

Project Name: De la Concepcion Residence at 8965 SW 63 Ct
Project Number: 20220035
Calculated By: I.P.
Calculated Date: 6/22/2022

PROPOSED LAND USE

IMPERVIOUS AREA

Building: 5,714 sq. ft.
Paver/concrete/asphalt: 7,254 sq. ft.
Pool: 1,464 sq. ft.
TOTAL IMPERVIOUS AREA: 14,432 sq. ft.

PERVIOUS AREA

Green Area: 23,564 sq. ft.

VOLUME OF RUNOFF (V)

$V = A \times (Q/12)$ (VOLUME NEEDED TO BE CONTAINED IN PROPERTY)

Q= RAINFALL IN INCHES FOR A 25 YEAR-24 HOURS STORM EVENT

Q= 9.00"

$V = 37,996 \times (9.00/12)$

V= 28,497 cubic ft.

TRENCH CALCULATION FOR STANDARD SFWMD TRENCH

Elevations (NGVD)

Low Inlet Elevation	9.50 ft.
Min. Bottom of Road (Asph+Base+Subgrade+Fill)	12.00 in.
Top of Exfiltration Trench	8.50 ft.
Weir Elevation	9.50 ft.
Minimum Cover for Exfil Pipe	2.00 ft.
Pipe Diameter	1.00 ft.
Seasonal High Water Table	2.80 ft.
Pipe Invert:	6.50 ft.
Trench Bottom	-5.50 ft.

K=HYDRAULIC CONDUCTIVITY (cfs/ft²*ft head)

H2=DEPTH TO WATER TABLE (ft)

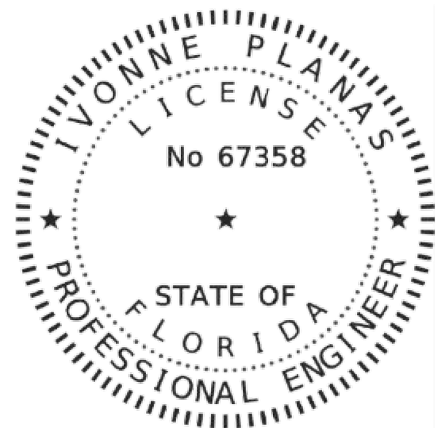
W=WIDTH OF TRENCH (ft)

Du=NON-SATURATED TRENCH DEPTH (ft)

Ds=SATURATED TRENCH DEPTH (ft)

TD=TRENCH DEPTH (ft)

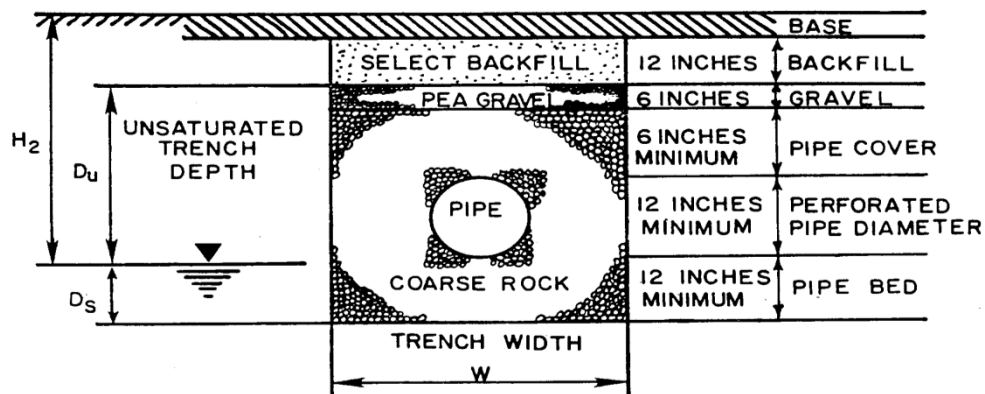
K=	1.12E-04
H2=	6.70
W=	3.00
Du=	5.70
Ds=	8.30
TD=	15.00



Ivonne
Planas

Digitally signed
by Ivonne
Planas

Date: 2022.12.22
23:42:38 -05'00'



SFWMD-LENGTH OF TRENCH REQUIRED

Exf. when $D_s < D_u$ $V = (L) * (K * (H_2 * W + 2 * H_2 * D_u - D_u^2 + 2 * H_2 * D_s) + 1.39E10^{-4} * W * D_u)$ 0.0220

Exf. when $D_s > D_u$ $V = (L) * (K * (2 * H_2 * D_u - D_u^2 + 2 * H_2 * D_s) + (1.39 * 10^{-4}) * W * D_u)$ 0.01975

Use Exf= 0.0197 since $D_s > D_u$

Required Retention Volume= 28,497 cubic ft.

Required Retention Volume= $(28,497 / 43,560) * 12 = 7.85$ ac-in

Required L.F. of French Drain: $L = (V / \text{Exf.})$

$L = (7.85 / 0.0197)$

$L = 399$ L.F.

Use 400 L.F.