to conduct the following financings in FY2022/23 to maintain its liquidity position –

- (a) **USD institutional bonds:** AAHK will issue long-dated USD institutional bonds of up to USD3 billion, including green or sustainable format under its sustainable finance framework. Not only does it support the Government's policy to develop Hong Kong into a green and sustainable finance hub, it also showcases HKIA's commitment to become one of the world's greenest airports, its dedication to achieve net carbon zero by 2050, as well as determination to diversify its investor base.
- (b) **HKD retail bond:** To allow participation of the general public in the 3RS project, HKD5 billion retail bond was initially planned for issuance in February 2020, but the issuance was deferred due to the COVID-19 outbreak. AAHK will consider an issuance of HKD5 billion fixed rate retail bond, subject to the pandemic situation, resumption of passenger traffic and market conditions.
- (c) **HKD institutional bonds:** HKD private placement has been one of the most efficient and reliable means to raise capital. As a contingency measure, AAHK may issue up to HKD15 billion of such bonds to meet the funding requirements; and

¹⁰ Financial arrangement study for 3RS at HKIA by HSBC (2015).

- (d) **Standby revolving credit facility:** AAHK may draw down from its standby HKD17.5 billion syndicated revolving credit facility if necessary, which remains undrawn at the moment.

(iv) *Way Forward*

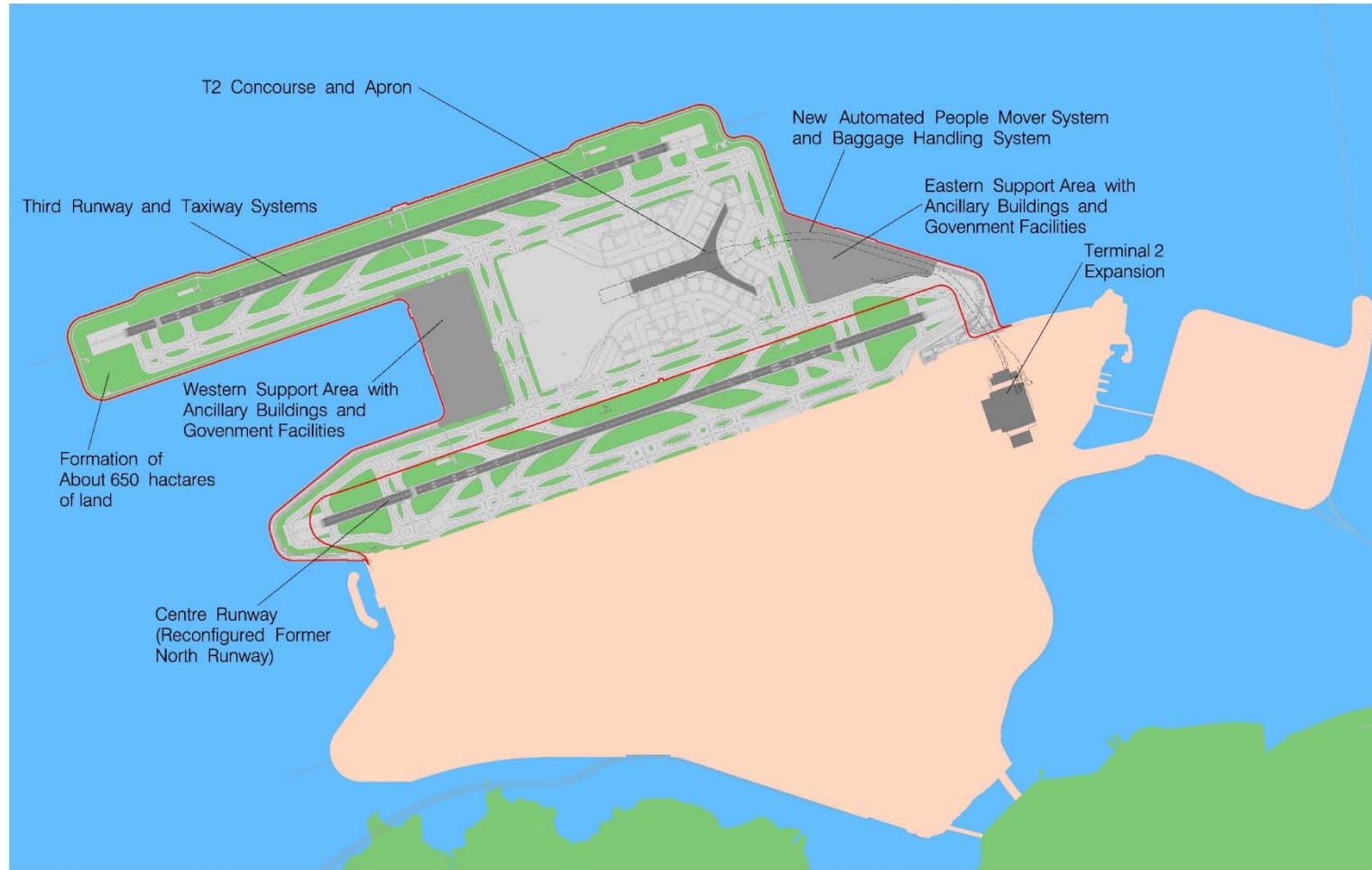
36. AAHK considers that the aviation industry and air traffic will gradually recover as the pandemic subsides. The industry in general expects passenger traffic to gradually recover to pre-pandemic levels in three years' time. AAHK will stay vigilant and exercise stringent cost control in accordance with prudent commercial principles while continuing to take forward various development projects to maintain and consolidate Hong Kong's status as an international aviation hub.

