

STORMWATER MANAGEMENT REPORT

Herrera Residence
6825 SW 132nd Street
Miami, FL 33156
Folio No. 20-5014-000-0761

Prepared For:

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Rev. July 25, 2025

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O=Puerto Rico, C=US
Date: 2025.07.25 11:27:17-04'00'

Dillon J. Swiderski Soto, P.E., CFM
Florida Professional Engineer License No.
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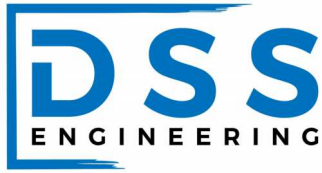
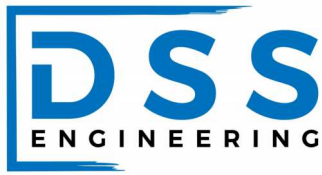


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1. PROJECT DESCRIPTION

1.1 Existing Conditions

The subject property is located at 6825 SW 132nd Street in Pinecrest and consists of a vacant lot with an asphalt driveway, concrete pad, and a metal shed. The land coverage consists mainly of pervious areas such as grass. It is our understanding that the site does not account for an existing drainage system to manage the stormwater generated from the property.

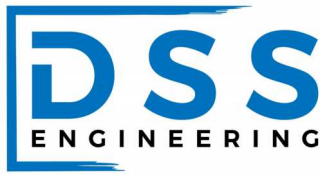
Pre-Improvements Land Coverage Areas		
Use	Area (SF)	Area (Acre)
Total Impervious Area	5,082	0.116
Total Pervious Area	47,297	1.086
Total Site Area	52,379	1.202

1.2 Proposed Conditions

The proposed project consists of the construction of a new single-family home within the same lot. The proposed exterior improvements include site grading, new concrete driveway with bands, concrete walkways, equipment pads, and a single-family residence with pool, deck, and outdoor terrace. A stormwater management system is proposed to meet Village of Pinecrest ordinance requirements and prevent runoff from discharging offsite. The proposed improvements include grassed areas, with a combination of swales and exfiltration trenches to provide on-site storage for the 25-year, 24-hour storm event. The site is designed to collect and convey runoff from high points to inlets and exfiltration trench systems. A proposed grassed berm along the site perimeter will remain and prevent runoff from discharging to adjacent properties.

Post-Improvements Land Coverage Areas		
Use	Area (SF)	Area (Acre)
Total Impervious Area	23,489	0.540
Total Pervious Area	28,890	0.662
Total Site Area	52,379	1.202

See **Appendix A** for Pre- and Post-Development Drainage Area Maps.



2. STORMWATER ANALYSIS

2.1 Land Use Information

The site was analyzed by comparing 3 parameters established by the Village of Pinecrest to achieve retention for the 25-yr, 24-hour storm event, and discussed in more detail in Section 2.2 below.

The information below was used to analyze the site's stormwater management needs under the post-improvements conditions:

Total On-Site Area	= 1.20 acre
Total On-Site Impervious Area	= 0.54 acre
Total On-Site Pervious Area	= 0.66 acre

On-Site Assumptions:

Average Site Grade Elevation	= 9.28' NGVD
Water Table Elevation	= 4.00' NGVD

2.2 Village of Pinecrest Stormwater Management Design Criteria

The largest of the three following must be retained on-site in dry retention swale/ponds:

1. 1" runoff x entire site
2. 2.5" runoff x impervious x entire site (per SFWMD env. Resources handbook)
3. Difference between pre and post-development runoff volumes

Design Storm:

25-Year, 24-Hour Storm = 9.50" (Source: Village of Pinecrest)

See **Appendix B** for the rainfall data.

2.3 Percolation Test Data

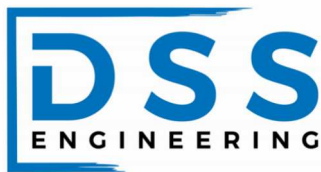
One percolation test was performed on the subject property. The hydraulic conductivity value (K) used for our analysis is as follows:

$$K = 1.56 \times 10^{-4} \text{ cfs/ft}^2\text{-ft head}$$

See **Figure 1** for percolation test & boring report.

2.4 Level of Service (LOS)

The main objective for providing LOS criteria is to protect the public, provide safe transportation routes, and provide appropriate flood protection. The 25-year, 24-hour storm event has been established as flood protection criteria for the project area.



2.5 Seasonal High Groundwater Table

The Average Groundwater Elevations were obtained from Open-File Report 02-91, Average October Water Levels 1990-99, Plate 2 of the U.S. Geological Survey (USGS). The Average October Groundwater Elevation for this project is 4.00-feet (NGVD).

See Figure 1.

