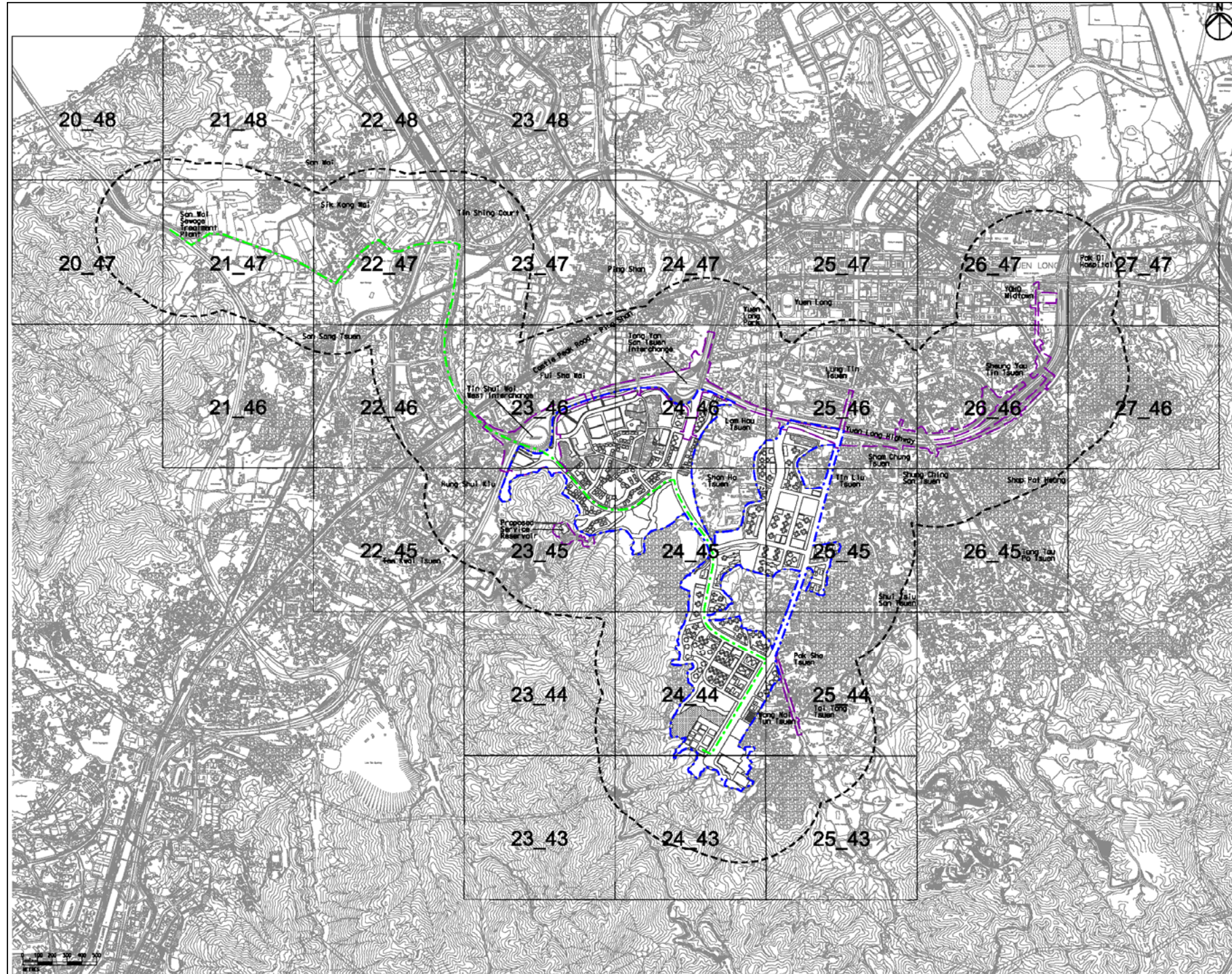


Surface Characteristics Parameters



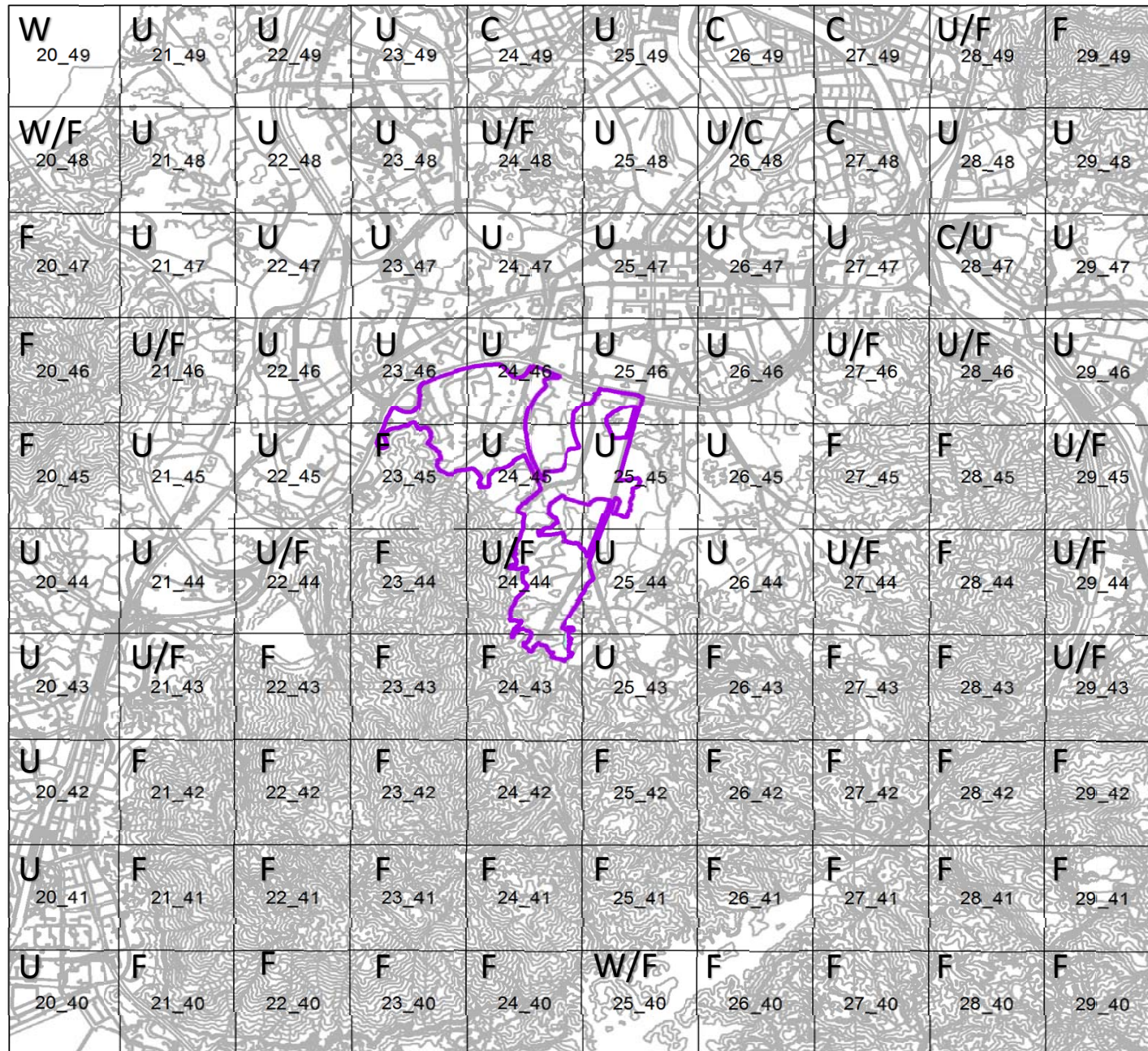
Sector	Wind Direction	Surface roughness (m)								
		20_47	21_47	21_48	22_47	22_45	22_46	23_44	23_45	23_46
1	0 - 30	1.0	1.0	1.0	1.0	1.0	1.0	0.3	1.0	1.0
2	30 - 60	1.0	1.0	1.0	1.0	1.0	1.0	0.3	1.0	1.0
3	60 - 90	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4	90 - 120	0.3	1.0	1.0	1.0	0.3	1.0	1.0	0.3	1.0
5	120 - 150	0.3	1.0	1.0	1.0	0.3	1.0	0.3	0.3	1.0
6	150 - 180	0.3	1.0	1.0	1.0	0.3	1.0	0.3	0.3	0.3
7	180 - 210	0.3	0.3	1.0	1.0	1.0	1.0	0.3	0.3	1.0
8	210 - 240	0.3	0.3	1.0	1.0	1.0	1.0	0.3	0.3	1.0
9	240 - 270	0.3	0.3	1.0	1.0	1.0	1.0	0.3	1.0	1.0
10	270 - 300	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
11	300 - 330	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
12	330 - 360	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Sector	Wind Direction	Surface roughness (m)								
		23_47	24_43	24_44	24_45	24_46	24_47	25_43	25_44	25_45
