

PRE-POST ANALYSIS

For:

HH6100 LLC Residence @ 6100 West Suburban Drive

Pinecrest, Florida
Miami-Dade County, Florida

Prepared By:

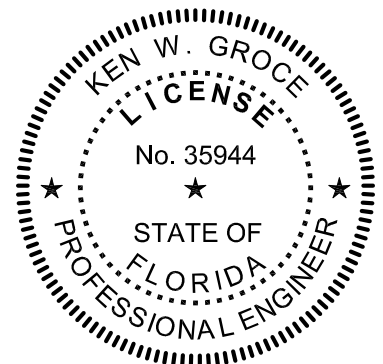
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9.30.2024

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PRE-DEVELOPMENT ANALYSIS
HH6100 LLC Residence @ 6100 West Suburban Drive

SITE DATA	Acres
Total Project Area	0.880 Ac
Building Area (Roof Area, Covered Walkways)	0.146 Ac
Impervious Areas	0.020 Ac
Pervious Areas	0.718 Ac

SITE ELEVATIONS	Elevation
October Water Level	(+) 3.50
Average Existing Grade	(+) 10.50

CALCULATE SOIL STORAGE	
Area	% of Total
Building Area	16.6%
Impervious	2.3%
Pervious	81.6%

Impervious =	18.9%
Pervious =	81.6%

Δ = Depth to Water Table (ft.)

Δ = Average Pervious Grade (Landscaping Areas only) - Water Control Elevation

Δ = (+) 10.50 - (+) 3.50

Δ = 7.00

S-Value = 8.18 in. Interpolating Table shown above (SFWMMD Vol. IV pg. C-III-I):

Depth to Water Table (in.)	Soil Storage (in.)
1	0.45
2	1.88
3	4.95
4	8.18

Weighted S-Value:

S = S-Value x % Pervious

S = (8.18*0.816) =

S = 6.67 in.

CALCULATE RUN-OFF QUANTITY

$$R = ((P-0.2)*S^2)/((P+0.8)*S)$$

P = Rainfall in inches for 25 Year 1 Day

9 Inches

R = Site Runoff Depth, Inches

R= 4.10 Inches

R= 0.34 Ft

$$V = A*(R/12)$$

V= Volume of stormwater for a 25 Year 1 Hour Storm Event

A= Area of site

R = Site runoff depth in inches

V= 0.30 AcFt

Pre Development Run-Off = 0.30 AcFt

POST-DEVELOPMENT ANALYSIS
HH6100 LLC Residence @ 6100 West Suburban Drive

SITE DATA	Acres
Total Project Area	0.880 Ac
Building Area (Roof Area)	0.200 Ac
Impervious Areas (Driveways, Walkways, Etc.)	0.160 Ac
Pervious Areas	0.481 Ac

SITE ELEVATIONS	Elevation
October Water Level	(+) 3.50
Average Proposed Grade	(+) 10.50

CALCULATE SOIL STORAGE	
Area	% of Total
Building Area	22.7%
Impervious	18.2%
Pervious	54.7%

Impervious =	40.9%
Pervious =	54.7%

Δ = Depth to Water Table (ft.)
 Δ = Average Pervious Grade (Landscaping Areas only) - Water Control Elevation
 Δ = (+) 10.50 - (+) 3.50
 Δ = 7.00
 S-Value = 8.18 in. Interpolating Table shown above (SFWMD Vol. IV pg. C-III-I):

Depth to Water Table (in.)	Soil Storage (in.)
1	0.45
2	1.88
3	4.95
4	8.18

Weighted S-Value:

S = S-Value x % Pervious

S = (8.18*0.547) =

S = 4.47 in.

CALCULATE RUN-OFF QUANTITY

$$R = ((P-0.2)*S)^2 / ((P+0.8)*S)$$

P = Rainfall in inches for 25 Year 1 Day **9 Inches**

R = Site Runoff Depth, Inches

R= 5.22 Inches

R= 0.44 Ft

$$V = A*(R/12)$$

V= Volume of stormwater for a 25 Year 1 Hour Storm Event

A= Area of site

R = Site runoff depth in inches

V= 0.38 AcFt

Post Development Run-Off = 0.38 AcFt

Pre Vs Post = 0.30 AcFt Vs 0.38 AcFt

The Post Development condition is 0.08± Ac-Ft more than the Pre Development condition. The various site storage areas store 0.134± Ac-Ft. Therefore the site meets the Village of Pinecrest's stormwater criteria

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DATE: 9.4.19
PROJECT: HH6100 LLC Residence @ 6100 West Suburban Drive
DESCRIPTION: Water Quality Calculations

I. Project Land-Use

Total Site Area = 0.880 Ac
Impervious
a. Roof Area = 0.146 Ac
b. Walkways and Parking Areas = 0.020 Ac
Retention Area = 0.000 Ac
Pervious Areas = 0.716 Ac

II. Other Information

October Water Elevation = +3.50 NGVD
Provided LF of French Drain = 0 LF

III. Computations

1. Compute first inch of runoff from developed project =

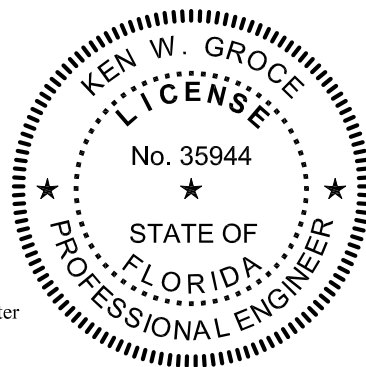
0.88 Ac. * 1 Inch * 1 Foot / 12 Inch = 0.073 Ac-Ft

2. 2.5" x % Impervious =

a. Site area for water quality pervious/impervious calculations =
Total project area - (Roof + Retention Area) = (0.88 Ac - 0.146 Ac) = 0.734 Ac
b. Impervious area for water quality pervious/impervious calculations =
Site area for water quality - pervious = (0.734 Ac - 0.716 Ac) = 0.018 Ac
c. Percentage of imperviousness for water quality =
Impervious area for water quality / Site area for water quality = 0.025 %
d. 2.5 in. x % Impervious = (2.5 Inch * 0.02) = 0.061 In
e. Required Treatment Volume = (0.05 Inch * 0.88 Ac * 1 Ft / 12 Inch) = 0.004 Ac-Ft

The 0.004 Ac-Ft, computed for the 2.5 inch x % impervious first inch of runoff, is less than the 0.073 Ac-Ft for the first inch of runoff

Since the water quality area required is only 0.073± Ac-Ft and the various storage areas store 0.134± Ac-Ft therefore the water quality criteria is satisfied per the Village's Stormwater requirements



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