Advice Sought

37. Members are invited to note the above.

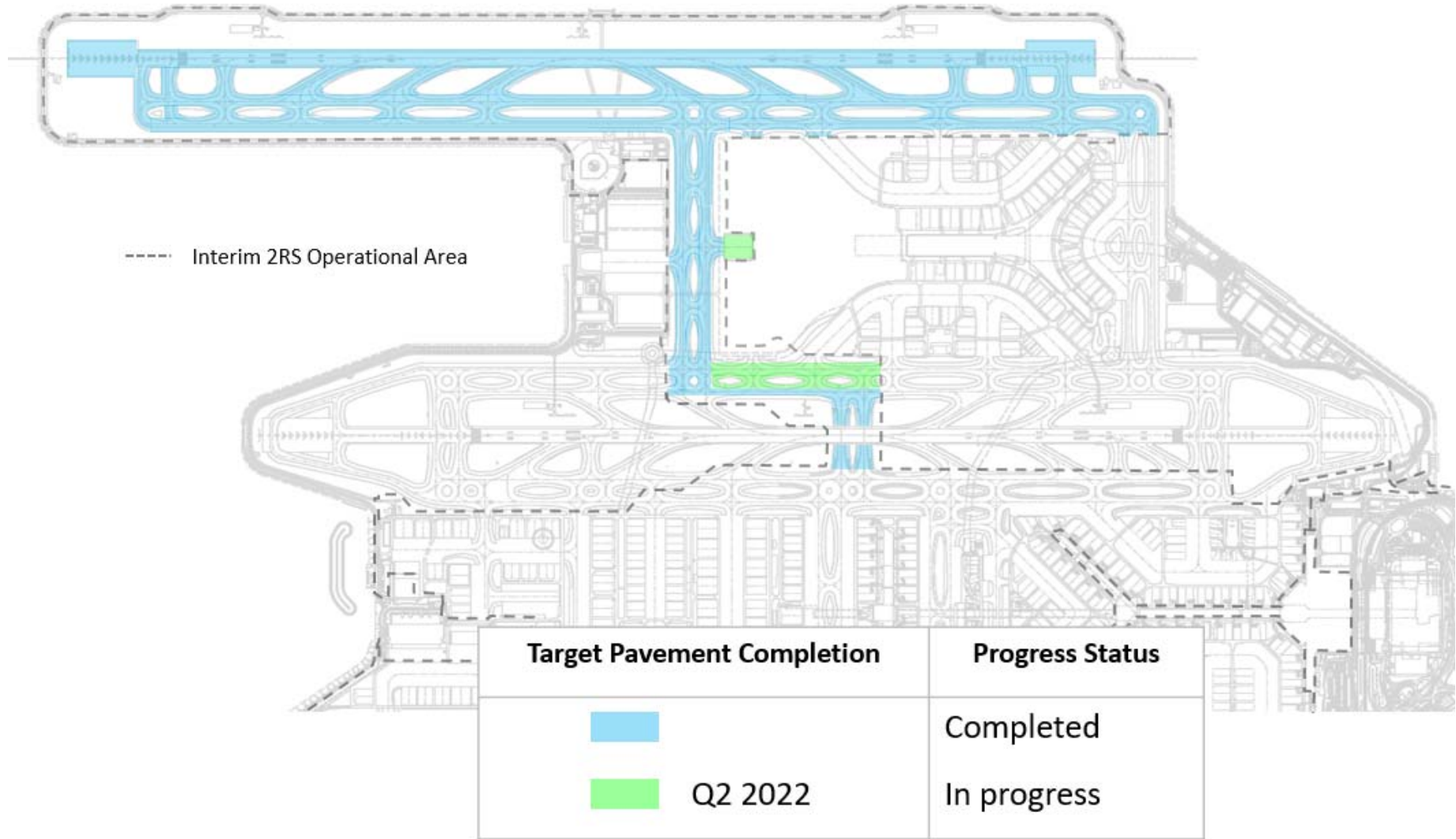
**Airport Authority Hong Kong
May 2022**

