

2594 6035

2834 5648

12 September 2006

Legislative Council Secretariat  
Legislative Council Building  
8 Jackson Road  
Central  
Hong Kong  
(Attn : Ms Becky Yu)

Dear Ms. Yu,

**Impact of Sham Tseng Sewage Treatment Works on Nearby Water Quality**

At the EA Panel meeting on 22 May 2006, some Members raised queries about the performance of the Sham Tseng Sewage Treatment Works (STSTW), which was commissioned in 2003, and its impact on the marine water quality nearby, particularly at the Tsuen Wan beaches. We explained at the time that the treatment level, which includes ultra-violet disinfection, combined with the use of a 150m-long outfall discharging into deep, fast-flowing currents, would ensure minimal impact on nearby waters. Members nevertheless asked us to provide more detail about the levels of pollutants found there.

We do not routinely monitor the water quality in the immediate vicinity of sewage outfalls but to set Members' minds at ease we conducted a special investigation in June of this year focusing on the two pollutants most likely to be detected, namely ammonia and *E. coli* bacteria. The results (attached at Annexes 1A and 1B) show clearly that both ammonia and the (already low) concentrations of *E. coli* are rapidly diluted to background level within a short distance of the outfall. This is consistent with earlier predictions.

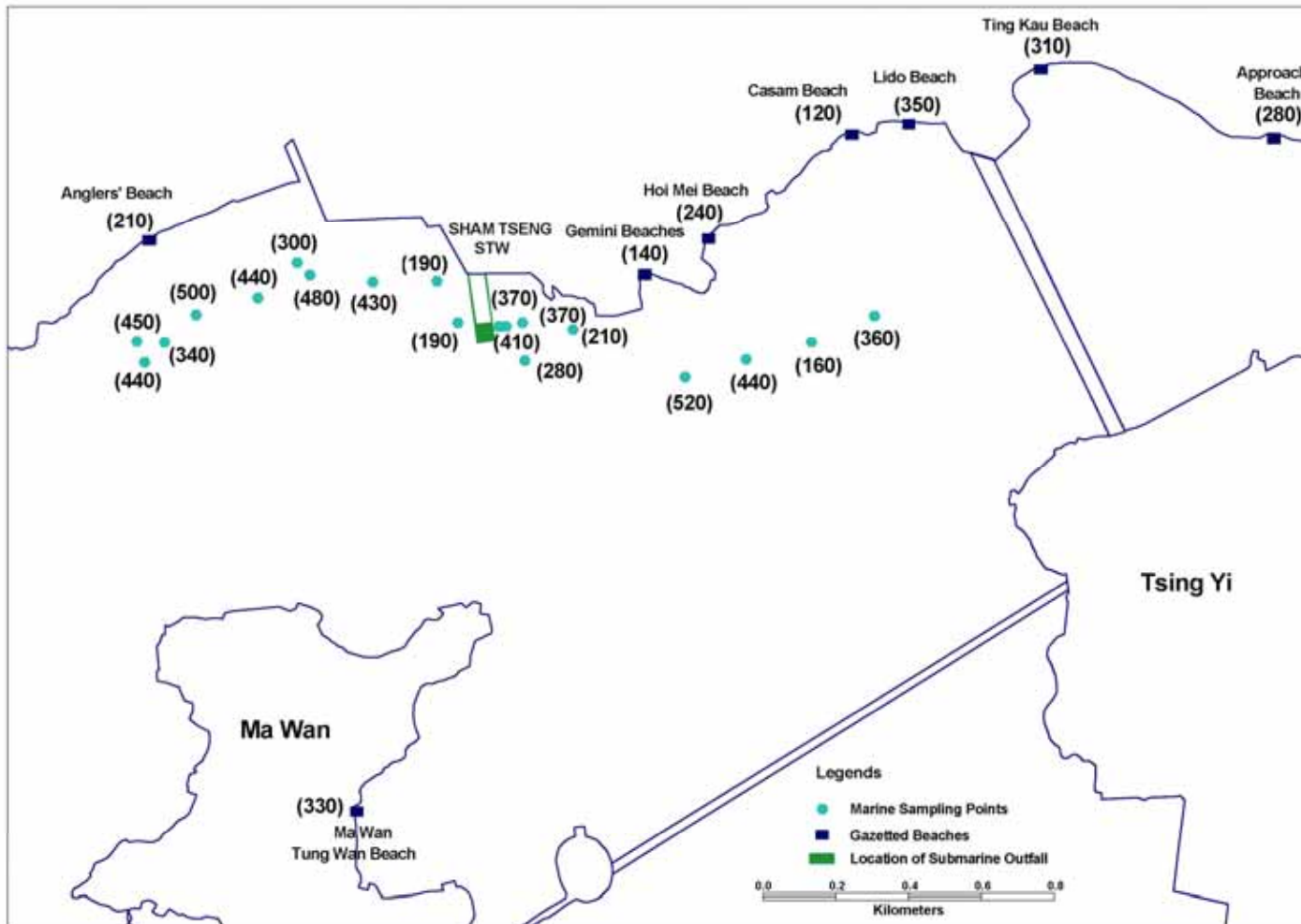
We have also made a detailed comparison of the levels of *E. coli* at the Tsuen Wan beaches immediately before, and immediately after, the commissioning of the STSTW. The results are tabulated at Annex 2 and show clearly that the commissioning of the STSTW has had no impact on the water quality at the beaches.

I trust these findings will reassure Members that the STSTW has been properly designed and is being properly operated to protect the local environment. Please circulate the information to Members and let us know if further explanation is required. As requested, 70 copies of the coloured annexes are enclosed for distribution to members.

