

Angelfire 2nd Addition Water Quality Data & Computations

Completed by: TRK

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Notes & Assumptions:

1. 1/4 acre size lots assumed with 38% impervious area
2. Pond surface areas not included in WQv calculations
5. Onsite drainage off site

Basin	Area	Effect
Existing Plat	33.2	Already Developed Area going to pond system
Re-Plat	20.0	Proposed Re-Plat Residential Lots
Total	53.2	

Impervious Cover %	0.38
Hydrologic Soil Group C	Rv Values
Undisturbed Woods	$R_{VU} = 0.04$
Turf/ Disturbed Soils	$R_{VD} = 0.22$
Impervious Cover	$R_{VI} = 0.95$

Equations
$WQ_V = R_V * A / 10$
$R_V = R_{VU} * U + R_{VD} * D + R_{VI} * I$
U = undisturbed/total area
D = dist. perv./total area
I = impervious/total area

	Drainage Basin Area	Pond Area	Treatment Area	Undisturbed Area	Disturbed Pervious	Impervious Area
Basin	Acre	Acre	Acre	Acre	Acre	Acre
Exist	33.2	0.0	33.2	0.0	20.6	12.6
Replat	20.0	0.0	20.0	0.0	12.4	7.6
Totals:	53.2	0.0	53.2	0.0	33.0	20.2

Calculations			
U	D	I	Totals
0.00	0.62	0.38	1.0
0.00	0.62	0.38	1.0

Pond Volume Below Static Pool						
Basin	Static Area		Pond Bottom Area		Depth Feet	Volume Acre-Ft.
	Sq.Ft.	Acre	Sq. Ft.	Acre		
North	147770	3.4	93777	2.2	10	27.7
South	229357	5.3	162850	3.7	10	45.0
Totals:		8.7		5.9		72.7

Pond Volume > WQv		
Pond	WQv	Check
72.7	2.6	Yes

Calculations		
Rv	Area Acres	WQv Acre-Ft.
0.5	33.2	1.7
0.5	20.0	1.0
	53.2	2.6