Project Scope of the Three-Runway System



 **Reclamation Footprint**

Pavement Construction Plan
(up to end April 2022)



**Procurement of Fire Services Vehicles for the Fire Services Facilities
to Support the Three-Runway System at
Hong Kong International Airport**

Progress Update

To provide swift aircraft firefighting, rescue and emergency ambulance services in support of the Three-Runway System, the Fire Services Department (“FSD”) needs to procure certain types of fire services vehicles at the relevant fire services facilities, namely the Airport East Fire Station, the Airport Centre Fire Station, the Airport North Fire Station and the Chek Lap Kok North Fire Station-cum-Ambulance Depot¹.

2. The first batch of procurement involving seven fire services vehicles has been completed. Five of the fire services vehicles have been delivered to FSD and two are scheduled for delivery in June 2022². The second batch of procurement involving nine fire services vehicles are in progress. The commissioning of these vehicles is expected in Q3/2024³.

¹ They were previously known as the “Airside Fire Station - East Support Area”, the “Sub Airport Fire Station”, the “Airside Fire Station - West Support Area” and the “Landside Fire Station-cum-Ambulance Depot” respectively, and have been renamed to align with the locations of the respective runways that they serve.

² Details and cost breakdown of the fire services vehicles in batch 1 are as follows –

Number and type of vehicle	Status	Non-recurrent expenditure (\$'000)
<i>For the Airport North Fire Station</i>		
(i) Two Rapid Intervention Vehicles	Delivered in April 2022	16,901
(ii) Two Crash Fire Tenders	Delivered in April 2022	19,372
(iii) Two Hose Foam Carriers	To be delivered in June 2022	12,717
(iv) One High Reach Extendable Turret	Delivered in April 2022	10,646
	<i>Total</i>	59,636

³ Details and cost breakdown of the fire services vehicles in batch 2 are as follows –

Number and type of vehicle	Status	Estimated non-recurrent expenditure (\$'000)
<i>For the Airport East Fire Station</i>		
(i) Two Crash Fire Tenders	To be commissioned in Q3/2024	19,994
(ii) Two Hose Foam Carriers		15,844
(iii) One Mobile Command Unit		9,994
<i>For the Chek Lap Kok North Fire Station-cum-Ambulance Depot</i>		
(iv) One HazMat Tender	To be commissioned in Q3/2024	9,304
(v) One Hydraulic Platform		8,703
(vi) One Major Pump		7,786
(vii) One Major Rescue Unit		5,987
	<i>Total</i>	77,612

3. FSD plans to commence the third batch of procurement in 2022 involving nine fire services vehicles. A brief description of the types of vehicles and their main functions is tabulated as follows –

Type of vehicle	Main function	Number
<i>For the Airport East Fire Station</i>		
(a) Rapid Intervention Vehicle	The Rapid Intervention Vehicle provides a large quantity of fire extinguishing foam to tackle aircraft fire at its incipient stage within a specified response time in order to maintain a fire-free escape path for facilitating rescue and evacuating passengers as well as flight crews.	2
(b) High Reach Extendable Turret	The High Reach Extendable Turret is a supporting aerodrome rescue and firefighting vehicle, which pierces into the fuselage and discharges water, foam or fire extinguishing gas to tackle the cabin fire and fires at various heights of the aircraft, in particular high-mounted engines.	1
<i>For the Airport Centre Fire Station and the Airport North Fire Station</i>		
(c) Rescue Stair Appliance	The Rescue Stair Appliance is equipped with a hydraulic extendable stair which can reach a maximum height of 8.5 metres. It assists firefighters in quickly entering aircraft cabins of different sizes to perform firefighting and rescue. It can also facilitate the rapid evacuation of aircraft passengers during emergencies.	2
<i>For the Chek Lap Kok North Fire Station-cum-Ambulance Depot</i>		
(d) First Intervention Vehicle	The First Intervention Vehicle performs prolonged firefighting operations, particularly in bulk oil storage areas.	1
(e) Decontamination Tender	The Decontamination Tender is equipped with decontamination equipment, such as decontamination pools, solutions and tools for setting up a decontamination area at the scene of a hazardous materials	1