3. STORMWATER ANALYSIS

3.1 Pre-development Land Use Breakdown

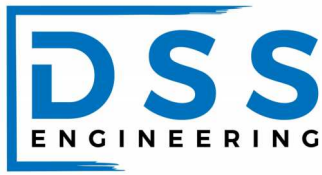
Pre-development land use breakdown is as follows:

Land Use Breakdown (Pre-Development)											
Land Use	Area			Grade				Capacity at High Elevation		Runoff Coefficient (C)	
	sf	ac	%	Low	High	Average	Wtd. Avg.	ac-ft	ac-in	C	Weighted C
Impervious Areas	5,082	0.117	9.7%			8.40	0.81	0.000	0.000		0.09
Building										0.95	
Pool/Pool										0.9	
Walkways, sidewalks	5,082	0.117	9.7%	8.20	8.60	8.40	0.81			0.9	0.09
Patio Low										0.9	
Patio Jacuzzi										0.9	
A/C Pad										0.9	
Pervious Areas	47,297	1.086	90.3%			8.40	7.59	0.000	0.000		0.27
Retention 1 (V)										0.3	
Retention 1 (L)										0.3	
Retention 2 (V)										0.3	
Retention 2 (L)										0.3	
Retention 3 (V)										0.3	
Retention 3 (L)										0.3	
Offsite Retention (V)										0.3	
Offsite Retention (L)										0.3	
										0.3	
										0.3	
Green	47,297	1.086	90.3%	8.20	8.60	8.40	7.59			0.3	0.27
Total	52,379	1.20	100.0%			8.40	8.40	0.000	0.000	Composite C→	0.36

Pre-development Soil Storage & CN Calculations

Soil Storage (Pre-Development)	
Average Finished Grade (NGVD)	8.40 ft
Average Water Table (NGVD)	2.50 ft
Depth to Water Table	5.90 ft = (8.4 ft) - (2.5 ft)
Soil Storage SFWMD (S*)	8.18 in
%Total Pervious Area (%A _p)	90.3%
Site Specific Soil Storage (S)	7.4 in = (S*) x (%A_p)
Curve Number (CN)	7.39 = 1000 / (10 + S)

S* = Soil Storage (SFWMD Table)



Pre-development Runoff Calculations

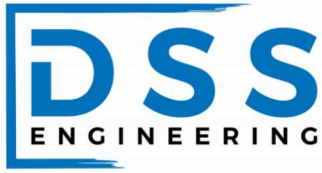
Runoff & Max Stage (Pre-Development)				
SCS Equation	Rainfall (P)	P Excess (Pe)	Runoff (Q)	Max Stage
Storm Event	Taken from SFWMD Maps	$Pe = \frac{(P-0.2S)^2}{(P+0.8S)}$	$Q = Pe \times A \times \frac{1ft}{12in}$	Cascade Model Output
100 yr 72 hr	9.5 in	4.2 in	0.42 ac-ft	
25 yr 24 hr				
10 yr 24 hr				
5 yr 24 hr				
5 yr 1 hr				

Area (A) = 1.20 ac

The Pre-Development Drainage Area Map (Appendix A) illustrates the existing drainage area on site. The site has been analyzed as one drainage area.

3.2 Post-development Land Use Breakdown

Land Use Breakdown (Post-Development)											
Land Use	Area			Grade				Capacity at High Elevation		Runoff Coefficient (C)	
	sf	ac	%	Low	High	Average	Wtd. Avg.	ac-ft	ac-in	C	Weighted C
Impervious Areas	23,488	0.539	44.8%			10.44	4.68	0.036	0.436		0.41
Building/Garages/Pool Terrace	7,697	0.177	14.7%	11.00		11.00	1.62			0.95	0.14
Pool + Reflective Ponds	3,164	0.073	6.0%	10.00		10.00	0.60	0.036	0.436	0.9	0.05
Driveways/Walkways	7,604	0.175	14.5%		10.42	9.84	1.43			0.9	0.13
Pool Deck	5,023	0.115	9.6%	10.62	10.96	10.79	1.03			0.9	0.09
										0.9	
										0.9	
Pervious Areas	28,891	0.663	55.2%			8.75	4.82	0.163	1.959		0.17
Retention 1 (V)	7,770	0.178	14.8%	8.50		8.50	1.26	0.089	1.070	0.3	0.04
Retention 1 (L)	9,910	0.228	18.9%	8.50	9.00	8.75	1.66	0.057	0.683	0.3	0.06
Retention 2 (V)	250	0.006	0.5%	8.20		8.20	0.04	0.006	0.069	0.3	0.00
Retention 2 (L)	1,000	0.023	1.9%	8.20	9.20	8.70	0.17	0.011	0.138	0.3	0.01
Retention 3 (V)										0.3	
Retention 3 (L)										0.3	
Offsite Retention (V)										0.3	
Offsite Retention (L)										0.3	
Name (L)										0.3	
Name (L)										0.3	
Green	9,961	0.23	19.0%	8.40	9.50	8.95	1.70			0.3	0.06
Total	52,379	1.202456	100.0%			9.51	9.51	0.200	2.395	Composite C→	0.58



