GLENEAGLE DEVELOPMENT FILING NO 2
DRAINAGE CALCULATION SHEET
file:gleneagle II dr
02/14/19

AREA DESIG.	AREA (acre)	C5 (5 yr)	C100 (100 yr)	C5 X A	C100 X A	Initial Tci L (ft)	Initial Tci Slope (%)	ti (min)	Travel Time L (ft)	Travel Time Slope (%)	Travel Time V (fps)	Travel Time Tt (min)	TC (min)	I5 (in/hr)	I100 (in/hr)	Q5 (cfs)	Q100 (cfs)	length L (feet)	vel. V (fps)	^t (min)	AREA DESIG.
EXISTING CONDITIONS																					
A1	1.66	0.23	0.46	0.38	0.76	50	4.00	7.28	700	4.00	4.00	2.92	10.20	4.02	7.02	1.53	5.36				A1
A2	13.26	0.09	0.36	1.19	4.77	100	3.50	12.49	1350	4.00	2.00	11.25	23.74	2.65	4.63	3.17	22.12				A2
DP1	14.92			1.58	5.54								23.74	2.65	4.63	4.18	25.66				DP1
A3	1.07	0.33	0.53	0.35	0.57	30	2.00	6.27	500	4.00	2.00	4.17	10.44	3.98	6.95	1.40	3.94	600	1.70	5.88	A3
OS1	6.35	0.27	0.49	1.71	3.11	100	3.50	10.27	0	4.00	2.00	0.00	10.27	4.01	7.00	6.87	21.77				OS1
DP2	7.42			2.07	3.68								16.32	3.24	5.65	6.69	20.79				DP2
A4	1.00	0.08	0.35	0.08	0.35	50	3.50	8.92	300	3.50	1.85	2.70	11.62	3.80	6.63	0.30	2.32	100	1.85	0.90	A4
OS2	1.30	0.25	0.48	0.33	0.62	100	3.50	10.51	0	4.00	2.00	0.00	10.51	3.97	6.93	1.29	4.32				OS2
DP3	2.30			0.41	0.97								12.52	3.67	6.41	1.49	6.25				DP3
DP4	9.72			2.47	4.65								16.32	3.24	5.65	8.00	26.30				DP4
DP5	24.64			4.05	10.19								23.74	2.65	4.63	10.74	47.23				DP5
DEVELOPED CONDITIONS																					
A1	1.66	0.23	0.46	0.38	0.76	50	4.00	7.28	700	4.00	4.00	2.92	10.20	4.02	7.02	1.53	5.36				A1
A2A	4.27	0.11	0.37	0.47	1.58	50	5.00	7.70	950	4.00	2.00	7.92	15.61	3.31	5.78	1.55	9.13				A2A
DP1	5.93			0.85	2.34								15.61	3.31	5.78	2.82	13.54				DP1
A2B1	2.35	0.16	0.41	0.38	0.96	100	5.00	10.33	850	3.00	1.75	8.10	18.43	3.04	5.31	1.14	5.12				A2B1
DP2	8.28			1.23	3.31								18.43	3.04	5.31	3.73	17.57	49	10.00	0.08	DP2
A2B2	0.43	0.61	0.75	0.26	0.32	30	2.00	3.99	380	1.00	1.00	6.33	10.33	4.00	6.98	1.05	2.25				A2B2
A2C1	0.55	0.62	0.75	0.34	0.41	30	2.00	3.91	380	1.00	1.00	6.33	10.24	4.01	7.00	1.37	2.89				A2C1
DP3	9.26			1.83	4.04								18.51	3.03	5.30	5.56	21.43	100	10.00	0.17	DP3
A2C2	1.27	0.27	0.48	0.34	0.61	30	2.00	6.76	250	1.00	1.00	4.17	10.93	3.90	6.81	1.34	4.15				A2C2
DP4	10.53			2.17	4.65								18.68	3.02	5.28	6.57	24.54	220	3.00	1.22	DP4
A2D	4.39	0.11	0.37	0.48	1.62	50	3.50	8.66	350	1.00	1.00	5.83	14.49	3.43	5.99	1.66	9.73				A2D
DP5	13.65			2.31	5.67								19.90	2.92	5.10	6.76	28.91	100	1.85	0.90	DP5
	13.65			0.96	3.59	Adjusted C Factor for Detention Basin C							19.90	2.92	5.10	2.80	18.30	From Overflow Weir from UD-Det Calcs			
Overflow Pipe assuming clogged outlet structure				0.96	3.59																
A3	1.07	0.33	0.53	0.35	0.57	30	2.00	6.27	500	4.00	2.00	4.17	10.44	3.98	6.95	1.40	3.94	600	1.70	5.88	A3
OS1	4.55	0.25	0.48	1.14	2.18	100	3.50	10.51	0	4.00	2.00	0.00	10.51	3.97	6.93	4.51	15.13				OS1
DP6	5.62			1.49	2.75								16.32	3.24	5.65	4.82	15.55				DP6
A4	1.00	0.08	0.35	0.08	0.35	50	3.50	8.92	300	3.50	1.85	2.70	11.62	3.80	6.63	0.30	2.32	100	1.85	0.90	A4
OS2	3.10	0.28	0.49	0.87	1.52	100	3.50	10.14	0	4.00	2.00	0.00	10.14	4.03	7.03	3.49	10.68				OS2
DP7	4.10			0.95	1.87								12.52	3.67	6.41	3.48	11.99				DP7
DP8	9.72			2.44	4.62								16.32	3.24	5.65	7.89	26.11				DP8

FOREBAY CALCULATIONS	FOREBAY NOTCH CALCULATIONS	TRICKLE CHANNEL CALCULATIONS
2% OF WQV	2% OF 100YR FLOW	Q = 0.58 CFS
0.02 X 0.121 = 0.0024 AF = 105 CF	0.02 X 28.9 = 0.58 CFS	B = 1.3'
	W =Q/(D^1.5XC)	D = 0.5'
	W=0.58/(1X3.0)=0.19 FT	S = 0.5%
		d = 0.21'
		Qmax = 1.96 CFS