

Shane Stokes: Plyer Property

Drainage Calculations

January 22, 2021

DRAINAGE BASIN "A"

100-YR STORM - DETENTION BASIN:

RAINFALL: 100-YR, 1-HOUR	1.7	INCHES	STORAGE REQUIREMENT FROM ENTITY
BASIN AREA (SF):	1,236,322	SF	
BASIN AREA (AC):	28.38	AC	
100% IMPERVIOUSNESS	1.00		
BASIN WEIGHTED 'C':	0.31		
RAINFALL ON BASIN (100%):	175,146	CF	100% RAINFALL FOR STORAGE EVENT
RUNOFF FROM ON BASIN (PER 'C')	54,295	CF	100% RUNOFF FOR STORAGE EVENT
RAINFALL PER IDF:			
INTENSITY AT 24 HRS:	0.118	IN/HR	24-HR RATE FOR CHOSEN EVENT
VOLUME = I*(T=24 HRS)*A*C	90,449	CF	24-HR RUNOFF - MIGHT NOT BE APPLIC.
PREC. VS. IDF COMPARISON	-36154	CF	ONLY APPLIC. IF COMPARING 24-HR. EVENT
BASIN A (AREA):	1,236,322	SF	
SUMP ROCK PERIMETER (LF)	0	LF	
SUMP ROCK HEIGHT	0	LF	
SUMP PERC SF	0	SF	
PERCOLATION RATE (IN/HR)	0.00	IN/HR	
PERCOLATION (CFS)	0.0000	CFS	
PERCOLATION PER 5 MINUTES	0.0	CF	
NUMBER OF SUMPS	0		

Duration	Storm Intensity	Weighted "C"	Subbasin Area	Stormwater Flow	Accumulated inflow	MH / Rock Storage	Metered Outflow Rate	Total Outflow	Required Storage
(min)	(in/hr)		(sq.ft.)	(cfs)	(cf)	(cf)	(cfs)	(cf)	(cf)
5	6.49	0.31	1,236,322	57.10	17,131	-	2.8380	851	16,279
10	4.94	0.31	1,236,322	43.46	26,079	-	2.8380	1,703	24,376
15	4.08	0.31	1,236,322	35.90	32,308	-	2.8380	2,554	29,754
30	2.75	0.31	1,236,322	24.20	43,552	-	2.8380	5,108	38,444
60	1.70	0.31	1,236,322	14.96	53,846	-	2.8380	10,217	43,630
120	0.93	0.31	1,236,322	8.15	58,661	-	2.8380	20,434	38,227
180	0.63	0.31	1,236,322	5.56	60,055	-	2.8380	30,650	29,404
360	0.35	0.31	1,236,322	3.10	66,896	-	2.8380	61,301	5,595
720	0.21	0.31	1,236,322	1.88	81,340	-	2.8380	122,602	(41,262)
1440	0.118	0.31	1,236,322	1.038	90,449	-	2.8380	245,203	(154,754)