Appendix 7.2

Extract from Infrastructure Review Report (Table 4.17 and 4.18) &
Flow Comparison and Back Analysis

Table 4.17 – Peaking Factors for KTIPS, KTPTW and TKWPTW

Facilities	Peaking Factors		Peaking Factors (Kwun Tong Catchment / To Kwa Wan Catchment+ 10% Allowance (m^3/day))	
	Year 2031	Ultimate	Year 2031	Ultimate
KTIPS	2.49	2.48	2.47	2.47
KTPTW	2.43	2.43	2.42	2.41
TKWPTW	2.50	2.49	2.48	2.48

Note: (1) Peaking factors (PF) are calculated from EPD's guideline for population > 50,000:
Max ($3.9/N^{0.065}$, 2.4),
where N is the contributing population in thousands
Contributing population = Calculated total average flow / 0.27

Table 4.18 – Projected Peak Flows for Year 2031 and Ultimate Scenarios

Facilities	Projected PWWF (m^3/s)		Projected PWWF (m^3/s) (Kwun Tong Catchment / To Kwa Wan Catchment+ 10% Allowance (m^3/day))	
	Year 2031	Ultimate	Year 2031	Ultimate
Kwun Tong Intermediate Pumping Station				
Kai Tak Development	1.20	1.20	1.20	1.19
Kwun Tong Catchments	6.68	6.99	7.30	7.65
Cruise Passenger at Terminal Buildings(1)	0.00	0.00	0.00	0.00
Cruise Vessel Discharge(2)	0.10	0.10	0.10	0.10
DWFI from JVBC			0.50	0.50
TOTAL	**8.48**	**8.79**	**9.11**	**9.45**
Kwun Tong Preliminary Treatment Works				
Kai Tak Development	1.18	1.17	1.17	1.17
Kwun Tong Catchments	9.54	9.99	10.44	10.93

Facilities	Projected PWWF (m^3/s)		Projected PWWF (m^3/s) (Kwun Tong Catchment / To Kwa Wan Catchment+ 10% Allowance (m^3/day))	
	Year 2031	Ultimate	Year 2031	Ultimate
Cruise Passenger at Terminal Buildings(1)	0.00	0.00	0.00	0.00
Cruise Vessel Discharge(2)	0.10	0.10	0.10	0.10
DWFI from JVBC			0.50	0.50
TOTAL	**11.32**	**11.77**	**12.21**	**12.70**
To Kwa Wan Preliminary Treatment Works				
Kai Tak Development	0.79	0.79	0.79	0.79
To Kwa Wan Catchments	6.58	6.90	7.19	7.53
MPSC Stadium	0.083	0.083	0.083	0.083
MTR – SCL	0.018	0.018	0.018	0.018
DWFI (NPS)	0.214	0.214	0.214	0.214
TOTAL	**7.69**	**8.01**	**8.30**	**8.63**

Notes: (1) Sewage flows generated from cruise passengers at terminal buildings are assumed to be 30% flow of Cruise Terminal Buildings for one berthing.
(2) Cruise vessels discharge to the Kai Tak sewerage system is assumed to be pumped in a period of 8hours (Q_{vessel} (m^3/s) = 2941/60/60/8)
(3) Projected peak flows are rounded to 2 decimal places.

Appendix 7.2 (ii)
Flow Comparison and back analysis
Extract from KTD Infrastructural Review Report (Final) Rev 1 (August 2014)

		Dry weather flow (DWF)				Peaking Factor and Peak Flow				Remark
		Year 2031	Ultimate	Year 2031	Ultimate	Year 2031	Ultimate	Year 2031	Ultimate	
Factor	KTIPS	1	1	1	1	2.49	2.48	2.47	2.47	Kwun Tong Intermediate Pumping Station (KTIPS)
	KTPTW	1	1	1	1	2.43	2.43	2.42	2.41	Kwun Tong Preliminary Treatment Works KTPTW)
	TKWPTW	1	1	1	1	2.5	2.49	2.48	2.48	To Kwa Wan Preliminary Treatment Works (TKWPTW)
Flow in m3/day	KTIPS	276,730	288,326	299,923	312,678	689057.7	715048.48	740809.81	772314.66	Estimated Peak flow allowing 10% increase
	KTPTW	383,412	400,342	417,273	435,895	931691.16	972831.06	1009800.7	1050507	
	TKWPTW	254,852	266,221	277,589	290,095	637130	662890.29	688420.72	719435.6	
Flow in m3/sec	KTIPS					8.48	8.79	9.11	9.45	Peak flow from IRR Table 4.18
	KTPTW					11.32	11.77	12.21	12.7	
	TKWPTW					7.69	8.01	8.3	8.63	
Flow in m3/sec	KTIPS					8.77	9.10	9.43	9.83	Estimated Peak flow allowing 10% increase
	KTPTW					11.86	12.39	12.86	13.37	The values do not match those in IRR Table 4.18
	TKWPTW					8.11	8.44	8.76	9.16	

Breakdown of flow in TKWPTW

	Back calculated DWF in m3/sec				From IRR Table 4.18, Peak WWF in m3/sec				
	Year 2031	Ultimate	Year 2031	Ultimate	Year 2031	Ultimate	Year 2031	Ultimate	Remark
Kai Tak Development	0.316	0.317269	0.318548	0.318548	0.79	0.79	0.79	0.79	
To Kwa Wan Catchments	2.632	2.771084	2.899194	3.03629	6.58	6.9	7.19	7.53	
MPSC Stadium	0.0332	0.033333	0.033468	0.033468	0.083	0.083	0.083	0.083	Average DWF
MTR – SCL	0.0072	0.007229	0.007258	0.007258	0.018	0.018	0.018	0.018	
DWFI (NPS)	0.0856	0.085944	0.08629	0.08629	0.214	0.214	0.214	0.214	
Total	3.074	3.214859	3.344758	3.481855	7.685	8.005	8.295	8.635	