A For per unit population

Sr	BHK	Occupants (Nos)
1	1	5
2	1.5	5
3	2	5
4	2.5	5
5	EWS	5

Sr	Units	Occupant Load, floor area in m2/person	Reference
1	Commercial, Business & Industrial	10	NBC
2	Educational	4	NBC
3	Hospital (for single bed)	125	Assumption
4	Floating Population	10%	Total Population

B Water Demand

Sr	Units	Rate of Potable Water Demand (lpcd)	Rate of Non-Potable water demand (lpcd)	Total water Demand (lpcd)	Reference
1	Occupants	90	45	135	CPHEEO Manual
2	Floating population	20	25	45	CPHEEO Manual

Commercial

Sr	Units	Rate of Potable Water Demand (lpcd)	Rate of Non-Potable water demand (lpcd)	Total water Demand (lpcd)	Reference
1	Hospital (Beds)	227	113	340	CPHEEO Manual
2	School (Students)	20	25	45	CPHEEO Manual
3	Club House	20	25	45	CPHEEO Manual
4	Mall, Retails & Commercial	20	25	45	CPHEEO Manual

Sr	Units	Water Demand (lit/m2/d)	Reference
1	Landscape	5	CPHEEO Manual

C Sewerage Generation

Sr	Sewage generation from	% of sewage generation from uses	Reference
1	Potable water	80%	CPHEEO Manual
2	Non-Potable water	100%	CPHEEO Manual

D Losses In system

1	Transmission Losses	4%	CPHEEO Manual
2	Distribution Losses	6%	CPHEEO Manual
3	Infiltration	5%	CPHEEO Manual
4	Efficiency of STP	95%	CPHEEO Manual

E UGT Storage Capacity

UGT Storage Capacity

1	Domestic Water Demand	0.5	Day
2	Flushing Water Demand	0.5	Day

F System Losses

System Losses			
S.No.	Type of Loss		
1	Transmission	0	
2	Distribution	0.01	
3	Sewage Generation from potable	0.8	
4	Sewage Generation from flushing	1	
5	Sewage Generation from irrigation	0	
6	Ground water infiltration	0.05	
7	% of TSE recyclable from sewage generated	0.99	
8	Sewage generation from HVAC make up	0.25	
9	Sewage generation from MLCP carwash	0	

