

TOWN PLANNING BOARD

TPB Paper No. 10222
For Consideration by
the Town Planning Board on 16.12.2016

城市規劃委員會文件第 10222 號
考慮日期：2016 年 12 月 16 日

DRAFT TSEUNG KWAN O OUTLINE ZONING PLAN NO. S/TKO/23
CONSIDERATION OF REPRESENTATION NO. R1
AND COMMENT NO. C1

考慮有關《將軍澳分區計劃大綱草圖編號 S/TKO/23》
的申述編號 R1 及意見編號 C1

**CONSIDERATION OF REPRESENTATION NO. R1 AND COMMENT NO. C1
IN RESPECT OF THE DRAFT TSEUNG KWAN O
OUTLINE ZONING PLAN NO. S/TKO/23**

Subject of Representation	Representer	Commenter
Oppose	Total: 1	Total: 1
<u>Amendment Item A</u> Rezoning of an area at the south-eastern part of Tseung Kwan O Area 137 from “Other Specified Uses” annotated “Deep Waterfront Industry” (“OU(Deep Waterfront Industry)”) to “Other Specified Uses” annotated “Desalination Plant” (“OU(Desalination Plant)”)	R1: Mr. Joseph LI	C1: Mr. Joseph LI (R1 and C1 are the same person expressing the same views)
Grand Total	1	1

1. Introduction

- 1.1 On 24.6.2016, the draft Tseung Kwan O (TKO) Outline Zoning Plan No. S/TKO/23 (the OZP) (**Annex 1**) was exhibited for public inspection under section 5 of the Town Planning Ordinance (the Ordinance). The amendments to the OZP involve mainly rezoning of an area at the south-eastern part of TKO Area 137 from “Other Specified Uses” annotated “Deep Waterfront Industry” (“OU(Deep Waterfront Industry)”) to “Other Specified Uses” annotated “Desalination Plant” (“OU(Desalination Plant)”) (**Item A**) to facilitate the development of the proposed desalination plant (**Plan H-1**). The amendments are set out in the Schedule of Amendments at **Annex II**.
- 1.2 During the two-month exhibition period, a total of two representations were received. On 9.9.2016, the representations were published for three weeks until 30.9.2016 for public comment and one comment was received.
- 1.3 Among the two representations received, one representation (**R1**) objects to Amendment Item A in relation to the rezoning of the site at the south-eastern part of TKO Area 137 to facilitate the development of the proposed desalination plant. Since **R2** is not related to any of the amendment items on the OZP, the Board on 4.11.2016 agreed to consider **R2** as invalid and treat it as not having been made in accordance with section 6(3)(b) of the Ordinance. As a result, the total number of valid representation should be one.
- 1.4 One comment (**C1**) is received and is submitted by **R1**. **C1** expresses the same views as stated in representation of **R1**.

- 1.5 On 4.11.2016, the Board also agreed to hear the representation **R1** and comment **C1** by the full Board.
- 1.6 This paper is to provide the Board with information for consideration of the valid representation and comment. The representer and commenter have been invited to attend the meeting in accordance with section 6B(3) of the Ordinance.

2. **Background**

- 2.1 TKO Area 137 covers a total area of about 100 ha (**Plan H-1**). The north-eastern part of TKO Area 137 with an area of about 13 ha has already been zoned “Open Space (2)” since 2010 for the South East New Territories (SENT) Landfill Extension. The remaining portion of about 86 ha is currently zoned “OU(Deep Waterfront Industry)”¹ and “OU(Desalination Plant)”. To explore other source of water supply to meet the needs of Hong Kong, the Chief Executive announced in the 2011-12 Policy Address that a site has been reserved in TKO for the development of a medium-sized desalination plant. An area of about 10.8 ha located at the south-eastern part of TKO Area 137 is earmarked for desalination plant development (**Plan H-1**). The current TKO OZP Amendment Item A, i.e. rezoning of an area in TKO Area 137 for desalination plant use, is to facilitate commissioning of the plant by 2020-2021 the earliest.
- 2.2 As for the future development of the remaining part of TKO Area 137, the 2016 Policy Address announced that a new planning and engineering study (P&E study) including exploration of residential, commercial, other development purposes as well as the need for the originally reserved uses will be jointly commissioned by Planning Department (PlanD) and Civil Engineering and Development Department (CEDD). The TKO OZP will be reviewed and amended to incorporate the findings of the P&E study upon its completion.