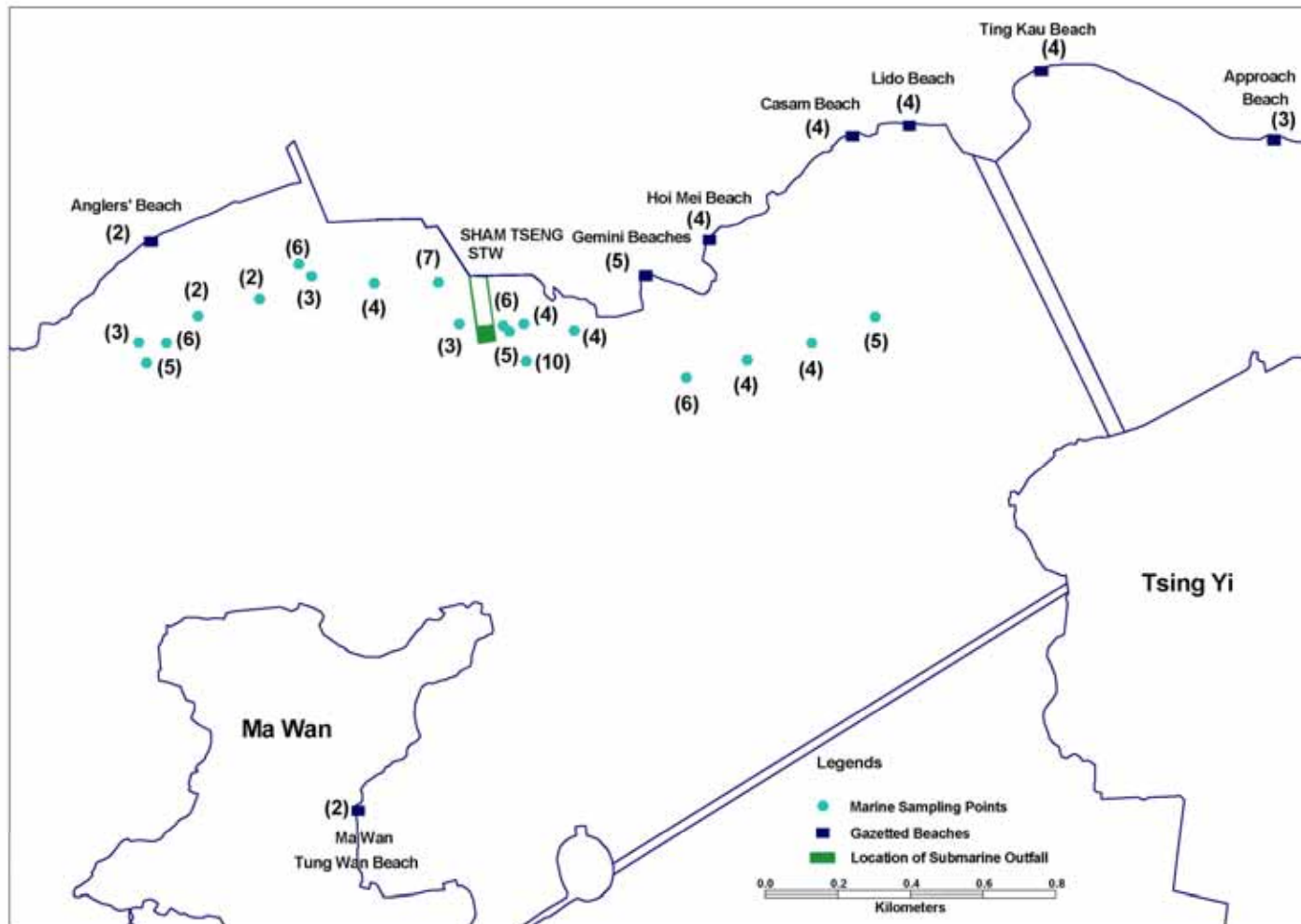
Yours sincerely,

(Dr Malcolm BROOM)  
Assistant Director (Water Policy)  
for Director of Environmental Protection

*E. coli* levels ( in counts/100 mL) in June 2006  
showing rapid dilution of pollutant to background level



**Levels of un-ionised ammonia (in  $\mu\text{g/L}$ ) in June 2006  
showing rapid dilution of pollutant to background level  
(The Water Quality Objective for un-ionised ammonia is  $21 \mu\text{g/L}$ )**



Annex 2

**Annual Geometric Mean of *E. coli* (counts/100 mL)  
at Tsuen Wan Beaches (2002 – 2005)**

<b>Beaches</b>	<b>Two-year period before commissioning of STSTW</b>		<b>Two-year period after commissioning of STSTW</b>	
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
<b>Closed Beaches</b> ( <i>listed from east to west</i> )				
<b>Approach</b>	700	760	470	660
<b>Ting Kau</b>	740	830	410	510
<b>Lido</b>	680	730	520	780
<b>Casam</b>	740	700	590	720
<b>Hoi Mei Wan</b>	550	440	290	640
<b>Gemini</b>	1,200	880	1,100	1,000
<b>Anglers'</b>	1,200	690	620	900
<b>Beach Open to Public for Swimming</b>				
<b>Ma Wan Tung Wan</b>	200	160	100	130
<b>Overall</b>	<b>630</b>		<b>500</b>	

Note - Data from 2002-03 have been compared statistically with those from 2004-05.  
Overall there is no significant difference ( $p > 0.05$ ) between the *E. coli* levels.