AECOM

SECTOR 10 EWS WATER MASS BALANCE CALCULATION SHEET

Product Mix Dated 17.04.2015

	Product Mix for Social Housing		Considering 5 persons per unit																		
	Cluster no	Dwelling Units (As Land use Plan)	Population		Potable Water Demand (Net)			Flushing Demand (net)			Total Net Water Demand	Gross Water Demand (Including losses 1 %)			Sewage Generation (80 % from Potable and 100 % from Flushing)					Domestic UGT Tank Capacity (half day storage)	Flushing Tank Capacity (half day storage)
			Resident Population (fixed)	Floating Population	Residential Use (fixed)	Residential Use (floating)	Total (Fixed+floating)	Residential Use (fixed)	Residential Use (floating)	Total (Fixed+floating)	(Potable + flushing)	Potable	Flushing	Total	from Potable Usage	from Flushing Usage	Total (Net)	Infiltration (5 %)	Total Gross (Including Losses)		
		DU Units	persons	persons	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Litre/day	Cum	Cum
POCKET C	C(01)-T(07)-P	76	380	38	34200	760	34960	17100	950	18050	53010	35314	18231	53545	27968	18050	46018	2422	48440	17.5	9.5
	C(02)-T(01)-P	170	850	85	76500	1700	78200	38250	2125	40375	118575	78990	40779	119769	62560	40375	102935	5418	108353	39.5	20.5
	C(03)-T(01)-S	170	850	85	76500	1700	78200	38250	2125	40375	118575	78990	40779	119769	62560	40375	102935	5418	108353	39.5	20.5
	C(04)-T(02)-S	128	640	64	57600	1280	58880	28800	1600	30400	89280	59475	30704	90179	47104	30400	77504	4080	81584	29.5	15.5
	C(05)-T(03)-S	140	700	70	63000	1400	64400	31500	1750	33250	97650	65051	33583	98634	51520	33250	84770	4462	89232	32.5	17
	C(06)-T(04)-S	182	910	91	81900	1820	83720	40950	2275	43225	126945	84566	43658	128224	66976	43225	110201	5801	116002	42	22
	C(07)-T(04)-P	182	910	91	81900	1820	83720	40950	2275	43225	126945	84566	43658	128224	66976	43225	110201	5801	116002	42	22
	C(08)-T(08)-P	88	440	44	39600	880	40480	19800	1100	20900	61380	40889	21109	61998	32384	20900	53284	2805	56089	20.5	10.5
	C(09)-T(09)-P	89	445	45	40050	900	40950	20025	1125	21150	62100	41364	21362	62726	32760	21150	53910	2838	56748	20.5	11
	C(10)-T(04)-P	157	785	79	70650	1580	72230	35325	1975	37300	109530	72960	37673	110633	57784	37300	95084	5005	100089	36.5	19
	C(11)-T(04)-S	157	785	79	70650	1580	72230	35325	1975	37300	109530	72960	37673	110633	57784	37300	95084	5005	100089	36.5	19
	C(12)-T(03)-S	114	570	57	51300	1140	52440	25650	1425	27075	79515	52970	27346	80316	41952	27075	69027	3633	72660	26.5	14
	C(13)-T(03)-S	140	700	70	63000	1400	64400	31500	1750	33250	97650	65051	33583	98634	51520	33250	84770	4462	89232	32.5	17
	C(14)-T(04)-S	182	910	91	81900	1820	83720	40950	2275	43225	126945	84566	43658	128224	66976	43225	110201	5801	116002	42	22
	C(15)-T(04)-P	182	910	91	81900	1820	83720	40950	2275	43225	126945	84566	43658	128224	66976	43225	110201	5801	116002	42	22
	C(16)-T(09)-P	140	700	70	63000	1400	64400	31500	1750	33250	97650	65051	33583	98634	51520	33250	84770	4462	89232	32.5	17
	C(18)-T(04)-P	233	1165	117	104850	2340	107190	52425	2925	55350	162540	108273	55904	164177	85752	55350	141102	7427	148529	54	28
	C(19)-T(04)-S	182	910	91	81900	1820	83720	40950	2275	43225	126945	84566	43658	128224	66976	43225	110201	5801	116002	42	22
	C(20)-T(03)-S	140	700	70	63000	1400	64400	31500	1750	33250	97650	65051	33583	98634	51520	33250	84770	4462	89232	32.5	17
	C(21)-T(05)-S	128	640	64	57600	1280	58880	28800	1600	30400	89280	59475	30704	90179	47104	30400	77504	4080	81584	29.5	15.5
	C(22)-T(06)-S	196	980	98	88200	1960	90160	44100	2450	46550	136710	91071	47016	138087	72128	46550	118678	6247	124925	45.5	23.5
		3176	15880	1590	1.43	0.03	1.46	0.71	0.04	0.75	2.22	1.48	0.76	2.24	1.17	0.75	1.92	0.10	2.02	735.50	384.50
POCKET B	B(23)	118	590	59	53100	1180	54280	26550	1475	28025	82305	54829	28306	83135	43424	28025	71449	3761	75210	27.5	14.5
	B(24)	158	790	79	71100	1580	72680	35550	1975	37525	110205	73415	37901	111316	58144	37525	95669	5036	100705	36.5	19
	B(25)	254	1270	127	114300	2540	116840	57150	3175	60325	177165	118021	60929	178950	93472	60325	153797	8095	161892	58.5	30.5
	B(26)	158	790	79	71100	1580	72680	35550	1975	37525	110205	73415	37901	111316	58144	37525	95669	5036	100705	36.5	19
	B(27)	193	965	97	86850	1940	88790	43425	2425	45850	134640	89687	46309	135996	71032	45850	116882	6152	123034	44.5	23
	B(28)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	B(29)	129	645	65	58050	1300	59350	29025	1625	30650	90000	59950	30957	90907	47480	30650	78130	4113	82243	30	15.5
