FIDANZA'S FAMILY HOUSE

11041 SW 77th AVENUE
PINECREST, FL 33156

STORM WATER
DRAINAGE REPORT

October 23, 2023

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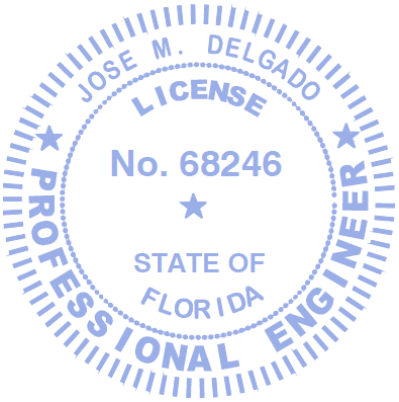
Jose M. Delgado
Digitally signed by Jose M. Delgado
Date: 2023.10.23 10:13:58 -04'00'



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Pre-Development Areas

Total Site Area	65,017	s.f.	
Total Impervious	0	s.f.	0%
Total Pervious	65,017	s.f.	100%

Post-Development Areas

Total Site Area	65,017	s.f.		
Building Roof Area	15,707	s.f.	24%	See Note *
Concrete	10,576	s.f.	16%	
Septic Drainfield	2,976	s.f.	5%	
Green Areas	35,758	s.f.	55%	
Total Impervious	26,283	s.f.	40%	
Total Pervious	38,734	s.f.	60%	

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CALCULATE WATER QUALITY

1" x Property Area	5,418 c.f.
2.5" x Impervious Area	5,476 c.f.

CALCULATE WATER QUANTITY

25-yr, 24-hr Storm, P =	9.50	in.
Soil Storage Capacity =	8.18	in.

Pre-Development Runoff

Calculate soil storage value, S	8.18 x 100% =	8.18		
Calculate Runoff	$R = (P-0.2S)^2 / (P+.8S)$	3.85	in.	
Calculate Volume	V=R x A	20,884	c.f.	

Post-Development Runoff

Calculate soil storage value, S	8.18 x 60% =	4.87		
Calculate Runoff	$R = (P-0.2S)^2 / (P+.8S)$	5.42	in.	
Calculate Volume	V=R x A	29,391	c.f.	

Volume Required for Water Quantity, $V_{QNT} = V_{POST} - V_{PRE}$

V=	29,391	-	20,884	=	8,506 c.f.

Dry Retention Volume Required: 8,506 c.f.

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DRY RETENTION DESIGN

Volume (TB) = Full Depth Area x Depth

Volume (BB) = $\frac{\text{(Sloped Area)}}{2}$ x Depth

	Basin 1	Basin 2	Basin 3	Basin 4	Depth	Volume
TB Area =	574	574	2092	1,126	0.5	2,183
(TB Area)/2 =	422	422	550	481	0.5	469
	Exfiltration Trench 1 & 2 From Page 5 =					12,435
			Total Volume =			15,087

Proposed Retention Volume: 15,087 c.f

Note *

For convenience, runoff from the entire roof of the house and pool deck is collected and routed to a proposed exfiltration trench for treatment and disposal.