Appendix 13.2 Key Assessment Assumptions, Limitation of Assessment Methodologies and related Prior Agreement(s)

<table>
<tr><th rowspan="2">Assessment Methodologies</th><th rowspan="2">Key Assessment Assumptions</th><th rowspan="2">Limitations of Assessment Methodologies / Assumptions</th><th colspan="2">Prior Agreements with EPD</th></tr>
<tr><th>EIA Study Brief Clause Reference</th><th>Relevant Document(s)</th></tr>
<tr><td colspan="5">Air Quality Impact (Construction Phase)</td></tr>
<tr><td>The air quality impact assessment for the Project follows Annex 4 and Annex 12 of the TM-EIAO and requirement from the EIA Study Brief (ESB-268/2014). Dust emission will be the major air quality impact and quantitative assessment has been carried out by Gaussian Plume Models.</td><td>Construction dust assessment for short-term impact (i.e. 1-hour and 24-hour average) were undertaken by a Tier approach.

Tier 1 assessment is a theoretical worst case scenario evaluation to identify hot spot areas of construction air quality impact. The identified hot spot areas were further assessed by a focused Tier 2 assessment is undertaken whereby the percentage of daily maximum active works areas (i.e. 15% for NCWBR RIW and 10% for LTR RIW) assessment to predict the realistic worst case impact. Long-term impact (i.e. annual average) were assessed by assuming the same percentage of daily maximum active works areas (i.e. 15% for NCWBR RIW and 10% for LTR RIW).

RSP and FSP emission factors for heavy construction and wind erosion are estimated based on the particle size distribution stated in Section 13.2.4.3 of USEPA.

<table>
<tr><th>AQO Parameters</th><th>Particle Size (µm)</th><th>Particle Size Multiplier (k) in AP-42</th><th>Conversion Factor (Based on TSP emission)</th></tr>
</table>
</td><td>The construction programme is indicative and subject to contractors' actual operation. A conservative approach was adopted in the model run. The actual situation may be better than that of the model prediction.</td><td>3.4.3</td><td>N/A</td></tr>
</table>

<table>
<tr><th>Assessment Methodologies</th><th>Key Assessment Assumptions</th><th>Limitations of Assessment Methodologies / Assumptions</th><th colspan="2">Prior Agreements with EPD</th></tr>
<tr><th></th><th></th><th></th><th>EIA Study Brief Clause Reference</th><th>Relevant Document(s)</th></tr>
<tr><td></td><td>
<table>
<tr><td>FSP</td><td>< 2.5</td><td>0.053</td><td>= FSP / TSP
= 0.053 / 0.74
= 0.0716 ~ 7%</td></tr>
<tr><td>RSP</td><td>< 10</td><td>0.35</td><td>= RSP / TSP
= 0.35 / 0.74
= 0.473 ~ 47%</td></tr>
<tr><td>TSP</td><td><30</td><td>0.74</td><td>-</td></tr>
</table>
</td><td></td><td></td><td></td></tr>
<tr><td colspan="5">Air Quality Impact (Operational Phase)</td></tr>
<tr><td>The air quality impact assessment for the Project follows Annex 4 and Annex 12 of the TM-EIAO and requirement from the EIA Study Brief (ESB-268/2014).</td><td><u>Emission from Open Road Traffic</u>

The principal pollutants associated with traffic emission are NO2, RSP and FSP. The EMFAC-HK v2.6 is used to calculate the vehicular emission burden for period between Year 2020/2035 for NCWBR RIW and Year 2022/2037 for LTR RIW. The worst-case year emission rates is determined, based on the highest emission burden induced within the assessment area. Vehicular Emission Factors from EMFAC at the worst-case years are adopted for CALINE4 Model.

The United States Environmental Protection Agency (USEPA) approved CALINE4 dispersion model are used to assess traffic emissions impact from existing and planned road network. Surface roughness coefficient of 100 cm has been taken in the CALINE4 model representing the medium-rise and hilly topography in the study area. The grid-</td><td>The unadjusted PATH's model results were adopted for the background concentration. Therefore, the assessment result would be overestimated by double counting of vehicular or industrial related emissions.</td><td>3.4.3</td><td>N/A</td></tr>
</table>

Assessment Methodologies	Key Assessment Assumptions	Limitations of Assessment Methodologies / Assumptions	Prior Agreements with EPD	
			EIA Study Brief Clause Reference	Relevant Document(s)
	specific MM5 meteorological data has been adopted to calculate the hourly impact in accordance with the "TOTAL" Air Quality Guidelines. Secondary Air Quality Impacts arising from the implementation of roadside noise barriers and enclosures has been incorporated into the air quality model. <u>Portal Emissions</u> Portal emission sources within the assessment areas of NCWBR RIW and LTR RIW are identified and have been calculated based on the vehicle emission derived from the adopted emission factors (from EMFAC-HK) and vehicle flows. The Industrial Source Complex Short Term 3 (ISCST3) dispersion model has been used to predict the portal emissions. Portal emissions have been modelled in accordance with the Permanent International Association of Road Congress Report (PIARC, 1991). <u>Chimney Emission</u> Existing chimneys (restaurants) are located within 500m from the NCWBR RIW. In terms of the emission from these chimneys, grid-specific composite real meteorological data extracted from EPD's PATH model have been adopted in ISCST3 model. "Urban" mode is again applied taken into the low and medium rise buildings in the study area.			

