Summary of environmental impacts associated with the Project

	ental impacts associated		E-446E1-	T/	D 1 I (A C)
Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of
1100coment 1 onto		Standards/ Crittin	(* * * * * * * * * * * * * * * * * * *	ininguion mensures	Mitigation Measures)
Air Quality Impact					
Construction Phase					
Existing and planned ASRs (including residential area, commercial building and planned institution)	TSP • Max. 1-hour average TSP conc.: 143 – 459 µg/m³ RSP • 10 th highest 24-hour average RSP conc.: 66 — 88 µg/m³ • Annual average RSP conc.: 27 – 43 µg/m³ FSP • 36 th highest 24-hour average FSP conc.: 24 – 29 µg/m³	 AQO EIAO-TM Annex 4 1-hour average TSP Conc.: 500 μg/m³ 24-hour average RSP Conc.: 100 μg/m³ (Number of exceedance allowed: 9) Annual average RSP Conc.: 50 μg/m³ 24-hour average FSP Conc.: 50 μg/m³ (Number of exceedance allowed: 35) Annual average FSP Conc.: 25 μg/m³ 	Not applicable	Good control measures are recommended: • Watering once per hour on the exposed construction areas with dust emission and paved haul roads to reduce dust emission; • Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good sites practices would be carried out to further minimise construction dust impact; and • Blasting would be carried out in an enclosed environment	No adverse residual impacts anticipated
N .	• Annual average FSP conc.: 15 – 18 μg/m ³				
Noise Construction Phase (Airbor	rne Noise)				
Existing and planned NSRs		EIAO-TM Annex 5 for non-restricted hours for domestic premises: 75 dB(A), for educational institution is 70 dB(A) (65 dB(A) during examination period)	Exceed the EIAO-TM noise criterion by up to 16 dB(A)	Good control measures are recommended to minimize the construction noise impact as far as practical: • Good site practices to limit noise emissions at the source; • Use of quality powered mechanical equipment (QPME); • Use of temporary noise barriers and noise enclosure to screen noise from relatively static PME; • Use of 3-side temporary movable enclosure to screen noise for the construction of diaphragm wall near Yat Tung Estate; • Use of noise enclosure for mucking	The cumulative mitigated predicted construction noise levels would range from 57 to 75 dB(A), which are within the criteria All residential premises would comply with the criterion. All educational institutions would comply with criterion for normal and examination periods

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
				 out location at TBM launching shaft / retrieval shaft near Tung Chung Crescent; Screen cover for the mucking out location at the EAP/EEP near Shun Tung Road; Installation of noise barrier along the site boundary to screen noise for the NSR at Ma Wan Chung; and Alternative use of plant items within one worksite, wherever practicable. 	
Construction Phase (Groun	ndborne Noise)				
Existing NSRs	Predicted unmitigated construction groundborne noise levels would be below 45 dB(A) at the first layer of NSRs	 EIAO-TM Annex 5 and IND-TM Non-restricted hours for domestic premises: 65 dB(A), for educational institution is 60 dB(A) (55 dB(A) during examination period) 	No exceedance is anticipated	No mitigation measure is required	No adverse residual impacts anticipated
Operational Phase (Airborn	ne Rail Noise)				
Existing and planned	Maximum predicted unmitigated overall rail noise levels of the NSRs during daytime/ night-time period for the following scenarios would be: - 65/ 62 dB(A) for Scenario A - 64/ 61 dB(A) for Scenario B - 62/ 60 dB(A) for Scenario C - 62/ 61 dB(A) for Scenario D Maximum predicted	 EIAO-TM Annex 5 Appropriate ANLs shown in Table 2 of IND-TM L_{max} (2300-0700 hours) = 85dB(A) 	• Exceed EIAO-TM criterion by up to 2 dB(A)	Speed reduction for TCL for Scenario A Implementation of cantilevered arm noise barrier and vertical barrier for Scenario B to Scenario D	No adverse residual impacts anticipated

