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1. INTRODUCTION

1.1 Project Background

- 1.1.1 With the growing concern on making the best use of the limited land resource, in the 2016 Policy Address (PA), the Government announced to carry out the re-planning for the development of the land at Tseung Kwan O Area (TKO) 137 (TKO 137) and examine the feasibility of using the site for residential, commercial and other development purposes.
- 1.1.2 To take forward the re-planning process, Civil Engineering and Development Department (CEDD) and Planning Department (PlanD) jointly commissioned the “Planning and Engineering Study for Re-planning of TKO 137” (the P&E Study) in December 2016, with a view to ascertaining and optimising the development potential of the available land in TKO 137.
- 1.1.3 The Government has announced in the 2022 PA that TKO 137 would be developed into a new community primarily for housing purpose providing about 50,000 residential units, to be served by the existing road network, as well as the TKO Line Southern Extension (TKLSE) and the Tseung Kwan O – Yau Tong Tunnel (TKO-YTT) recommended under the Strategic Studies on Railways and Major Roads beyond 2030 (RMR 2030+) by Transport and Logistics Bureau. At the same time, to make way for the housing development at TKO 137, a review has been conducted to identify suitable locations for accommodating existing facilities in TKO 137 and other location-specific facilities. Based on the findings of the P&E Study, a Preliminary Outline Development Plan (PODP) was formulated for TKO 137 and the land to be created off TKO Area 132 (TKO 132) in January 2023.
- 1.1.4 Currently, vast majority of the existing traffic on Wan Po Road south of LOHAS Park is generated by Tseung Kwan O Fill Bank (TKOFB) located at TKO 137. The heavy vehicles, such as diesel fuel dump trucks, are running through the existing road network of TKO to TKOFB which cause potential fugitive dust, exhaust gas emission and noise nuisance to local residents. With TKOFB converting into a housing development, the traffic on Wan Po Road is expected to shift predominantly from heavy vehicle to mostly private cars and commercial vehicles, which are mainly electric and petroleum vehicles. Less gaseous emission and noise nuisance to the locals would be anticipated.
- 1.1.5 The Legislative Council (LegCo) Panel on Development was briefed on the PODP on 31 January 2023. Besides, during the period from February to March 2023, two Sai Kung District Council (DC) Meetings were held to brief the DC and the public on the PODP and solicit participants’ views on the plan. The project team also made pro-active efforts in reaching out to the local community to collect their views on the development proposal. In the course of the exercise, the project team organised twelve meetings with local stakeholders and attended two residents’ forums, meeting representatives from over 30 organisations such as the owners’ committees of the residential estates in TKO, estates’ representatives, local personalities, villagers and concern groups, etc. Taking into account comments received from LegCo members, the public and key stakeholders on the PODP, and on-going liaison with relevant Government B/Ds, a Recommended Outline Development Plan (RODP) was formulated.
- 1.1.6 According to the P&E Study, the Project is a Designated Project under Schedule 3 of the Environmental Impact Assessment Ordinance (EIAO) and comprises of various Schedule 2 Designated Projects (DPs) under the EIAO for necessary infrastructures.
- 1.1.7 In November 2023, CEDD engaged AECOM Binnies (TKO137) Joint Venture (hereafter referred to “the Consultants”) to undertake Agreement No. CE 40/2023 (CE) – Development of Tseung Kwan O Area 137 and Associated Reclamation Sites – Investigation, Design and Construction (hereafter referred to “the Project”).

1.2 The Project

1.2.1 The proposed scope of the Project includes reclamation, slope-cutting, site formation and engineering infrastructure works and other works for the development at TKO 137 and formed land off TKO 132 as shown on **Figure 1.1**, comprises the following principal works elements:

1.2.1.1 Engineering Infrastructure Works in TKO 137

- (a) Formation of about 20 hectare (ha) of land through reclamation and associated site formation works at TKO 137.
- (b) Site formation works of the existing land area at TKO 137.
- (c) Engineering infrastructure works including roads, drainage, sewerage including sewage pumping station and waterworks including service reservoirs and the associated water mains, access roads and other facilities to support the proposed developments.
- (d) An Effluent Polishing Plant (EPP) at TKO 137 and the associated sewage pumping station and effluent pipeline (*The Consultants* carry out preliminary design and conducts statutory EIA for the EPP under this Designated Project under Schedule 2 in the Investigation Phase. The subsequent design and construction of EPP would be implemented by Drainage Services Department (DSD) tentatively).
- (e) Landscaping, streetscaping and ancillary works.
- (f) Provision of environmental mitigation measures for the works mentioned above.

