

Developed Condition:
 Total Site Area= 45.77 Acres
 Land use: Apartment Complex and LC

Developed Drainage Calculations

Drainage Area	Area ¹ ac	C2	I2	C5	I5	C10	I10	C50	I100	Remark	
A	15.91	25.0	0.69	1.69	0.72	2.15	0.77	2.53	0.81	3.37	Area Draining in to Pond 1
B	6.95	15.8	0.70	1.69	0.73	2.15	0.79	2.53	0.83	3.37	Area Draining in to Pond 2
C	7.21	16.2	0.70	1.69	0.73	2.15	0.79	2.53	0.83	3.37	Area Draining in to Pond 3
D	6.49	15.2	0.70	1.69	0.73	2.15	0.79	2.53	0.83	3.37	Area Draining in to Pond 4
E	9.22	16.8	0.69	1.69	0.70	2.15	0.75	2.53	0.80	3.37	Area Draining in to Pond 5

Critical Duration for peak flow=60 mins

Drainage Area	Q2	Q5	Q10	Q50	Q100	Q2	Q5	Q10	Q50	Q100	Remark
A	18.88	24.97	31.36	43.95	50.38	10.02	10.59	10.78	11.56	11.94	Detention in Pond 1
B	8.37	11.06	14.06	19.67	22.53	11.58	12.03	12.29	12.60	12.71	Detention in Pond 1+2
C	8.68	11.47	14.58	20.41	23.38	5.93	6.72	7.17	7.72	8.12	Detention in Pond 3
D	7.81	10.33	13.13	18.37	21.04	10.62	11.29	11.86	12.87	13.51	Detention in Pond 1+2+3+4
E	10.94	14.07	17.70	25.15	28.50	18.58	22.77	25.90	31.42	35.29	Detention in Pond 1+2+3+4+5

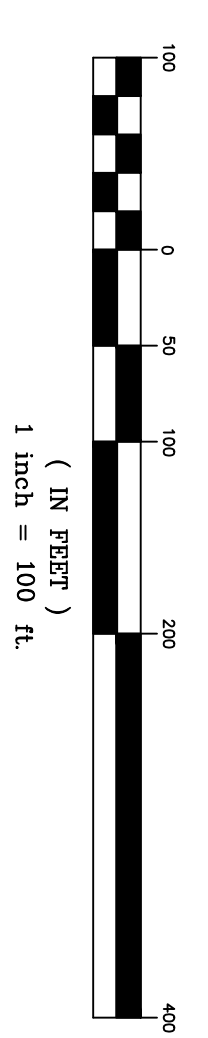
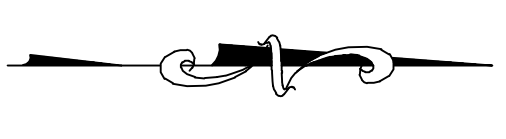
Building #	Minimum Pod Elevation	Building #	Minimum Pod Elevation
1	202.95	8	213.36
2	202.95	9	215.94
3	202.95	10	215.94
4	202.61	11	215.94
5	202.61	12	215.94
6	202.61	13	196.99
7	213.36		

Note: Minimum pod elevations of each building are set at 2' above the 100-yr water surface of corresponding pond.

Summary of Channel Protection and Water Quality Volume calculations for future use

Pond	Drainage Area	Water Volume, Ac-ft		Water Elevation	
		Channel Protection, CPV	Water Quality, WQV	Channel Protection, CPV	Water Quality, WQV
1	15,910	1.41	0.956	210.28	208.21
2	6,950	0.63	0.504	207.47	206.97
3	7,210	0.66	0.523	198.76	198.40
4	6,490	1.11	0.930	197.24	196.83
5	9,220	0.31	0.266	193.30	193.13

Note:
 Site drainage calculations are developed using the Rational Method for peak runoff. "c" & "f" values are established from the City of Wichita Design Criteria.
 Detentions are achieved in detention basins 1, 2, 3, 4 and 5 by outlet structures as shown in plan.



Stoney Pointe Addition
Developed Drainage Plan
 Wichita, Kansas

PROJECT NUMBER	
	KEM NO. 100283 DESIGN GP FILE DATE 11/2010 DRAWN GP REVISIONS 11/30/2010 SHEET 1 OF 1

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