1	0 - 30	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	30 - 60	1.0	1.0	1.0	1.0	1.0	1.0	0.3	1.0	1.0
3	60 - 90	1.0	1.0	1.0	1.0	1.0	1.0	0.3	1.0	1.0
4	90 - 120	1.0	0.3	1.0	1.0	1.0	1.0	0.3	1.0	1.0
5	120 - 150	1.0	0.3	1.0	1.0	1.0	1.0	0.3	0.3	1.0
6	150 - 180	1.0	0.3	1.0	1.0	1.0	1.0	0.3	1.0	1.0
7	180 - 210	1.0	0.3	0.3	0.3	1.0	1.0	0.3	1.0	1.0
8	210 - 240	1.0	0.3	0.3	0.3	1.0	1.0	0.3	1.0	1.0
9	240 - 270	1.0	0.3	0.3	0.3	1.0	1.0	0.3	1.0	1.0
10	270 - 300	1.0	0.3	0.3	1.0	1.0	1.0	0.3	1.0	1.0
11	300 - 330	1.0	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
12	330 - 360	1.0	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Sector	Wind Direction	Surface roughness (m)								
		25_46	25_47	26_45	26_46	26_47	27_46	27_47	-	
1	0 - 30	1.0	1.0	1.0	1.0	0.1	1.0	0.1	-	
2	30 - 60	1.0	1.0	0.3	1.0	0.1	1.0	1.0	-	
3	60 - 90	1.0	1.0	0.3	0.3	1.0	1.0	1.0	-	
4	90 - 120	1.0	1.0	0.3	0.3	1.0	0.3	1.0	-	
5	120 - 150	1.0	1.0	1.0	0.3	0.3	0.3	1.0	-	
6	150 - 180	1.0	1.0	1.0	1.0	1.0	0.3	0.3	-	
7	180 - 210	1.0	1.0	1.0	1.0	1.0	0.3	1.0	-	
8	210 - 240	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-	