Post-development Soil Storage & CN Calculations

Soil Storage (Post-Development)	
Average Finished Grade (NGVD)	9.17 ft
Average Water Table (NGVD)	4.00 ft
Depth to Water Table	5.17 ft = (9.17 ft) - (4. ft)
Soil Storage SFWMD (S*)	8.18 in
%Total Pervious Area (%Ap)	55.2%
Site Specific Soil Storage (S)	4.51 in = (S*) x (%Ap)
Curve Number (CN)	69 = 1000 / (10 + S)

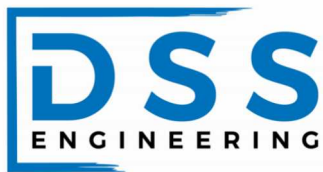
S = Soil Storage (SFWMD Table)*

Post-development Runoff Calculations

Runoff & Max Stage (Post-Development)				
SCS Equation	Rainfall (P)	P Excess (Pe)	Runoff (Q)	Max Stage
Storm Event	Taken from SFWMD Maps	$Pe = \frac{(P-0.2S)^2}{(P+0.8S)}$	$Q = Pe \times A \times \frac{1ft}{12in}$	Cascade Model Output
100 yr 72 hr	9.50 in	5.64 in	0.57 ac-ft	
25 yr 24 hr				
10 yr 24 hr				
5 yr 24 hr				
5 yr 1 hr				

Area (A) = 1.20 ac

The following compares the SFWMD runoff calculations listed under section 2.2 of this report (1" over entire site area vs. 2.5 x % impervious):



Water Quality Computation (Post-Development)	
Compute first inch of runoff from the entire developed site. *(Entire Developed Area = Total Project Area - Lake Area)	1.13 ac-in = (1 in.) X (Total Project Area- Lake Area) 0.09 ac-ft = (1.13 ac-in) / (12 in.)
Compute 2.5 inches times the percentage of imperviousness. Site Area for WQ pervious/impervious calculation <u>only</u> Impervious area, for WQ pervious/impervious calculation <u>only</u> Percentage of imperviousness for water quality For 2.5 in. times the percentage impervious Compute volume required for quality detention	2.50 in 0.95 ac = (Total Project) - (Lake + Roof) 0.29 ac = (Site area for WQ pervious/impervious) - (Pervious) 30.4% = (Impervious area for WQ x 100%) / (Site area for WQ) 0.76 in = (Depth) x (% of Imperviousness for WQ) 0.72 ac-in = (inches to be treated) X (total site - lake) 0.06 ac-ft = (.72 ac-in) / (12 in.)
Since the .09 ac-ft computed for the 1st inch of runoff is greater than the .06 ac-ft computed for 2.5 inches times the percentage of imperviousness, the volume of .09 ac-ft controls.	1.13 ac-in is the minimum volume to be managed for Water Quality. 0.09 ac-ft = (1.13 ac-in) / (12 in.)

Total Project = 1.20 ac
 Roof = 0.18 ac
 Lake (includes pools) = 0.07 ac
 Pervious = 0.66 ac

Summary of runoff calculations comparing the methods established by the Village of Pinecrest:

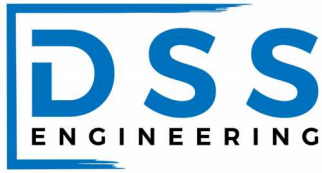
Runoff Volume to be Retained On-Site		
Method	Volume (ac-in)	Volume (ac-ft)
1" Over Entire Site	1.13	0.09
2.5 x % Impervious	0.72	0.06
Difference in Pre- vs. Post-Development	1.76	0.15

Since the difference between the pre- and post-development runoff is greater, the 0.15 ac-ft volume is to be retained on-site within dry retention.

Runoff Volume to be Managed = 1.757 ac-in

Runoff Volume Management		
Total Volume Required	1.757 ac-in	0.146 ac-ft
Volume Managed in Retention	1.906 ac-in	0.159 ac-ft

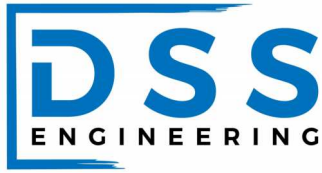
Storage volume provided in dry retention > Volume required = OK!



