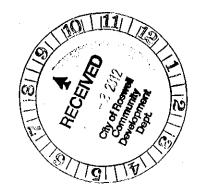
Crossville Medical Office Building

Water Quality Calculations Area 1

Date Prepared:		2/1/2012	
Area = Area Impervious = Area Pervious =		0.565 0.315 0.25	Acres Acres Acres



WATER QUALITY VOLUME ANALYSIS

$H_V = 0.05 + 0.009(1) =$	0.55
I = % of Impervious Area =	55.75%
	$WQ_V = \frac{1.2 R_V A}{1.2 R_V A}$

• GV	12	-				
VQv =	1,2	0.552	0.57	12	0.03	Acre-Ft
					1,358	Cubic Feet

area from grading plan

BIORETENTION CALCULATIONS

A_f Basin A (sf)= 320 calculated value
Provided Surface Area (sf)= 482 area from grading plan

2/1/2012

Area 2

Date Prepared:

Area =		1.152	Acres				
Area Impervious =		0.69	Acres				
Area Pervious =		0.462	Acres		•		
WATER QUALITY VOLUME ANALYSIS							
$R_V = 0.05 + 0.009(1) =$		0.59	•				
I = % of Impervious Area =		59.90%					
	WQ _v =_	1.2 R _V A					
	VV GV =	12					
·	WQv =	1.2	0.589	1.15	12	0.07	Acre-Ft
						2,956	Cubic Feet

BIORETENTION CALCULATIONS

DIGITE TERRIOR GALGGEATIONS				
WQv = design storage (cf) = 2,956 $d_{t=}$ filler bed depth (ft) = 4	(from calculations above) specified in detail			
k = coefficient of permeability of filter meadia (ft/day) = 2 $h_f = average$ height of water above filter bed (ft) = 0.25	(from Georgia Erosion Control Manual for Madison Soil) user input of 3" which is half the ponding depth			
t _i = design filter bed draining time (days) = 2	user input			
A_i (sqft) = surface area of bioretention = $(WQv)(d_i)/[k(h_i+d_i)(t_i)]$	•			
A _I Basin A (sf)= 696	calculated value			

Provided Surface Area (sf)= 778