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
	unmitigated L _{max} of the NSRs for the following scenarios would be: - 80 dB(A) for Scenario A - 80 dB(A) for Scenario B - 80 dB(A) for Scenario C - 78 dB(A) for Scenario D				
Operational Phase (Ground					
Existing and planned NSRs	Maximum predicted unmitigated groundborne rail noise levels would be 38 dB(A)	 EIAO-TM Annex 5 and IND-TM Appropriate ANLs-10 shown in Table 2 of IND-TM 	No exceedance is anticipated	No mitigation measure is required	No adverse residual impacts anticipated
Operational Phase (Fixed N	Noise)				
Existing and planned NSRs	Maximum predicted fixed noise levels of the NSRs during daytime/ night-time period would be 61/55 dB(A) respectively.	 EIAO-TM Annex 5 and IND-TM Appropriate ANLs and ANLs-5 as shown in Table 2 of IND-TM or the prevailing background noise level 	No exceedance is anticipated	Proper selection of the equipment and installation of acoustic attenuators, such as enclosure and silencer	No adverse residual impacts anticipated
Water Quality					
Construction Phase Water Sensitive Receivers	Water quality in WSRs would be deteriorated by the following construction activities: Construction runoff; Sewage due to workforce; Effluent discharge from tunnelling and open cut excavation;	 EIAO-TM Annex 6 and Annex 14 WPCO (Cap. 358) DSS-TM ProPECC PN 1/94 WSD's Water Quality Criteria for Sea Water Intakes 	Not applicable	Good site practices in accordance to ProPECC PN1/94 when handling the site sun-off from general site operation; Proper storage of the chemicals used during construction; Providing temporary sanitary facilities and posting notices about treating discharge at conspicuous locations for the workforce; and	No adverse residual impacts anticipated

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
Operational Phase	 Alteration of groundwater level; and Accidental spillage 			Installation of a barrier such as sheet pile / hoarding with concrete footing along western boundary of the construction sites/ works areas for TCW Station for preventing uncontrolled discharge of untreated construction site runoff to the nearby Tung Chung Bay	
Water Sensitive Receivers	Water quality in WSRs would be deteriorated by the following operational activities: • Stormwater runoff; • Discharge from cooling system; and • Sewage from sanitary fitment and foul water from washing facilities and track	 EIAO-TM Annex 6 and Annex 14 WPCO (Cap. 358) DSS-TM ProPECC PN 5/93 	Not applicable	 Provision of mitigation measures including 1) standard oil interceptors before discharge to public sewer and 2) silt trap for the surface runoff from TCE Station, entrances and vent shaft structures of TCW Station, EAP/EEP to the west of Shun Tung Road at the drainage system; Recycle of bleed off water from the freshwater cooling chiller; Adoption of the practices outlined in ProPECC PN 5/93; Request of discharge licenses under WPCO; and Application of discharge standards according to DSS-TM to government foul sewers 	No adverse residual impacts anticipated
Waste Implication Construction Phase					
The waste transportation routes and the waste disposal site, as well as the waste disposal outlet	• It is estimated that 328,400m³ of soft inert C&D material would be generated and reused onsite as far as practicable or delivered to Tuen Mun Area 38 Fill Bank for	 EIAO-TM Annex 7 and Annex 15 WDO (Cap. 354) Land (Miscellaneous Provisions) Ordinance (Cap. 28) Public Health and 	Not applicable	Waste reduction should be considered at the planning and design phase, as well as by ensuring the implementation of good site practices; Carry out on-site sorting to retrieve recyclable materials as much as	No adverse residual impact anticipated

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
	reuse in other projects. It is estimated that 127,600m³ of hard inert C&D material would be reused on-site as much as practicable and the surplus would be delivered to Tuen Mun Area 38 Fill Bank for reuse in other projects. It is estimated that 19,610m³ of non-inert C&D materials would be generated and be disposed of at NENT Landfill. It is estimated that 140m³ of land-based sediment would be generated. Reuse of sediment on site would be explored and marine disposal would only be considered as last resort. It is estimated that 540 tonnes of general refuse would be generated and be recycled for recyclables or disposed of at NENT Landfill. A few hundred litres/kilograms of chemical wastes would be generated and disposed of by licensed	Municipal Services Ordinance (Cap. 132) – Public Cleansing and Prevention of Nuisances Regulations • DASO (Cap. 466) • PNAP ADV-21 • WBTC No. 12/2000 Fill Management		possible; Inert construction waste shall not be in liquid form such that it can be contained and delivered by watertight containers. Inert C&D materials in liquid form shall be solidified before delivering to the public fill reception facilities; A trip-ticket system shall be implemented and GPS or equivalent system shall be installed in dump trucks for delivery of inert C&D materials from the site to disposal locations to avoid illegal dumping and landfilling; General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean. A reputable waste collector should be employed to remove general refuse on a regular basis; If chemical wastes are produced at the construction site, the contractors should register with EPD as chemical waste producers. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste collector; and Good management practices for	Mitigation Measures)