Type of vehicle	Main function	Number
	("HazMat") incident. In HazMat incidents, the Decontamination Tender will be deployed together with the HazMat Tender. It will also transport HazMat specialists to the scene.	
(f) Bulk Foam Tender	The Bulk Foam Tender provides a continuous supply of foam concentrate to the First Intervention Vehicle for prolonged firefighting operations requiring a large quantity of foam.	1
(g) Turntable Ladder	The Turntable Ladder will be deployed after receiving a building fire call, which is one of the standard initial fire services vehicles for conducting aerial rescue and preventing the spread of fire to neighbouring buildings.	1

Financial Implications

4. The estimated non-recurrent expenditure involved in the procurement of the nine fire services vehicles as mentioned in paragraph 3 above is \$102,581,000. Detailed breakdown is set out below. The estimated cash flow requirements have been included in the 2022-23 Estimates and will be reflected in the draft Estimates of the relevant financial years.

Type of vehicle	Estimated non-recurrent expenditure (\$'000)
<i>For the Airport East Fire Station</i>	
(a) Two Rapid Intervention Vehicles	22,478
(b) One High Reach Extendable Turret	13,474

For the Airport Centre Fire Station and the Airport North Fire Station

(c) Two Rescue Stair Appliances 20,638

For the Chek Lap Kok North Fire Station-cum-Ambulance Depot

(d) One First Intervention Vehicle 11,655

(e) One Decontamination Tender 12,359

(f) One Bulk Foam Tender 11,109

(g) One Turntable Ladder 10,868

Total 102,581

5. These vehicles will entail an annual recurrent expenditure of about \$11,835,000 from 2025-26 onwards, which includes expenses in maintenance and fuel.

Implementation Plan

6. The commissioning of the third batch of fire services vehicles is expected in Q3/2024. The detailed implementation timetable is as follows –

Activity	Target Completion Date
(a) Preparation of tender specifications and tendering	Q2/2022
(b) Tender evaluation and award of contract	Q4/2022
(c) Equipment manufacturing, modification and delivery of vehicles	Q2/2024
(d) Acceptance testing and checking of vehicles	Q2/2024
(e) Training and commissioning of vehicles	Q3/2024

**Fire Services Department
May 2022**

Three-Runway System Project
An Overview of the Major Construction Works
 (as at April 2022)

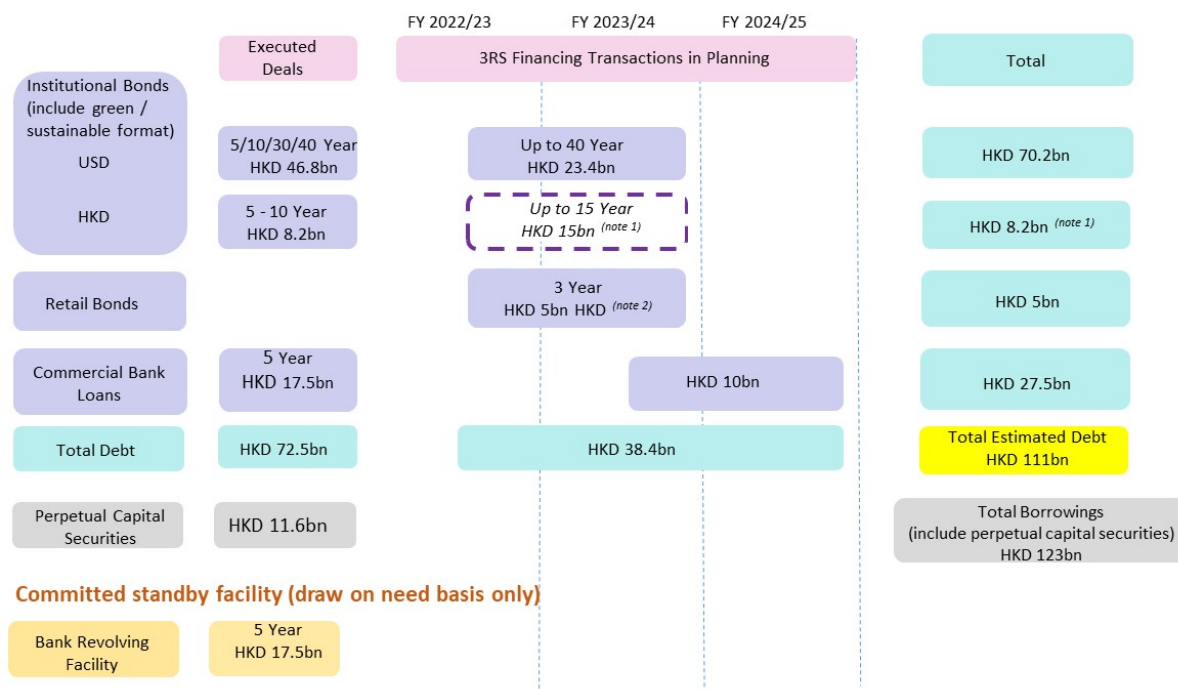
	Construction Works Contract	Works Contract Award Date	Awarded Contract Sum (HKD)
1.	Contract No.: P560(R) Aviation Fuel Pipeline Diversion Works	29 July 2015	1,289,000,000
2.	Contract No.: 3201 Deep Cement Mixing Works (Package 1)	28 July 2016	3,686,890,096
3.	Contract No.: 3202 Deep Cement Mixing Works (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 APM System (Third Runway Concourse 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.: 3503 T2 Foundation and Substructure Works	28 November 2017	2,435,123,581
14.	Contract No.: 3603 3RS Baggage Handling System	28 November 2017	3,076,491,885
15.	Contract No. : 3402 New IAC Enabling Works	30 October 2018	59,151,346
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
19.	Contract No.: 3403 New IAC - Building and Civil Works	9 August 2019	440,698,000
20.	Contract No.: 3404 Integrated Airport Control Systems	9 August 2019	172,345,000