Assessment Methodologies	Key Assessment Assumptions	Limitations of Assessment Methodologies / Assumptions	Prior Agreements with EPD	
			EIA Study Brief Clause Reference	Relevant Document(s)
Noise Impact (Construction Phase)				
The noise impact assessment for the project follows Annex5 and Annex 13 of the EIAO-TM and requirement from the EIA Study Brief (ESB-268/2014).	The assessment of construction noise was undertaken based on standard acoustic principles. Sound Power Levels (SWLs) of powered mechanical equipment (PME) were taken from Table 3 of the Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM) published under the NCO. Where no SWL is provided in the GW-TM, reference was made to British Standard BS5228 "Code of practice for noise and vibration control on construction and open sites", Part 1 or other previous similar studies or from measurements taken at other sites in Hong Kong.	The prediction of construction noise impact was based on the procedures in GW-TM under the NCO. The plant inventory for proposed construction works for assessment might vary in future.	Appendix B	N/A
Noise Impact (Operational Phase)				
The noise impact assessment for the project follows Annex5 and Annex 13 of the EIAO-TM and requirement from the EIA Study Brief (ESB-268/2014).	Road traffic noise was predicted based on the traffic flows, following strictly the procedures stipulated in the "Calculation of Road Traffic Noise (CRTN)" (1988) published by Department of Transport, UK. Road traffic noise was presented in terms of noise levels exceeded for 10% of the one-hour period having the peak traffic flow (i.e. L10, 1hour, dB(A)). The assessment year of unmitigated and mitigated scenarios was determined on the basis of peak hour traffic flow projected within a period of 15 years following commencement of operation of the Project.	There are some planned NSR within the Study area. The planned NSR the might subject to change and thus uncertainty due to reflection or actual view angle would be not be reflected in the predicted noise levels.	Appendix B	N/A
Water Quality Impact (Construction and Operational Phases)				

Assessment Methodologies	Key Assessment Assumptions	Limitations of Assessment Methodologies / Assumptions	Prior Agreements with EPD	
			EIA Study Brief Clause Reference	Relevant Document(s)
The water quality impact assessment for the Project follows Annexes 6 and 14 of the EIAO-TM. Qualitative assessment was conducted for water quality impact in both construction and operational phase.	N/A	N/A	3.4.5	N/A
Waste Management Implication (Construction and Operational Phases)				
The waste management implication assessment for the Project follows Annexes 7 and 15 of the EIAO-TM.	The waste quantities to be generated from the Project were estimated based on the engineering assessment.	N/A	3.4.6	N/A
Land Contamination (Construction Phase)				
The land contamination assessment for the Project follows: 1. Annex 19 of the EIAO-TM; 2. Guidance Manual for Use of Risk-Based Remediation Goals (RBRGs) for Contaminated Land Management, EPD, 2007; 3. Guidance Notes for Contaminated Land Assessment and Remediation, EPD, 2007; and 4. Practice Guide for Investigation and Remediation of Contaminated Land, EPD, 2011	N/A	N/A	3.4.7	N/A
Land Contamination (Operational Phase)				
N/A	N/A	N/A	3.4.7	N/A
Ecology Impact (Terrestrial) (Construction and Operational Phases)				
The terrestrial ecological impact assessment for the Project follows: 1. Annexes 8 and 16 of the EIAO-	N/A	N/A	3.4.8	N/A

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TM for the criteria, general approach and methodology for assessment of ecological impacts 2. EIAO Guidance Note No. 3/2010, No. 6/2010, No. 7/2010 and No. 10/2010 for general guidelines for conducting ecological baseline surveys and environmental mitigation measure recommendations				
Landscape and Visual Impacts (Construction and Operational Phases)				
The landscape and visual impact assessment has been prepared based on existing available information and in accordance with EIAO-TM Annexes 10 & 18 and EIAO GN No. 8/2010.	N/A	N/A	3.4.9	N/A
Landfill Gas Hazard (Construction and Operational Phases)				
The landfill gas hazard assessment follows Annexes 7 and 19 of the EIAO-TM and the Landfill Gas Hazard Assessment Guidance Note (1997) (EPD/TR8/97)	N/A	N/A	3.4.10	N/A