1.2.1.2 Engineering Infrastructure Works in TKO 132

- (a) Formation of about 20 ha of land off TKO 132 through reclamation off the existing shoreline and slope-cutting and associated site formation works for the proposed developments.
- (b) Construction of marine viaducts to connect the land to be created off TKO 132 to existing Tseung Lam Highway.
- (c) Engineering infrastructure works including roads, drainage, sewerage including sewage pumping station and waterworks to support the development.

1.2.1.3 Other Works for the developments at TKO 137 and TKO 132

- (a) Developments at TKO 137 including residential development, Government, Institutional or Community (G/IC) facilities, schools, recreational facilities and landscaping, electrical substations, a green fuel station, salt and fresh water service reservoirs, and
- (b) Developments at TKO 132¹ including a Public Fill Transfer Facility, a Concrete Batching Plant, a Construction Waste Handling Facility, a Refuse Transfer Station, Electricity Facilities, and a sewage pumping station.

1.3 EIA Study Brief

1.3.1 A Project Profile for the Project (No. PP-654/2023) of the proposed development of Tseung Kwan O Area 137 and associated reclamation sites was submitted to the EPD on 11 May 2023 for application for an EIA Study Brief under section 5(1)(a) of the EIAO. The EIA Study Brief (SB) (No. ESB-360/2023) was issued on 23 June 2023 under the EIAO.

¹ The MRCP was proposed during the PODP stage and has been excluded from the RODP.

1.4 Recommended Outline Development Plan (RODP)

1.4.1.1 The RODP has been formulated based on the PODP under the P&E Study. The underlying planning principles are discussed in **Section 2**.

1.5 Designated Project under EIAO

1.5.1.1 The Project covers an area of approximately 123 hectares (ha), is classified as a DP by virtue of the following item in Schedule 3 of the EIAO:

1: An urban development or redevelopment project, which covers an area more than 50 ha.

1.5.1.2 In addition, the Project also comprises of various DP elements in Part I, Schedule 2 of the EIAO as described in **Table 1.1** and illustrated in **Figure 1.2** and **Figure 1.3**. Details of the scope of each DP element are presented in **Section 2**.

Table 1.1 Schedule 2 Designated Projects in this Project

Ref. No.	Schedule 2 Designated Project		Work Component /Reference in RODP
DP1 ¹	A.8	A carriageway bridge for motor vehicles, or a railway bridge, the length between abutments for which is more than 100 m, with bridge piers over the sea supporting the bridge	A carriageway bridge in form of viaduct structure for motor vehicles with a minimum length of about 700 m between abutments and supported by piers over the sea, will be constructed near TKO-LTT to provide a direct and convenient connection to the proposed facilities at TKO 132.
DP2 ¹	C.1	Reclamation works (including associated dredging works) more than 5 ha in size	Around 20 ha of land will be formed by reclamation at TKO 137. Around 19 ha of land will be formed by reclamation at TKO 132.
	C.2	Reclamation works (including associated dredging works) that are of more than 1 ha in size, and a boundary of which is (c) less than 100 m from the nearest boundary of an existing residential area	Project boundary of the reclamation works (around 19 ha) at TKO 132 is around 30 m from the nearest boundary of On Luen Village (location of existing government land licences).
DP3 ¹	F.1	Sewage treatment works with an installed capacity of more than 15,000 m ³ per day	Construction and operation of an EPP with an installed capacity of approx. 54,000 m ³ per day at TKO 137. The EPP is around 100 m from the planned residential area and around 60 m from the planned educational institution at TKO 137.
	F.2	Sewage treatment works (a) with an installed capacity of more than 5,000 m ³ per day; and (b) a boundary of which is less than 200m from the nearest boundary of an existing or planned (i) residential area and (iii) educational institution	
DP4 ²	G.2	A refuse transfer station	Construction and operation of a RTS at formed land off TKO 132
DP5 ²	G.5	A facility for the treatment of construction waste (a) with a designed capacity of more than 500 tonnes per day; and (b) a boundary of which is less than 200 m from the nearest boundary of an existing or planned (i) residential area	Construction and operation of a Construction Waste Handling Facility with handling capacity of around 3,000 tonnes per day at formed land off TKO 132. The Construction Waste Handling