Desalination Plant

- 2.3 A reliable fresh water supply is important in sustaining Hong Kong’s development and economic growth. There is a need to develop seawater desalination which is not susceptible to climate change to safeguard the security of fresh water resources in Hong Kong. Water Supplies Department (WSD) proposes to construct and operate a desalination plant by using Seawater Reverse Osmosis² technology in TKO Area 137.
- 2.4 A planning and investigation study (P&I study) of the proposed desalination plant was conducted by WSD from 2012 to 2015. The P&I study confirms the technical feasibility including the environmental acceptability of the project and provides a preliminary design of the project. The preliminary layout of the plant is shown in **Annex III**. The P&I study also confirms that TKO Area 137 is a suitable location for siting the proposed desalination plant in terms of the quality of nearby seawater and its close proximity to a strategic water supply network. The plant would have an initial water production capacity of 135,000m³ per day and upon expansion, the ultimate capacity would reach 270,000m³ per day. The fresh water would be

¹ The planning intention of the “OU(Deep Waterfront Industry)” zone is primarily for special industries which require marine access, access to deep water berths or water frontage.

² Seawater Reverse Osmosis is a process in which hydraulic pressure is used to separate fresh water from seawater through a semi-permeable membrane.

transferred from the desalination plant to the existing TKO Primary Fresh Water Service Reservoir (**Annex IV**).

- 2.5 The proposed desalination plant is classified as a designated project pursuant to the Environmental Impact Assessment Ordinance (EIAO). The EIA Report was approved by the Director of Environmental Protection (DEP) under EIAO on 4.11.2015. The Environmental Permit (EP) was granted with conditions under EIAO on 4.12.2015.
- 2.6 The proposed OZP amendments, together with the views of Sai Kung District Council (SKDC) mentioned in paragraph 3.1 below, were considered and agreed by the Rural and New Town Planning Committee (the RNTPC) of the Board on 10.6.2016. The relevant RNTPC Paper No. 2/16 and the minutes of the RNTPC meeting are deposited at the Board's Secretariat for Members' inspection and are available for viewing at the Board's website (http://www.info.gov.hk/tpb/en/papers/RNTPC/558-rntpc_2-16.pdf and http://www.info.gov.hk/tpb/en/meetings/RNTPC/Minutes/m558rnt_e.pdf). The OZP was exhibited under section 5 of the Ordinance on 24.6.2016 (**Annexes I and II**).

3. **Public Consultation**

- 3.1 On 6.1.2015, WSD consulted the SKDC on the design and construction for desalination plant at TKO. The SKDC supported the development plan of desalination plant in principle. The relevant extract of the minutes of the SKDC meeting is at **Annex V**.
- 3.2 On 5.7.2016, SKDC was further consulted on the proposed amendments to the TKO OZP. The SKDC supported the proposed amendments to the OZP for development of the proposed desalination plant in TKO Area 137. The relevant extract of the minutes of the SKDC meeting is at **Annex VI**.

4. **The Representation**

Subject of Representation (Plans H-1 and H-2, photos on Plans H-3, H-4a and H-4b)

- 4.1 The representation **R1 (Annex VII)** submitted by an individual objects to Amendment Item A. **R1** objects to the proposed rezoning and expresses that the information provided in the RNTPC Paper No. 2/16 in support of rezoning of the site for desalination plant use is inadequate. The grounds of objection of **R1** are summarized as follows:
 - (a) the rezoning for the proposed desalination plant will jeopardize the future development of TKO Area 137;
 - (b) there is no information on site selection of the proposed desalination plant, such as the consideration of other potential sites and the previous desalination plant site at Lok On Pai in Tuen Mun;
 - (c) the excessive site area of almost 11 ha should be justified and the building height of the proposed desalination plant should be provided;

- (d) assessments on landscape impact, visual impact, air ventilation, traffic impact and marine traffic impact, and hazard assessment should be undertaken and the results should be made available for public comments; and
- (e) there is no information provided regarding consultation with the relevant government bureaux/departments, in particular, with the Country and Marine Parks Board (CMPB) and with the Security Bureau on whether TKO Area 137 should be reserved for naval purpose.