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
				sediments at dedicated marine disposal sites.	
The waste transportation routes and the waste disposal site, as well as the waste disposal outlet	It is estimated that approximately a hundred kg of general refuse would be generated per day. It is estimated that railway maintenance activities would generate a few hundred kg of waste per month. It is estimated that maximum of a few hundred litres of chemical waste would be generated per month.	• Waste Disposal Ordinance (Cap. 354)	• Not applicable	 Labelled recycling bins shall be placed at designated locations to encourage recycling of waste paper, aluminium cans and plastic bottles; Reputable waste collector should be employed to remove municipal solid waste regularly; Find alternatives to eliminate the use of chemicals, to reduce the generation quantities or to select a chemical type of less impact on environment, health and safety as far as possible; Reuse and recycling of chemical waste wherever possible; Requirements given in the Code of Practice on Packaging, Labelling and Storage of Chemical Wastes should be followed; and Use good quality containers compatible with the chemical waste and store incompatible chemicals separately; Chemical wastes should be collected and disposed of by licensed collectors. 	No adverse residual impact anticipated
Land Contamination Construction workers and future users within the Project	No potential land contamination issue identified	• EIAO-TM Section 3 (Potential Contaminated Land Issues) of Annex 19 "Guidelines for Assessment of Impact on Sites of Cultural Heritage and Other	Not applicable	Require site re-appraisal to assess the latest site situation prior to the commencement of the construction	Not applicable

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
		Impacts" Guidance Note for Contaminated Land Assessment and Remediation Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management Practice Guide for Investigation and Remediation of Contaminated Land			
Ecology		Contaminated Land			
Construction Phase					
Any areas likely to be impacted by the Project	Habitat loss - about 27 ha in total of which about 23 ha are urbanized/disturbed/ wasteland while the remaining are mainly orchard and plantation	• EIAO-TM Annex 8 and Annex 16	Not applicable	 Marine works have been avoided for the important marine/ intertidal ecological resources; Intertidal zone, Tung Chung River, Tai Ho Wan, country parks, SSSI, CA, CPA and mature woodland have been avoided; Flora of conservation importance identified within the works site have been avoided and protected by protection zone; The latest design has adopted phasing of construction works and QPME; Human disturbance to the nearby ecologically sensitive areas should be minimized; Provide a barrier in the form of sheet pile/ hoarding with concrete footing along the western boundary of construction site/ sites areas for TCW Station for preventing uncontrolled discharge of untreated construction 	No adverse residual impact anticipated