			Facility is around 140 m from On Luen Village (location of existing government land licences).
DP6 ^{2,3}	H.1	A 400kV electricity substation and transmission line	Construction and operation of Electricity Facilities (EFs) at formed land off TKO 132. EFs are planned to house equipment up to 400kV.

Note:

- 1 Application of Environmental Permit (EP) will be supported by this EIA Study.
- 2 Application of EP will be supported by a separate Schedule 2 EIA Study or separate Direct Application of EP to be conducted by the respective project proponent.
- 3 There is no design information for EFs provided from the operator at the time of assessment. The assumption of a 400 kV electricity substation, a Schedule 2 DP under EIAO, is considered in this EIA study.

1.5.1.3 Apart from the Schedule 2 DPs presented in **Table 1.1**, there are a number of non-DP elements in the RODP as summarised in **Table 1.2**. Details are presented in **Section 2**.

Table 1.2 Summary of Non-Designated Projects

Non-Designated Project	Sub-Element
TKO 132	
Other Specified Uses (OU)	Public Fill Transfer Facility (OU(PFTF))
	Concrete Batching Plant (OU(CBP))
	Sewage Pumping Station (OU(SPS))
Amenity (A)	Roadside amenity
Roads	Local roads
TKO 137	
Residential Development	Public Housing Site (RSc)
	Private Housing - Zone 1 (R1)
	Private Housing - Zone 2 (R2)
	Public Transport Interchange
	Social Welfare Facilities
Government, Institutional or Community (G/IC)	Divisional Police Station
	Sub-divisional Fire Station cum Ambulance Depot
	Sports centre and Government Reserve
	Government Complex (includes Swimming Pool Complex, Sports Centre, Public Market, Community Hall, Health Centre, Recycling Store, Refuse Collection Point)
Education (E)	Schools
Open Space (O)	Recreational Facilities and Landscaping
Other Specified Uses (OU)	Electrical Substation (OU(ESS))
	Green Fuel Station (OU(GFS))
	Salt Water Service Reservoir (OU(SWSR))
	Fresh Water Service Reservoir (OU(FWSR))
Roads	Local roads

1.5.1.4 As confirmed with Fill Management Division of CEDD, control measures would be implemented to restrict the public dumping area at the Public Fill Transfer Facility (PFTF)

at TKO 132 to within 2 ha. Hence, PFTF will not constitute a designated project under item C.11, Part I, Schedule 2 of the EIAO.

1.5.1.5 The Concrete Batching Plant (CBP) at TKO 132 would have a total silo capacity of less than 10,000 tonnes, in which cement is handled or produced. Therefore, CBP will not constitute a designated project under Item K.5, Part I, Schedule 2 of the EIAO.

1.5.1.6 If there are any future change(s) after the approval of this EIA Report, the following steps will be taken:

- (a) Should the change(s) involve a DP item under Schedule 2 of the EIAO, the requirements under the EIAO will be complied with; and
- (b) Should the change(s) not involve any DP items under Schedule 2 of the EIAO, prevailing planning mechanisms and standards will be followed and relevant EIA findings will be conformed to.

1.6 Purpose of the EIA Study

1.6.1.1 The purpose of this EIA study is to provide information on the nature and extent of environmental impacts arising from the construction and operation stages of the Project and associated activities that will take place concurrently. This information will contribute to decisions by the Director of Environmental Protection on:

- (a) the overall acceptability of any adverse environmental consequences that are likely to arise as a result of the Project;
- (b) the conditions and requirements for the detailed design, construction and operation of the Project to mitigate against adverse environmental consequences wherever practicable; and
- (c) the acceptability of residual impacts after the proposed mitigation measures are implemented.