Representer' Proposal

- 4.2 **R1** proposes Amendment Item A should be deferred for further consideration until all the information is available.

5. Comment on Representation

C1 (Annex VIII), submitted by **R1**, expresses the same views as stated in representation of **R1**.

6. Planning Considerations and Assessment

The Representation Site and the Surrounding Areas (Annex IV, Plans H-1 and H-2, photos on Plans H-3, H-4a to H-4b)

- 6.1 TKO Area 137 is currently mainly occupied by various temporary uses such as fill bank and construction waste sorting facilities. The representation site (the Site) covers Amendment Item A for the proposed desalination plant development. The Site (about 10.8ha) is located at the south-eastern part of TKO Area 137.
- 6.2 The SENT landfill and its extension are located to the north of the Site. A small northern portion of the Site falls within the 250m consultation zone of the SENT Landfill Extension (**Plan H-2**). To the further northwest of the Site is the TKO Industrial Estate (**Plan H-1**). To the immediate south of the Site is an existing pier currently used by the Mines Division of CEDD for the offloading of explosive materials for blasting operation (**Plan H-2**). To the east of the Site is vegetated slope covered by trees and shrubs of the Clear Water Bay Country Park. To the west of the Site is currently used as temporary construction waste sorting facilities.

Planning Intention/Land Use Compatibility

- 6.3 The planning intention of the "OU(Desalination Plant)" zone is primarily for the development of a desalination plant to provide fresh water serving the needs of the community.
- 6.4 According to the findings of the technical assessments conducted for the desalination plant as summarized in the following paragraphs, the desalination plant would not generate insurmountable problems to the surrounding area. Thus, the Site is considered a suitable site in terms of land use compatibility.

Responses to Grounds of Representation R1 and Comment C1

(a) Future Development of Area 137

- 6.5 PlanD and CEDD will jointly commission a P&E study for the re-planning of TKO Area 137 with the prime objective to establish and optimize the development potential of the area. In the P&E study, the existing and planned projects/developments, including the proposed desalination plant, would be taken into account in the series of planning, engineering and environmental assessments in formulating the recommended outline development plan for the area. Throughout the P&E study, concerned government departments and stakeholders would be consulted to ensure that the development potential of Area 137 is optimized while not compromising the operation of the desalination plant.