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
				site runoff to the nearby Tung Chung Bay	
Operational Phase					
Any areas likely to be impacted by the Project	Operational phase disturbance is not anticipated	• EIAO-TM Annex 8 and Annex 16	Not applicable	No mitigation measure is required	No adverse residual impact anticipated
Landscape and Visual Impa	act				
Construction Phase					
Existing Trees, Landscape Resources (LRs) and Landscape Character Areas (LCAs) and Visually Sensitive Receivers (VSRs)	Sources of impact include construction works, temporary works and night-time lighting Around 2,100 out of 3,200 nos. of existing trees will be felled. Moderate/ substantial adverse impacts on LR including agricultural land Moderate adverse impacts on LRs including planation, major transport corridor and village type development Slight adverse impacts on LRs including road & urban infrastructure and urbanised development Moderate adverse impact on LRs including costal upland and hillside landscape, reclamation/ongoing major development landscape, as well as urban	 TM-EIAO Annexes 3, 10, 11, 18, 20 and 21. EIAO (Cap. 499. S16) and EIAO-TM Annexes 3, 10, 11, 18, 20 and 21 EIAO Guidance Note 8/2010 Preparation of Landscape and Visual Impact Assessment HKPSG Chapters 4, 10 and 11. Protection of Endangered Species of Animals and Plants Ordinance (Cap.586) Town Planning Ordinance and Town Planning (Amendment) Ordinance (Cap. 131) Country Parks Ordinance (Cap. 208) The Forests and Countryside Ordinance (Cap. 96) – Prohibiting the Felling, Cutting, Burning or Destruction of Tress, Growing Plants and Forests on Government Land ETWB TC(W) No. 5/2020 	Not applicable	 Tree preservation Tree transplanting Landscape reinstatement Lighting control Erection of screen hoarding Optimisation of construction areas 	Moderate/ substantial adverse impacts on LR including agricultural land Slight adverse impacts on LRs including planation, major transport corridor, road & urban infrastructure and village type development Slight adverse impacts on LCAs including costal upland and hillside landscape, reclamation/ ongoing major development landscape, transportation corridor landscape, mixed modern comprehensive urban development landscape and urban peripheral village and rural fringe landscape Slight adverse impact on VSRs including nearby dwellings such

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
	peripheral village and rural fringe landscape Slight adverse impacts on LCAs including transportation corridor landscape and mixed modern comprehensive urban development landscape Moderate/ substantial adverse impact on VSRs including Ma Wan New Village, Yat Tung Estate etc. Moderate adverse impact on VSRs including nearby dwellings such as planned TCNTE, Tung Chung Crescent, Yu Tai Court, Mun Tung Estate, etc. Slight/ moderate adverse impact on VSR Sheraton Hong Kong Tung Chung Hotel Slight adverse impacts on other 3 VSRs including North Lantau Highway, Lantau North Country Park and Yu Tung Road Insignificant impacts on all other LRs, LCAs and VSRs	- Registration and Preservation of Old and Valuable Trees			as planned TCNTE, Tung Chung Crescent, Yu Tai Court, Mun Tung Estate, Ma Wan New Village, Yat Tung Estate, etc. Insignificant impact on other 3 VSRs including North Lantau Highway, Lantau North Country Park and Yu Tung Road

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
Operational Phase					
Existing Trees, Landscape Resources (LRs) and Landscape Character Areas (LCAs) and Visually Sensitive Receivers (VSRs)	Sources of impact include operation of TCE Station, TCW Station with associated facilities as well as residual impacts such as loss of tress, vegetation etc. Moderate/ substantial adverse impacts on LR including agricultural land Moderate adverse impacts on LRs including planation Slight adverse impacts on LRs including major transport corridor, urbanised development and ongoing reclamation area Moderate adverse impact on LCAs including costal upland and hillside landscape as well as urban peripheral village and rural fringe landscape Slight adverse impacts on LCAs including reclamation/ ongoing major development landscape, transportation corridor landscape and mixed modern comprehensive urban development landscape	 TM-EIAO Annexes 3, 10, 11, 18, 20 and 21. EIAO Guidance Note 8/2010 Preparation of Landscape and Visual Impact Assessment. HKPSG Chapters 4 and 10. Protection of Endangered Species of Animals and Plants Ordinance (Cap.586). ETWB TC(W) No. 29/2004 – Registration of Old and Valuable Trees, and Guidelines for their Preservation. Land Administration Office, Lands Department Practice Note Nos. 7/2007 and 7/2007A Tree Preservation and Tree Removal Application for Building Development in Private Projects. 	Not applicable	 Compensatory tree planting Optimisation green provision on structure Landscape integration and screen planting Architectural aesthetic design of built structures Aesthetic design on noise barrier 	Moderate/ substantial adverse impact on LR including agricultural land Slight adverse impacts on LRs including planation Insignificant impact on LRs including major transport corridor, road & urban infrastructure, urbanised development and ongoing reclamation area Slight adverse impact on LCAs including costal upland and hillside landscape as well as urban peripheral village and rural fringe landscape Insignificant impact on LCAs including reclamation/ ongoing major development landscape, transportation corridor landscape and mixed modern comprehensive urban development landscape Slight adverse impact on VSRs including nearby dwellings such as planned TCNTE, Tung Chung Crescent,