1.7 Objectives of this EIA Study

1.7.1.1 The objectives of the EIA study as stated in the EIA Study Brief (No. ESB-360/2023) are as follows:

- (a) to describe the Project and associated works together with the requirements and environmental benefits for carrying out the Project;
- (b) to identify and describe the elements of the community and environment likely to be affected by the Project and/or likely to cause adverse impacts to the Project, including both the natural and man-made environment and the associated environmental constraints;
- (c) to identify and quantify emission sources and determine the significance of impacts on sensitive receivers and potential affected uses, and to propose measures to mitigate these impacts;
- (d) to identify and quantify any potential impacts from point and non-point pollution sources on the identified water systems and sensitive receivers and to propose measures to mitigate these impacts;
- (e) to identify and quantify potential waste management requirements and to propose measures to mitigate these impacts;
- (f) to identify and quantify contaminated land within the Project area, and to propose measures to avoid disposal in the first instance;
- (g) to identify, evaluate and address any potential ecological impacts arising from the Project and to propose measures to mitigate these impacts;
- (h) to identify and quantify the fisheries impacts and to propose measures to mitigate these impacts;
- (i) to identify any potential landscape and visual impacts and to propose measures to mitigate these impacts;
- (j) to identify any negative impacts on cultural heritage and to propose measures to mitigate these impacts;
- (k) to identify potential hazard to life impacts and to propose mitigation measures to mitigate these impacts;
- (l) to assess and propose safety and precautionary measures for minimising risks due to landfill gas migration or leachate contamination;
- (m) to identify any impacts from electric and magnetic fields and to propose measures to mitigate these impacts;
- (n) to propose the provision of infrastructure or mitigation measures so as to minimize pollution, environmental disturbance and nuisance during the construction and operation stages of the Project;
- (o) to investigate the feasibility, practicability, effectiveness and implications of the proposed mitigation measures;
- (p) to identify, predict and evaluate the residual environmental impacts (i.e. after practicable mitigation) and the cumulative effects expected to arise during the construction and operation phases of the Project in relation to the sensitive receivers and potential affected uses;
- (q) to identify, assess and specify methods, measures and standards, to be included in the detailed design, construction and operation of the Project which are necessary to mitigate these residual environmental impacts and cumulative effects and reduce them to acceptable levels;
- (r) to investigate the extent of the secondary environmental impacts that may arise from the proposed mitigation measures and to identify constraints associated with the mitigation measures recommended in the EIA study, as well as the provision of any necessary modification;
- (s) to design and specify the environmental monitoring and audit requirements;
- (t) to identify any additional studies necessary to implement the mitigation measures and proposals recommended in the EIA report; and
- (u) to identify DP(s) listed under Schedule 2 of the EIAO as part of the Project for assessment under the EIA study.

1.7.1.2 This EIA study is carried out based on the best and latest information available during the course of the EIA study.

1.8 Structure of the EIA Report

1.8.1.1 The background of the Project, purpose and objectives of this EIA study are introduced in this section. A description of the Project and consideration of options are provided in **Section 2**. **Sections 3 to 15** detail the results of the environmental impact assessment of each key subject area, covering relevant legislation, environmental conditions, assessment criteria, methodology, and assessment findings.

1.8.1.2 Sections 3 to 15 are outlined as follows:

- Section 3: Air Quality Impact
- Section 4: Noise Impact
- Section 5: Water Quality Impact
- Section 6: Sewerage and Sewage Treatment Implications
- Section 7: Waste Management Implications
- Section 8: Land Contamination
- Section 9: Ecological Impact (Terrestrial and Marine)
- Section 10: Fisheries
- Section 11: Landscape and Visual Impact
- Section 12: Impact of Cultural Heritage
- Section 13: Hazard to Life
- Section 14: Landfill Gas Hazard
- Section 15: Electric and Magnetic Fields

1.8.1.3 An outline of the requirements for the Environmental Monitoring and Audit (EM&A) programme is presented in **Section 16**. The EM&A programme is presented in detail in a separate EM&A Manual. A detailed implementation schedule of the recommended mitigation measures is provided in **Section 17**. A summary of environmental outcomes and conclusions is presented in **Section 18**.