PROJECT TITLE

Cornerstone Montessori Christian Academy

PROJECT PROPERTY OWNER

Shannon Nuckols

PROJECT LOCATION

Springhill Road, Bryant, AR

PROJECT DESCRIPTION

The proposed sub divisional development is on Springhill Road, Bryant, AR . Total development site area is 7.5 acres.

DRAINAGE ANALYSIS

On Site Drainage- Rational method was used to determine the existing and proposed flows from proposed site. Summary of the calculations are below:

Peak flows for Pre and post development phase of onsite area have been tabulated below-

Period of time	Pre-development	Post-development
	Peak Flow (cfs)	Peak Flow (cfs)
2-Year	51.663	53.005
5-Year	68.640	70.269
10-Year	83.641	85.743
25-Year	109.400	111.605
50-Year	127.899	130.296
100-Year	153.869	156.175

Drainage Calculations:

		COEFFICIENT					
YEAR		**2**	**5**	**10**	**25**	**50**	**100**
PASTURE		0.33	0.36	0.38	0.42	0.45	0.49
FOREST		0.31	0.34	0.36	0.4	0.43	0.47
POOR CONDTION		0.37	0.4	0.43	0.46	0.49	0.53
(LESS THAN 50% Grass Cover)							
GOOD CONDITION		0.21	0.23	0.25	0.29	0.32	0.36
(more than 75 % Grass Cover)							
		AREAS(AC)		**AREAS(AC)**			
		(PRE DEVELOP-MENT)		(POST DEVELOP-MENT)			
PASTURE		11.517		11.517			
FOREST		31.006		31.006			
POOR CONDTION		8.755		11.573			
(LESS THAN 50% Grass Cover)							
GOOD CONDITION		8.633		5.81			
(more than 75 % Grass Cover)							
PRE DEVELOPMENT							
CUMULATIVE C VALUE=		0.308	0.337	0.358	0.397	0.427	0.467
POST DEVELOPMENT							
CUMULATIVE C VALUE=		0.316	0.345	0.367	0.405	0.435	0.474

	YEAR	C	I	A	Q=CIA (cfs)
PRE DEVELOPMENT	2	0.308	2.8	59.906	51.663
	5	0.337	3.4	59.906	68.640
	10	0.358	3.9	59.906	83.641
	25	0.397	4.6	59.906	109.400
	50	0.427	5	59.906	127.899
	100	0.467	5.5	59.906	153.869
POST DEVELOPMENT	2	0.316	2.8	59.906	53.005
	5	0.345	3.4	59.906	70.270
	10	0.367	3.9	59.906	85.743
	25	0.405	4.6	59.906	111.605
	50	0.435	5	59.906	130.296
	100	0.474	5.5	59.906	156.175