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
Fisheries	Moderate adverse impact on VSRs including nearby dwellings such as planned TCNTE, Tung Chung Crescent, Yat Tung Estate, Mun Tung Estate etc. Slight adverse impacts on other 3 VSRs including North Lantau Highway, Lantau North Country Park and Yu Tung Road etc. Insignificant impacts on all other LRs, LCAs and VSRs				Yat Tung Estate, Mun Tung Estate etc. Insignificant impact on other 3 VSRs including North Lantau Highway, Lantau North Country Park and Yu Tung Road etc.
Construction Phase					
Fisheries resources likely to be impacted by the Project	Indirect impacts induced from the followings Site runoff and sources of water pollutants from construction sites Potential pollution from marine vessels during transporting fill materials Alteration of ground water level Potential pollutants would deteriorate the water quality and the habitat quality	• EIAO-TM Annex 9 and Annex 17	Not applicable	Follow water quality mitigation measures	No adverse residual impact anticipated
Operational Phase		TILO TILO	XX		N
Fisheries resources likely	No potential fisheries	• EIAO-TM Annex 9 and	 Not applicable 	No mitigation measure is required	Not applicable

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
to be impacted by the Project	impact identified	Annex 17			

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)
Cultural Heritage					, , ,
Construction Phase					
Terrestrial archaeology and built heritage Operational Phase	 No adverse impact on the sites of archaeological interest identified within or near the Project No significant impacts within the field work area of TCW Station An area of unexplored archaeological interest at the extreme north end of the TCW Station area would require further archaeological investigation to verify the presence of any archaeological remains No adverse ground settlement and vibration to the possible presence of kiln structures at the northern end of the TCW Station No significant impact to the graded and declared monuments as well as non-graded heritage buildings No potential impact on the archaeological potential area identified in the Tung Chung New Town Extension EIA report 	 Antiquities and Monuments Ordinance (Cap. 53); EIAO including EIAO-TM; Guidelines for Cultural Heritage Impact Assessment; HKPSG; and Proposed Grading and Graded Historic Buildings Classification. 	Not applicable	 Testing including field scan, auger tests and test pit excavation within the non-tested area of archaeological interest is recommended to be conducted by a qualified archaeologist who obtains a licence under the Antiquities and Monuments Ordinance (Cap. 53) AMO should be informed immediately in case of discovery of antiquities or supposed antiquities in the course of the project works in accordance with Antiquities and Monuments Ordinance (Cap. 53), so that appropriate mitigation measures, if needed, can be timely formulated and implemented in agreement with AMO 	No adverse residual impact anticipated
Terrestrial archaeology and	Adverse impact to both	Antiquities and Monuments	Not applicable	No mitigation measure is required	No adverse residual
Terrestrial archaeology and	- Adverse impact to both	- Anaquities and Wondments	• Not applicable	- No mingation measure is required	• INO auverse residual

Sensitive Receivers / Assessment Points	Impact Prediction Results	Key Relevant Standards/Criteria	Extents of Exceedance (Without Mitigation)	Impact Avoidance Measures/ Mitigation Measures	Residual Impacts (After Implementation of Mitigation Measures)			
built heritage	terrestrial archaeology and built heritage is not anticipated	Ordinance (Cap. 53); • EIAO including EIAO-TM; • Guidelines for Cultural Heritage Impact Assessment; • HKPSG; and • Proposed Grading and Graded Historic Buildings Classification.			impact anticipated			
Hazard to Life		CAMBBILLAMACIA						
Construction Phase								
Population near the Project	Drill-and-blast at 2 possible locations, i.e. EAP/ EEP at the west of Shun Tung Road and TCW Station	 EIAO-TM Annex 4; and Dangerous Goods Ordinance (Cap. 295). 	Not applicable	 No overnight storage of explosives Provide impermeable blast covers for the EAP/ EEP and TCW Station Limit to one blast per day for each blasting location Implement good site practices for the safe use of explosives 	No adverse residual impact anticipated			
Operational Phase								
Population near the Project	Potential risk is not anticipated	 EIAO-TM Annex 4; and Dangerous Goods Ordinance (Cap. 295). 	Not applicable	No mitigation measure is required	Not applicable			