(b) Site Selection of the proposed desalination plant

- 6.6 The P&I study conducted by WSD confirms that TKO Area 137 is a suitable location for siting the proposed desalination plant in terms of the water quality of nearby seawater and its close proximity to a strategic water supply network. WSD advises that three other potential sites including Siu Ho Wan, Tuen Mun Area 38 and Tsang Tsui Ash Lagoon (**Plan H-5**) have been considered, but they were not eventually selected as these sites would have difficulty in integrating the desalination plant with the existing water supply system, and the seawater quality is less desirable for desalination using Seawater Reverse Osmosis technology. Detailed justifications are provided in Chapter 2 of the approved EIA Report, which is available at Environmental Protection Department (EPD)'s website (http://www.epd.gov.hk/eia/english/alpha/aspd_675.html).
- 6.7 WSD advises that the Lok On Pai site in Tuen Mun (about 9 ha) (**Plan H-5**) was not selected as a potential site for siting the proposed desalination plant, as the site also encounters similar problems as mentioned in paragraph 6.6 above. The Lok On Pai site in Tuen Mun of the previous desalination plant was returned to the Lands Department for other uses after its decommissioning in 1980s. The Lok On Pai site is located adjacent to residential developments. It was rezoned from "OU(Desalting Plant) to "Comprehensive Development Area" ("CDA") in 1994 and the zoning remains as "CDA" on the approved Tuen Mun Outline Zoning Plan No. S/TM/33. The planning intention of the "CDA" zone is for comprehensive development/redevelopment of the area for residential use with the provision of commercial, open space and other supporting facilities, if any, to serve the residential neighbourhood.
- (c) Site area and building height of the proposed desalination plant***
- 6.8 The area of the actual land reserved for the proposed desalination plant is about 10 ha. The rezoning area (about 10.8 ha) for desalination plant includes the area for the minor adjustment of the eastern zoning boundary of the "OU(Desalination Plant)" zone made on the OZP to tally with the boundary of the Clear Water Bay Country Park. WSD advises that the 10 ha site area is required for the operational needs for the proposed TKO desalination plant up to its ultimate capacity of 270,000 cubic metres per day. Based on the optimal design (**Annex III**) at the P&I stage, the desalination plant would accommodate the treatment processes including

pre-treatment, reverse osmosis, post-treatment and sludge treatment as well as associated facilities such as the intake pumping station, electricity substation, fresh water tank and pumping station, etc.. Some of these facilities for pre-treatment and post-treatment processes were not provided within the Lok On Pai desalination plant. As such, the proposed desalination plant in TKO Area 137 needs a larger site area than the Lok On Pai site.

- 6.9 WSD advises that the proposed desalination plant would mainly comprise low-rise buildings with building height up to 20 meters as stated in the approved EIA Report. To allow flexibility in the design of the desalination plant, which is a special facility, it is considered appropriate not to impose development restrictions on building height and plot ratio on the OZP.

(d) Technical Assessments

Landscape and Visual Impact Assessments

- 6.10 An EIA for the proposed desalination plant has been conducted by WSD to support the application for an EP in accordance with the requirements of the EIAO. The EIA covering the assessments of the potential impact on air quality, noise, water quality, waste management, land contamination, sewerage, ecology, fisheries, **landscape and visual impact**, landfill gas hazard, and hazard to life. Based on the assessment results and with the implementation of recommended mitigation measures, no unacceptable adverse environmental impacts are anticipated. The details of the landscape and visual impact assessments with photomontages are provided in Chapter 11 of the approved EIA Report, which is available at EPD's website mentioned in paragraph 6.6.

Air Ventilation Assessment (AVA)

- 6.11 TKO Area 137 is at present occupied by temporary uses such as fill bank and construction waste sorting facilities. The low-rise design of the desalination plant is not expected to generate adverse air ventilation impact on the adjacent area. In accordance with the Housing, Planning and Lands Bureau and Environment, Transport and Works Bureau Technical Circular No. 1/06, an AVA expert evaluation (EE) has been carried out to qualitatively assess the air ventilation impact of the proposed desalination plant. The results reveal that the air ventilation impact caused by the proposed desalination plant to the adjacent area is insignificant. Chief Town Planner/Urban Design & Landscape (CTP/UD&L), PlanD has no comment on the AVA EE report.

Traffic Impact Assessment (TIA)

- 6.12 According to the TIA carried out in the P&I study, the traffic impact associated with the plant construction works and mainlaying works for the transfer of fresh water produced from the desalination plant to the existing TKO Primary Fresh Water Service Reservoir along Wan Po Road, Po Hong Road and Tsui Lam Road (**Annex IV**) is considered acceptable. The access alignment and its arrangement to the desalination plant is under review in the design stage to the satisfaction of the Commissioner for Transport.

Marine Traffic Impact Assessment (MTIA)

- 6.13 A MTIA has been conducted in the P&I study. The findings conclude that the proposed marine works including the intake and outfall structures could be implemented without imposing undue impacts on local marine activities. In consideration of the traffic pattern in proximity to the works site, it is not anticipated that the construction works will impose adverse impact on the relatively low volume of local marine traffic environment. Director of Marine (D of Marine) has no comment on the MTIA. The potential marine traffic impacts induced by the construction activities will be further reviewed during the construction stage to the satisfaction of D of Marine.

