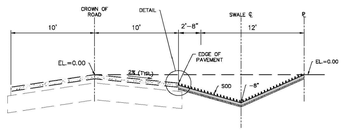
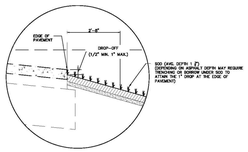
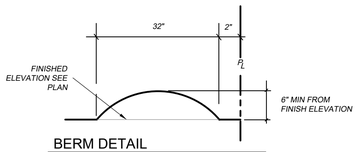


VILLAGE OF PINECREST PUBLIC WORKS
TYPICAL SWALE DETAIL

2021



DETAIL



BERM DETAIL

Date: 7/6/2023
Document: 7725 SW 114TH ST., VILLAGE OF PINECREST, FL
Project Manager: CMB
Project Name: 7725 SW 114TH ST., VILLAGE OF PINECREST, FL

Summary PRE-DEVELOPMENT CONDITION

Definitions		Project Information	Comments
I	Rainfall produced during 10 years, 24 hour storm event (Per figure C-3 SFWMD) - (in)	8.75	(with 1.25 Safety Factor)
S	Soil storage capacity (in)		
A	Site total area (sf)	39,493	
Perv	Pervious area - grass, gravel... - (sf)	31,022	
Imp	Impervious area - roof, pavement, walkways, decks,	8,471	
R	Run off depth (in)		
V	Volume of runoff (cubic feet)		
WE	Compacted water storage (in)		
AEPA	Average elevation of Pervious Areas (ft)	11.50	
HGWE	High ground water elevation (ft)	4.50	*Also check the geotechnical engineer's report*
DW	Distance between Avg Elevation of Pervious Areas and the High Ground Water Elevation	7.00	*AEPA - HGWE = Depth to Water table - DW*

Detailed Project Information:

Impervious areas		Description	Pervious areas		Description
Imp_1	8,471	*bldg, driveway & decks*	Per_1	31,022	*grass*
Imp_2			Per_2		*pool*
Tot_Imp =	**8471**		**Tot_Per =**	**31022**	

Soil Storage Capacity Calculations (S)

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

S= Pervious Area / Site Total Area * WE

S= 31022 / 39493 8.18

WE = 8.18	**S= 6.43**

Runoff Depth Calculation (R)

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

R= 4.01 in

Pre-Development Total Runoff Volume (V)

V= A * R / 12

PRE-DEV. Vol.= 13,203 Cubic feet

Date: 7/6/2023
Document: 7725 SW 114TH ST.
Project Manager:
Project Name:

Summary POST DEVELOPMENT CONDITION

Definitions		Project Information	Comments
I	Rainfall produced during 10 years, 24 hour storm event (Per figure C-3 SFWMD) - (in)	8.75	(with 1.25 Safety Factor)
S	Soil storage capacity (in)		
A	Site total area (sf)	39,493	
Perv	Pervious area - grass, gravel... - (sf)	21,290	
Imp	Impervious area - roof, pavement, walkways, decks,	18,203	
R	Run off depth (in)		
V	Volume of runoff (cubic feet)		
WE	Compacted water storage (in)		
AEPA	Average elevation of Pervious Areas (ft)	11.50	
HGWE	High ground water elevation (ft)	4.50	*Also check the geotechnical engineer's report*
DW	Distance between Avg Elevation of Pervious Areas and the High Ground Water Elevation	7.00	*AEPA - HGWE = Depth to Water table - DW*

Detailed Project Information:

Impervious areas		Description	Pervious areas		Description
Imp_1	18,203	*bldg, driveway & decks*	Per_1	21,290	*grass*
Imp_2	0	*85' x 4' exf. trench area outside court*	Per_2	1364	*POOL*
Tot_Imp =	**18203**		**Tot_Per =**	**22654**	

Soil Storage Capacity Calculations (S)

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

S= Pervious Area / Site Total Area * WE

S= 22654 / 39493 8.18

WE = 8.18	**S= 4.69**

Runoff Depth Calculation (R)

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

R= 4.88 in

Volume of Runoff (V)

NOTE: During the Post-Development condition, the volume of runoff generated during the 10-year, 24-hour storm (V) is shown below.

V= A * R / 12 **V= 16,061** Cubic feet

Volume of retention provided

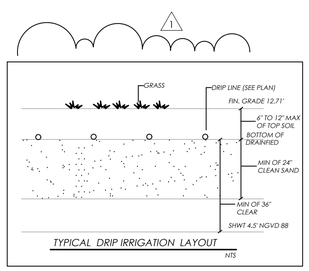
Volume of swales

Retention	A1 (Ft^2)	Ao (Ft^2)	A average (Ft)	h (ft)	Volumen (Ft^3)
N	3879	3507	3693.00	1.5	5540
S	5443	4190	4816.50	1.5	7225
E	2539	1917	2228.00	1.5	3342
W	2590	2172	2381.00	1.5	3572
	0	0	0.00	0	0
				Total	**19678**

Volume of runoff > **Volume of Retention**

Conclusion

Volume of runoff retained by the retention areas (cf) =	19,678
Volume of runoff retained by the Exfiltration Trench (cf) =	(3,617)
Total runoff volume retained (cf)=	16,061



TYPICAL DRIP IRRIGATION LAYOUT

NTS

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REVISIONS:

1 B.D.C. 08-24-23

OWNER:
HERITAGE HOME BUILDERS, LLC.
9350 SOUTH DIXIE HIGHWAY
SUITE 1500
MIAMI, FL 33156
PHONE 305.665.3077

NEW CONSTRUCTION AT PINECREST RESIDENCE:
BY HERITAGE HOME BUILDERS, LLC.
7725 SOUTHWEST 114 STREET
VILLAGE OF PINECREST, FL 33156

SEAL:

EDMUNDO J. LARGAESPADA LICENSE No 56915 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Edmundo Largaespada
Date: 2023.09.06 09:36:15 -04'00'

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY EDMUNDO LARGAESPADA, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

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Professional Engineer
P.E. No. 0056915

Project No: 23_0012

DRAINAGE DETAILS & CALCULATION

DATE :	03.23.2023
SCALE :	AS SHOWN
DRAWN :	
CHECK BY:	
JOB NO. :	23_0012

SD-2

SHEET NO. :