

<b>Mott MacDonald HK</b> <b>Consulting Engineers</b> 20th Floor, Two Landmark East 100 How Ming Street Kwun Tong, Kowloon, Hong Kong	Contract: Agreement No. CE 45/2004 (CE) Liantang/Heung Yuen Wai Boundary Control Point and Associated Works - Investigation		Job Ref: 255228																																	
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<p align="center"><b>Appendix 6.1 - Estimation of Sewage Flow at Existing Site</b></p> <p><b>1. Existing Land Use</b></p> <p>There are some local villages in existing site including Chuk Yuen North and Chuk Yuen South Village which are classified as modern village based on Sewerage Manual.</p> <p><b>2. Existing Sewerage Facilities</b></p> <p>The sewage flow from these local villages is discharged to septic tank and soakaway system. The existing treatment facilities are summarised as below.</p> <table border="1"> <thead> <tr> <th>Facilities</th> <th>Quantity</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td colspan="3"><u>Chuk Yuen North</u></td> </tr> <tr> <td>Septic Tank</td> <td align="center">1</td> <td align="center">-</td> </tr> <tr> <td>Lead field</td> <td align="center">1</td> <td align="center">-</td> </tr> <tr> <td colspan="3"><u>Chuk Yuen South</u></td> </tr> <tr> <td>Septic Tank</td> <td align="center">1</td> <td align="center">-</td> </tr> <tr> <td>Lead field</td> <td align="center">1</td> <td align="center">-</td> </tr> </tbody> </table> <p><b>3. Existing Population</b></p> <p>According to the information as provided by the village representative, the existing population is estimated based on the assumption of 6 persons per house.</p> <table border="1"> <thead> <tr> <th>Village</th> <th>No. of Houses</th> <th>No. of Person in each House</th> <th>Population</th> </tr> </thead> <tbody> <tr> <td>Chun Yuen North</td> <td align="center">63</td> <td align="center">6</td> <td align="center">378</td> </tr> <tr> <td>Chun Yuen South</td> <td align="center">17</td> <td align="center">6</td> <td align="center">102</td> </tr> </tbody> </table>				Facilities	Quantity	Size	<u>Chuk Yuen North</u>			Septic Tank	1	-	Lead field	1	-	<u>Chuk Yuen South</u>			Septic Tank	1	-	Lead field	1	-	Village	No. of Houses	No. of Person in each House	Population	Chun Yuen North	63	6	378	Chun Yuen South	17	6	102
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<p><b>4. Calculation of Existing Sewage Flow</b></p> <p><u>Design References:</u></p> <ul style="list-style-type: none"> <li>Sewerage Manual published by DSD.</li> </ul> <p><u>Assumptions:</u></p> <ul style="list-style-type: none"> <li>Global unit flow factor (GUFF) of 0.24m<sup>3</sup>/person/day for Modern village is adopted.</li> </ul> <p>Daily Unit Sewage Flow</p> <table border="1"> <thead> <tr> <th>Development</th> <th>Type</th> <th>GUFF(m<sup>3</sup>/p/d)</th> </tr> </thead> <tbody> <tr> <td>Chun Yuen North</td> <td>residential</td> <td>0.24</td> </tr> <tr> <td>Chun Yuen South</td> <td>residential</td> <td>0.24</td> </tr> </tbody> </table> <p><u>Calculation</u></p> <p style="text-align: center;">       Average Daily Sewage Flow        ADF (m<sup>3</sup>/d) = GUFF (m<sup>3</sup>/person/d) x Population     </p> <p>Average Daily Sewage Flow (ADF) for existing uses</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Population (Nos)</th> <th>GUFF (m<sup>3</sup>/p/d)</th> <th>ADF (m<sup>3</sup>/d)</th> </tr> </thead> <tbody> <tr> <td>Chun Yuen North</td> <td>378</td> <td>0.24</td> <td>90.72</td> </tr> <tr> <td>Chun Yuen South</td> <td>102</td> <td>0.24</td> <td>24.48</td> </tr> <tr> <td><b>Total</b></td> <td><b>480</b></td> <td>-</td> <td><b>115.20</b></td> </tr> </tbody> </table>					Development	Type	GUFF(m <sup>3</sup> /p/d)	Chun Yuen North	residential	0.24	Chun Yuen South	residential	0.24	Type	Population (Nos)	GUFF (m <sup>3</sup> /p/d)	ADF (m <sup>3</sup> /d)	Chun Yuen North	378	0.24	90.72	Chun Yuen South	102	0.24	24.48	<b>Total</b>	<b>480</b>	-	<b>115.20</b>
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