

# Sewage Forecast of Airport

Based on HKIA long term traffic and emission forecasts from IATA, the passenger (PAX), air traffic movement (ATM) and cargo (Cargo) are given below.

	2012	2023	2038
Annual Passenger (Million)	56.5	83.0	126.2
Air Traffic Movement (Thousand)	351.8	511.2	772.2
Cargo (M tones)	4.0	7.0	11.9

Projection Factor based on Record Flow in 2012

	2012	2023	2038
Annual Passenger (Million)	1	1.47	2.23
Air Traffic Movement (Thousand)	1	1.45	2.19
Cargo (M tones)	1	1.75	2.98

Flow projections in Year 2023 and Year 2038 based on growth factor of Annual Passenger, AirTraffic Movement and Cargo are given in the following tables. (i.e. 2023 growth factor = 2023 forecast / 2012 record)

Assumption

1. Record Flow of the Pumping Stations in Airport
2. Discharge contribution based on area distribution amongst passengers, air traffic movement and cargo for pumping stations in HKIA Master Plan 2025

Pumping Station	Upstream	Downstream	2012 (Record Peak Flow) l/s	2023 (Peak Flow) l/s	2038 (Peak Flow) l/s
3		2	8	12	18
12		2	161	236	359
	3,12	2	169	248	377
	Catchment	2	67	98	150
2		1	236	347	527
5		4	3	4	7
	Catchment	4	6	9	13
4		1	9	13	20
8		7	35	52	79
10		7	5	7	11
7		6	47	71	109
	Catchment	6	7	12	20
9		6	57	84	127
6		1	111	165	252
	Catchment	1	7	10	16
	2,4,6	1	356	524	799
	Catchment	1	272	401	611
1		Tung Chung	628	925	1410

Discharge Contribution (%)

Pax	ATM	Cargo
100		
94	6	
99	1	
	100	
	100	
	93	7
	100	
	20	80
100		
71	29	
33	62	5

Sewage ADWF	18086	26640	40606	m <sup>3</sup> /day
Additional Untreated Grey Water ADWF	0	878	2891	m <sup>3</sup> /day
Total (m <sup>3</sup> /day)	18086	27518	43497	
Roundup Total (m <sup>3</sup> /day)	18100	27600	43500	
Total Peak Flow <sup>4</sup> (L/s)	628	955	1510	

Note:

1. The projected flow for each pumping station is the product of projection factor and record flow in 2012.
2. The foul water flow projection at PS1 included the surplus of treated grey water overflowed from the existing grey water treatment works in Airport in Year 2012.
3. Additional untreated grey water = Total collected grey water - Treatment capacity of the existing grey water treatment works.
4. No untreated grey will be discharged from Year 2012 to Year 2015 as the treatment capacity of the existing grey water treatment works would not be exceeded.
5. Peaking factor of 3 is applied for total peak flow to be discharged to Tung Chung.