Risk Hazard

- 6.14 The chlorine store in the proposed desalination plant is designed to store a maximum of 37 tonnes liquid chlorine contained in 1-tonne chlorine drums. It is classified as a Potentially Hazardous Installation (PHI) according to Hong Kong Planning Standards and Guidelines. WSD has conducted a Hazard Assessment (HA), Planning Study (PS) and Action Plan (AP) for storage, handling and transport of chlorine associated with the desalination plant. The overall risk lies within acceptable level. The HA, PS and AP were endorsed by the Coordinating Committee on Land Use Planning and Control relating to Potentially Hazardous Installations (CCPHI) on 26.5.2016.
- 6.15 An existing pier (**Plan H-2**) at the southern boundary of the proposed desalination plant is currently used by Mines Division of CEDD for the offloading of explosive materials for blasting operation. A quantitative risk assessment (QRA) on its impact on the desalination plant has been conducted in the P&I study. Public access will be restricted within the safety distances during the explosive off-loading operation and the proposed chlorine delivery for the desalination plant at the pier will be arranged to avoid overlapping with the explosive off-loading operation. The risk assessment concludes that overall risk level is acceptable even with the continued operation of this pier.
- 6.16 The Executive Summary of the EIA is attached in the RNTPC paper No. 2/16 and the key results of the technical assessments including EIA, TIA, MTIA and CCPHI submission have been highlighted in the RNTPC paper No. 2/16. The approved EIA Report is available at EPD's website mentioned in paragraph 6.6. The Executive Summary of the P&I study and the Executive Summary of the technical assessments reports, including TIA, MTIA, DIA and AVA(E), are available at WSD's project website (<https://www.tkodesal.hk/index.php>).

(e) *Consultation with CMPB and government bureau/departments*

- 6.17 Director of Agriculture, Fisheries and Conservation (DAFC) advises that any development within country parks area would require a written consent of Country and Marine Parks Authority (CMPA) who may request for further consultation with the CMPB or its Committee where appropriate. As the Site under Amendment Item A falls outside the country park and no country park facilities or its visitors would likely be affected by the proposed desalination plant, the consent of CMPA or consultation with CMPB is not required. However, there would be proposed natural terrain hazard mitigation measures within the Clear Water Bay Country Park and along the desalination plant site boundary and they are currently under review in the

design stage. WSD advises that the design of the mitigation measures will be submitted to CMPA for approval after completion of the review.

- 6.18 The Security Bureau advises that it is not necessary to reserve TKO Area 137 for naval purpose.
- 6.19 In preparing the previous zoning amendment paper No. RNTPC Paper No. 2/16 which was considered by the RNTPC on 10.6.2016, the majority of the concerned bureau/departments listed in paragraph 7 below have been consulted and their views were incorporated in the zoning amendment paper where appropriate.

Responses to RI's Proposal

Proposal to defer Amendment Item A for further consideration until all the information are available

- 6.20 In view of WSD's and the relevant bureau/departments' responses in paragraphs 6.5 to 6.18 above and the need to facilitate commissioning of the proposed desalination plant by 2020-2021 the earliest, the proposal is not supported.

7. Departmental Consultation

- 7.1 The following government bureau/departments have been consulted and their responses have been incorporated in the above paragraphs, where appropriate:

- (a) Secretary for Security (S for Security);
- (b) Chief Engineer/Consultants Management, Water Supplies Department (CE/Consultants Management, WSD);
- (c) Director of Food and Environmental Hygiene (DFEH);
- (d) Government Property Administrator (GPA);
- (e) Project Manager (New Territories East), Civil Engineering and Development Department (PM(NTE), CEDD);
- (f) Chief Geotechnical Engineer/Planning Division, Civil Engineering and Development Department (CGE/Planning, CEDD);
- (g) District Officer (Sai Kung), Home Affairs Department (DO/SK, HAD);
- (h) Chief Architect/Central Management Division 2, Architectural Services Department (CA/CMD2, ASD);
- (i) Director of Agriculture, Fisheries and Conservation (DAFC); and
- (j) Chief Town Planner/Urban Design & Landscape, Planning Department (CTP/UD&L, PlanD).