	B(30)	129	645	65	58050	1300	59350	29025	1625	30650	90000	59950	30957	90907	47480	30650	78130	4113	82243	30	15.5
	B(31)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	B(32)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	B(33)	182	910	91	81900	1820	83720	40950	2275	43225	126945	84566	43658	128224	66976	43225	110201	5801	116002	42	22
	B(34)	206	1030	103	92700	2060	94760	46350	2575	48925	143685	95718	49415	145133	75808	48925	124733	6565	131298	47.5	24.5
	B(35)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	B(36)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	B(37)	129	645	65	58050	1300	59350	29025	1625	30650	90000	59950	30957	90907	47480	30650	78130	4113	82243	30	15.5
	B(38)	129	645	65	58050	1300	59350	29025	1625	30650	90000	59950	30957	90907	47480	30650	78130	4113	82243	30	15.5
	B(39)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	B(40)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	B(41)	229	1145	115	103050	2300	105350	51525	2875	54400	159750	106415	54944	161359	84280	54400	138680	7299	145979	53	27.5
	B(42)	244	1220	122	109800	2440	112240	54900	3050	57950	170190	113374	58530	171904	89792	57950	147742	7776	155518	56.5	29
	B(43)	152	760	76	68400	1520	69920	34200	1900	36100	106020	70627	36461	107088	55936	36100	92036	4844	96880	35	18.5
	B(44)	152	760	76	68400	1520	69920	34200	1900	36100	106020	70627	36461	107088	55936	36100	92036	4844	96880	35	18.5
	B(45)	114	570	57	51300	1140	52440	25650	1425	27075	79515	52970	27346	80316	41952	27075	69027	3633	72660	26.5	14
		3859	19295	1936	1.74	0.04	1.78	0.87	0.05	0.92	2.69	1.79	0.93	2.72	1.42	0.92	2.34	0.12	2.46	892.00	465.50
POCKET A	A(46)	114	570	57	51300	1140	52440	25650	1425	27075	79515	52970	27346	80316	41952	27075	69027	3633	72660	26.5	14
	A(47)	152	760	76	68400	1520	69920	34200	1900	36100	106020	70627	36461	107088	55936	36100	92036	4844	96880	35	18.5
	A(48)	152	760	76	68400	1520	69920	34200	1900	36100	106020	70627	36461	107088	55936	36100	92036	4844	96880	35	18.5
	A(49)	152	760	76	68400	1520	69920	34200	1900	36100	106020	70627	36461	107088	55936	36100	92036	4844	96880	35	18.5
	A(50)	108	540	54	48600	1080	49680	24300	1350	25650	75330	50182	25907	76089	39744	25650	65394	3442	68836	25	13
	A(51)	158	790	79	71100	1580	72680	35550	1975	37525	110205	73415	37901	111316	58144	37525	95669	5036	100705	36.5	19
	A(52)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	A(53)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	A(54)	194	970	97	87300	1940	89240	43650	2425	46075	135315	90142	46536	136678	71392	46075	117467	6183	123650	45	23.5
	A(55)	118	590	59	53100	1180	54280	26550	1475	28025	82305	54829	28306	83135	43424	28025	71449	3761	75210	27.5	14.5
	A(56)	205	1025	103	92250	2060	94310	46125	2575	48700	143010	95263	49187	144450	75448	48700	124148	6535	130683	47.5	24.5
	A(57)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	A(58)	182	910	91	81900	1820	83720	40950	2275	43225	126945	84566	43658	128224	66976	43225	110201	5801	116002	42	22
	A(59)	194	970	97	87300	1940	89240	43650	2425	46075	135315	90142	46536	136678	71392	46075	117467	6183	123650	45	23.5
	A(60)	169	845	85	76050	1700	77750	38025	2125	40150	117900	78536	40552	119088	62200	40150	102350	5387	107737	39	20.5
	A(61)	193	965	97	86850	1940	88790	43425	2425	45850	134640	89687	46309	135996	71032	45850	116882	6152	123034	44.5	23
	A(62)	130	650	65	58500	1300	59800	29250	1625	30875	90675	60405	31184	91589	47840	30875	78715	4143	82858	30	15.5
	A(63	217	1085	109	97650	2180	99830	48825	2725	51550	151380	100839	52066	152905	79864	51550	131414	6917	138331	50	26
	A(64)	142	710	71	63900	1420	65320	31950	1775	33725	99045	65980	34063	100043	52256	33725	85981	4526	90507	33	17
		3087	15435	1547	1.39	0.03	1.42	0.69	0.04	0.73	2.15	1.43	0.74	2.18	1.14	0.73	1.87	0.10	1.97	713.50	373.00
		10122	50610	5073	4.55	0.10	4.66	2.28	0.13	2.40	7.06	4.70	2.43	7.13	3.73	2.40	6.13	0.32	6.45	2341.00	1223.00

Summary	in MLD
Total Gross Potable Water Demand	4.70
Total Gross Flushing Water Demand	2.43
Total Gross Waste Water Generated	6.45
Total Net Potable Water Demand	4.66
Total Net Flushing Water Demand	2.40
Net Waste water Generated from Potable Use	3.73
Net Waste water Generated from Flushing Use	2.40
Total Inflitration	0.32
STP Capacity	6.45
Treated Water From STP	6.39
STP treated water required for Flushing	2.43
Surplus Wastewater to be disposed off (before irrigation)	3.96
Irrigation Requirement	2.18
Excess To be Disposed Off	1.78