9	240 - 270	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-	
10	270 - 300	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-	
11	300 - 330	1.0	0.3	1.0	1.0	1.0	1.0	0.1	-	
12	330 - 360	1.0	1.0	1.0	1.0	1.0	1.0	0.1	-	

Note:
 Surface roughnesses of 0.1m, 0.3m and 1.0m are assumed for the land-uses "Cultivated Land", "Coniferous Forest", and "Urban" respectively.

Land-use within 10km X 10KM area of the PDA



Land-use

W : Water

F : Grassland/Forest/Hillside

C : Agricultural land

U : Urban

Note:

[1] For grids that contain 2 land-uses with a slash between indicates each land-use occupies 0.5 of the grid.

Albedo Ratio

Land-use	Spring	Summer	Autumn	Average	Number of Grids	Averaged Albedo Ratio
W	0.12	0.10	0.14	0.12	2	0.14
F	0.12	0.12	0.12	0.12	48	
C	0.14	0.20	0.18	0.17	5	
U	0.14	0.16	0.18	0.16	45	

Bowen Ratio

Land-use	Spring	Summer	Autumn	Average	Number of Grids	Averaged Bowen Ratio
W	0.1	0.1	0.1	0.1	2	0.9
F	0.7	0.3	0.8	0.6	48	
C	0.3	0.5	0.7	0.5	5	
U	1.0	2.0	2.0	1.6	45	