- 7.2 The following departments have no comments on the representation/comment:

- (a) Chief Engineer/Construction, Water Supplies Department (CE/Construction, WSD);
- (b) Principal Environmental Officer/Regional Assessment, Environmental Protection Department (PEO/Regional Assessment, EPD);
- (c) Principal Environmental Protection Officer/Waste Transfer and Development Group, Environmental Protection Department (PEO/Waste Transfer & Dev, EPD);

- (d) Principal Environmental Protection Officer/Landfills and Development, Environmental Protection Department (PEPO/Landfills & Dev, EPD);
- (e) District Lands Officer/Sai Kung, Lands Department (DLO/SK, LandsD);
- (f) Commissioner for Transport (C for T);
- (g) Chief Engineer/Mainland South, Drainage Services Department (CE/MS, DSD);
- (h) Chief Highway Engineer/NT East, Highway Department (CHE/NTE, HyD);
- (i) Chief Engineer/Fill Management, Civil Engineering and Development Department (CE/Fill Mgt, CEDD);
- (j) Chief Geotechnical Engineer/Mines, Civil Engineering and Development Department (CGE/Mines, CEDD);
- (k) Director of Fire Services (D of FS);
- (l) Commissioner of Police (C of P);
- (m) Director of Leisure and Cultural Services (DLCS);
- (n) Antiquities and Monuments Office, Leisure and Cultural Services Department; (AMO, LCSD);
- (o) Director of Marine (D of Marine);
- (p) Director of Electrical and Mechanical Services (DEMS);
- (q) Director of Social Welfare (DSW); and
- (r) Director of Health (D of Health).

8. Planning Department's Views

Based on the assessments made in paragraph 6 above, PlanD does not support the views of **R1** for the following reasons and considers that the draft OZP should not be amended to meet the representation:

- (a) the south-eastern part of TKO Area 137 has been reserved for the development of a medium-sized desalination plant to safeguard a reliable fresh water supply against inclement climate. The zoning amendment is to facilitate commissioning of the proposed desalination plant by 2020-2021 the earliest;
- (b) the P&I study, the EIA and relevant technical assessments conducted by WSD confirm that the Site is feasible for the proposed desalination plant without generating unacceptable adverse environmental, traffic and other impacts on the surrounding areas; and
- (c) in the forthcoming P&E study for the re-planning of TKO Area 137, the proposed desalination plant would be taken into account in the series of planning, engineering and environmental assessments in formulating the development plan for the proposed developments in TKO Area 137.

9. Decision Sought

The Board is invited to give consideration to the representation and comment taking into consideration the points raised in the hearing session, and decide whether to propose/not to propose any amendment to the Plan to meet/partially meet the representation.

10. Attachments

Annex I	Draft Tseung Kwan O OZP No. S/TKO/23 (reduced size)
Annex II	Schedule of Amendments to the approved TKO OZP No. S/TKO/22
Annex III	Preliminary layout plan of the proposed desalination plant
Annex IV	Location of the proposed desalination plant
Annex V	Extract of Minutes of SKDC meeting held on 6.1.2015
Annex VI	Extract of Minutes of SKDC meeting held on 5.7.2016
Annex VII	Representation R1
Annex VIII	Comment C1
Plan H-1	Location plan of representation site
Plan H-2	Site plan of representation site
Plan H-3	Aerial photo of representation site
Plan H-4a and H-4b	Site photos of representation site
Plan H-5	Location plan of other sites considered for desalination plant in approved EIA and the previous Lok On Pai desalination plant site

**PLANNING DEPARTMENT
DECEMBER 2016**