DATE: 3/4/2024
REV:
BY: DJC

Pompano Beach Snack Bar

STORMWATER MANAGEMENT CALCULATIONS

PRE		
LAND USE BREAKDOWN		
LAND USE BREAKDOWN	ACRES	PERCENT %
Building	0.012	9.6%
concrete	0.041	32.1%
Green	0.074	58.3%
TOTAL	0.128	100.0%
Impervious surface	0.053	41.7%
Pervious surface	0.074	58.3%

POST		
LAND USE BREAKDOWN		
LAND USE BREAKDOWN	ACRES	PERCENT %
Building	0.035	27.3%
concrete	0.060	46.7%
Green	0.033	26.0%
TOTAL	0.128	100.0%
Impervious surface	0.094	74.0%
Pervious surface	0.033	26.0%

Water Table Elevation: **2.50** NAVD

Compute the water quality volume required based on the increas of impervious area from PRE and POST tables above:

1. Increase in impervious surface:

Proposed Impervious surface - existing impervious surface = 0.094 - 0.053

= **0.041** ac

2. Water Quality Calculations

A. Compute the first inch of runoff from the entire site.

= 1 inch x Total Area x (1 ft / 12 in)

= 0.0034 ac-ft

B. For 2.5 inches times percentage of imperviousness

= 2.5 inches x %imp

= 0.0086 inches **(CONTROLS)**

C. Volume to be treated: 0.0086 ac-ft

3. Exfiltration Trench Calculations

$L_{min} = FS*V/[K \times (H_2W + 2H_2D_u - D_u^2 + 2H_2D_s) + (1.39 \times 10^{-4})WD_u]$

= 0.52 feet

Trench Characteristics

volume, V=	0.0086	ac-ft
L=	8	used
W=	4	
K (CFS/ft^2)=	2.50E-04	
H_2=	9.00	ft
D_u=	7.50	ft
D_s=	0.00	
Top of Trench Elev.=	10.00	ft
Bottom of Trench Elev.=	2.50	ft
Rim Elev.=	11.50	ft

Martin Pilote,
Fla. PE #55992
for Globe Engineering, Inc.
4839 SW 148 Avenue, Suite 507
Fort Lauderdale, FL 33330
P: 954-316-7628
FBPE registry# 8604

Martin Pilote Digitally signed by Martin Pilote Date: 2024.03.04 09:53:55 -05'00'

MARTIN PILOTE, State of Florida, Professional Engineer, License No. 55992

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AAC

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