	Construction Works Contract	Works Contract Award Date	Awarded Contract Sum (HKD)
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.: 3306 Observation Facility Control Systems Supporting Interim 2RS and 3RS	21 October 2019	767,210,058
24.	Contract No.: 3722A Western Support Area - Site Office	13 December 2019	103,929,300
25.	Contract No.: 3722B Western Support Area - Canteen, Safety Induction Centre and Medical Centre	13 December 2019	59,988,000
26.	Contract No.: 3722C Western Support Area - Material Testing Laboratories	13 December 2019	64,064,500
27.	Contract No.: 3722D Western Support Area - Typhoon Shelter, Vehicle Maintenance Facility and Fuel Storage Facility	30 January 2020	74,557,290
28.	Contract No.: 3405 Third Runway Concourse Foundation and Substructure Works	6 February 2020	4,639,777,000
29.	Contract No.: 3307 Fire Training Facility	23 March 2020	301,450,000
30.	Contract No.: 3802 APM and BHS Tunnels and Related Works	25 May 2020	7,202,948,752
31.	Contract No.: 3508 T2 Expansion Works	5 August 2020	12,886,000,000
32.	Contract No.: 3726 Construction Support Facilities Maintenance Services	4 August 2020	37,217,240
33.	Contract No.: 3308 Foreign Object Debris Detection System	23 October 2020	179,055,829
34.	Contract No.: 3408 Third Runway Concourse and Apron Works	3 November 2020	15,611,738,390
35.	Contract No.: 3723A Eastern Support Area - Site Offices and Sewage Treatment Facility	21 January 2021	177,391,520
36.	Contract No.: 3723B Eastern Support Area - Canteen and Centralised Power Supply Building	21 January 2021	57,309,030
37.	Contract No.: 3310 North Runway Modification Works	1 June 2021	5,205,384,620
		Total :	97,555,228,811

Note:

The awarded contract sums under Contracts 3503, 3508 and 3310 consist of cost allowances for 3RS and non-3RS related elements, while Contract 3306 is entirely funded by non-3RS budget. The total of the awarded contract sums for all major construction works under the 3RS project is HKD95,784,771,337, after setting aside the non-3RS related elements.

3RS Funding Plan



(funding plan approved in March 2022)

Notes:

- (1) The HKD institutional bond issuance of up to HKD15 billion mainly serves as a back-up funding. As this is a back-up plan, this alternative funding source is not included in the total column.
- (2) Retail bond issuance originally scheduled in February 2020 is deferred to FY2022/23 tentatively, subject to the pandemic situation, resumption of passenger traffic and market conditions.
- (3) Assuming exchange rate at USD1 to HKD7.8.
- (4) The above figures are subject to rounding.