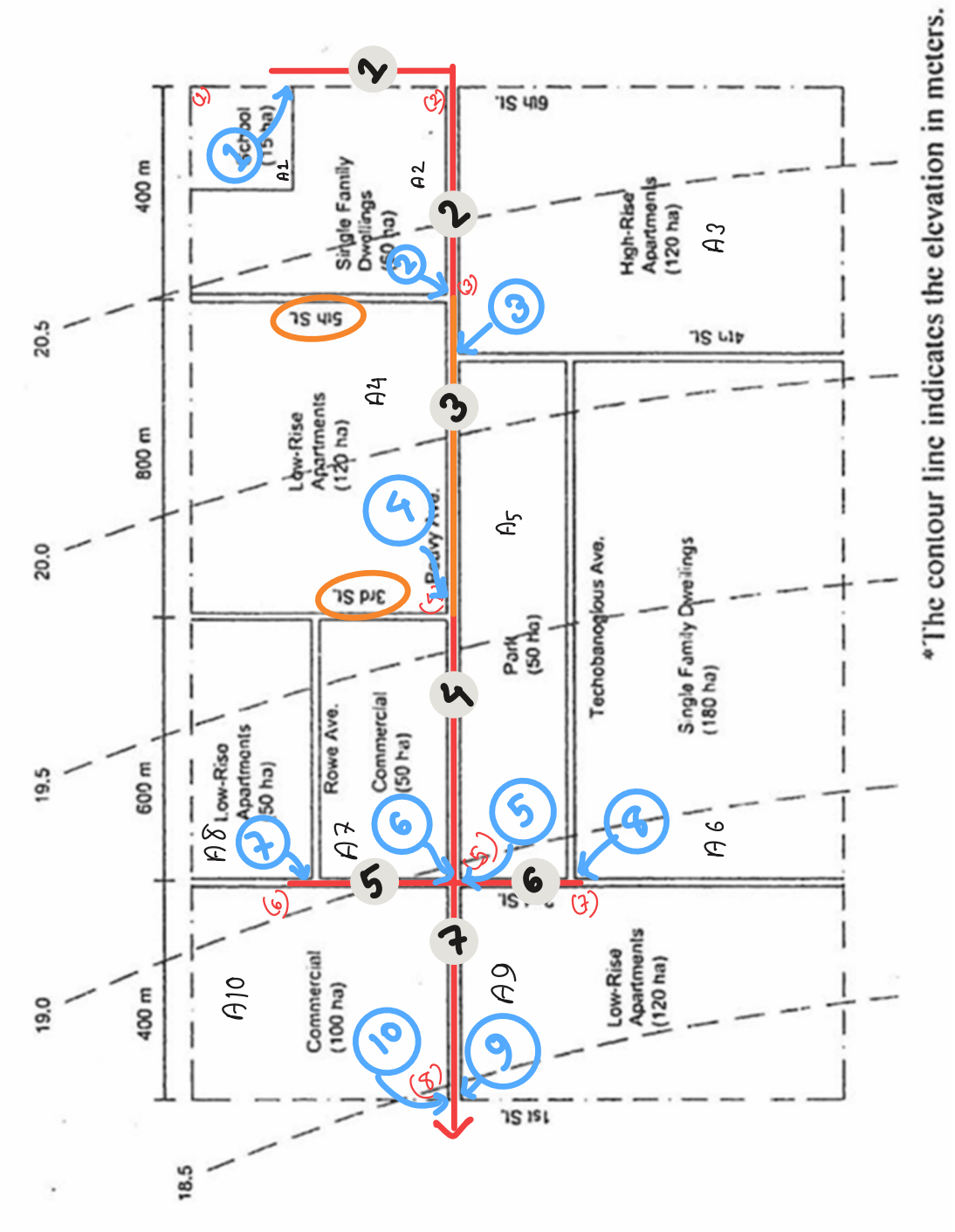
Assignment 01

28/02



Preliminary Design for a Trunk Sewer to be laid Between 3rd and 5th St.

202330044
Azraf Taohid Akib

Location					Residential							
Line	**From**	**To**	**Length**	**Subarea**	**R: Area (ha)**	**R: Pop Density (persons/ha)**	**R: Pop Increment (persons)**	**R: Avg Unit Flow (LPCD)**	**R: Flow Increment (m3/d)**	**R: Cumulative Avg Flow (m3/d)**	**R: Peaking Factor**	**R: Cumulative Peak Flow (m3/d)**
1	1	2	300	A1	-	-	-	-	-	0	-	0
2	2	3	400	-	-	-	-	-	-	0	-	0
3	3	4	800	A2	60	30	1800	380	684	684	4	2736
3	3	4	800	A3	120	160	19200	220	4224	4908	3.2	15706

Location					Commercial				
Line	**From**	**To**	**Length**	**Subarea**	**C: Area (ha)**	**C: Avg Unit Flow (m3/ha-d)**	**C: Cumulative Avg Flow (m3/d)**	**C: Peaking Factor**	**C: Cumulative Peak Flow (m3/d)**
1	1	2	300	A1	-	-	0	-	0
2	2	3	400	-	-	-	0	-	0
3	3	4	800	A2	-	-	0	-	0
3	3	4	800	A3	-	-	0	-	0

Location					Park				
Line	**From**	**To**	**Length**	**Subarea**	**P: Area (ha)**	**P: Avg Unit Flow (m3/ha-d)**	**P: Cumulative Avg Flow (m3/d)**	**P: Peaking Factor**	**P: Cumulative Peak Flow (m3/d)**
1	1	2	300	A1	-	-	0	-	0
2	2	3	400	-	-	-	0	-	0
3	3	4	800	A2	-	-	0	-	0
3	3	4	800	A3	-	-	0	-	0

Location					School				
Line	**From**	**To**	**Length**	**Subarea**	**S: Attendance (S/d)**	**S: Avg Unit Flow (m3/ha-d)**	**S: Cumulative Avg Flow (m3/d)**	**S: Peaking Factor**	**S: Cumulative Peak Flow (m3/d)**
1	1	2	300	A1	1000	0.08	80	3.5	280
2	2	3	400	-	-	-	80	-	280
3	3	4	800	A2	-	-	80	-	280
3	3	4	800	A3	-	-	80	-	280

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Location					Cumulative Subtotals		Infiltration			
Line	**From**	**To**	**Length**	**Subarea**	**Cumulative Avg Flow (m3/d)**	**Cumulative Peak Flow (m3/d)**	**Area (ha)**	**Cumulative Area (ha)**	**Peak Infiltration Allowance (m3/ha-d)**	**Cumulative Infiltration Allowance**
1	1	2	300	A1	80	280	15	15	14	210
2	2	3	400	-	80	280	-	15	14	210
3	3	4	800	A2	764	3016	60	75	11.63659027	873
3	3	4	800	A3	4988	15986	120	195	8.735787723	1704

Location					Design Flows		Sewer Design			
Line	**From**	**To**	**Length**	**Subarea**	**Cumulative Peak Flow (m3/d)2**	**Cumulative Peak Flow (m3/s)**	**Sewer Dia (mm)**	**Slope (m/m)**	**Capacity when Full (m3/s)**	**Velocity when Full (m/s)**
1	1	2	300	A1	490	0.006	100	0.014	0.0061	0.7782
2	2	3	400	-	490	0.006	100	0.014	0.0061	0.7782
3	3	4	800	A2	3889	0.045	275	0.0035	0.0454	0.7637
3	3	4	800	A3	17690	0.205	600	0.0012	0.2127	0.7523