4. CONCLUSIONS

The proposed single-family home will capture the runoff volume generated from difference between the pre- and post-development conditions for the 25-year, 24-hour storm event. The site will include a combination of conveyance swales and bioretention systems. The front driveway is to be constructed of concrete slabs graded to the grassed areas. The site perimeter includes a grassed berm to avoid discharging runoff to adjacent properties.

The drainage flow patterns will remain generally unchanged. As can be observed from the calculations above, the runoff volume generated on-site will be mitigated adequately to satisfy Village of Pinecrest's stormwater management requirements for the given storm event.



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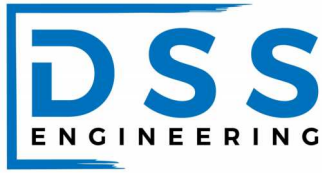
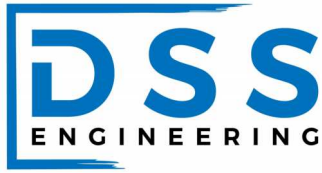


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1. PROJECT DESCRIPTION

1.1 Existing Conditions

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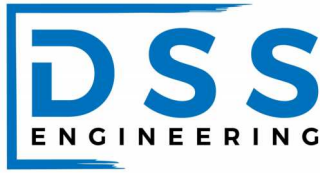
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Post-Improvements Land Coverage Areas		
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See **Appendix A** for Pre- and Post-Development Drainage Area Maps.



2. STORMWATER ANALYSIS

2.1 Land Use Information

The site was analyzed by comparing 3 parameters established by the Village of Pinecrest to achieve retention for the 25-yr, 24-hour storm event, and discussed in more detail in Section 2.2 below.

The information below was used to analyze the site's stormwater management needs under the post-improvements conditions:

Total On-Site Area	= 1.20 acre
Total On-Site Impervious Area	= 0.54 acre
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On-Site Assumptions:

Average Site Grade Elevation	= 9.28' NGVD
Water Table Elevation	= 2.50' NGVD

2.2 Village of Pinecrest Stormwater Management Design Criteria

The largest of the three following must be retained on-site in dry retention swale/ponds:

1. 1" runoff x entire site
2. 2.5" runoff x impervious x entire site (per SFWMD env. Resources handbook)
3. Difference between pre and post-development runoff volumes

Design Storm:

25-Year, 24-Hour Storm = 9.50" (Source: Village of Pinecrest)

See **Appendix B** for the rainfall data.

2.3 Percolation Test Data

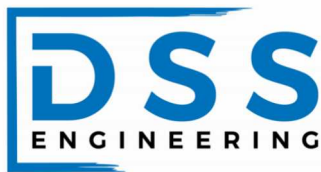
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See **Figure 1** for percolation test & boring report.

2.4 Level of Service (LOS)

The main objective for providing LOS criteria is to protect the public, provide safe transportation routes, and provide appropriate flood protection. The 25-year, 24-hour storm event has been established as flood protection criteria for the project area.



2.5 Seasonal High Groundwater Table

The Average Groundwater Elevations were obtained from Open-File Report 02-91, Average October Water Levels 1990-99, Plate 2 of the U.S. Geological Survey (USGS). The Average October Groundwater Elevation for this project is 3.00-feet (NGVD).

See Figure 1.

3. STORMWATER ANALYSIS

3.1 Pre-development Land Use Breakdown

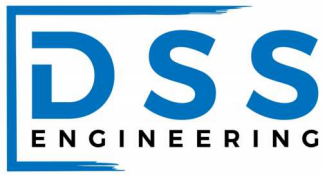
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Pre-development Soil Storage & CN Calculations

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Site Specific Soil Storage (S)	7.4 in = (S*) x (%A_p)
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S* = Soil Storage (SFWMD Table)



Pre-development Runoff Calculations

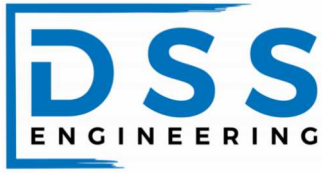
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3.2 Post-development Land Use Breakdown

Land Use Breakdown (Post-Development)											
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Building/Garages/Pool Terrace	7,697	0.177	14.7%	11.00		11.00	1.62			0.95	0.14
Pool + Reflective Ponds	3,164	0.073	6.0%	10.00		10.00	0.60	0.036	0.436	0.9	0.05
Driveways/Walkways	7,604	0.175	14.5%		10.42	9.84	1.43			0.9	0.13
Pool Deck	5,023	0.115	9.6%	10.62	10.96	10.79	1.03			0.9	0.09
										0.9	
										0.9	
Pervious Areas	28,891	0.663	55.2%			8.75	4.82	0.163	1.959		0.17
Retention 1 (V)	7,770	0.178	14.8%	8.50		8.50	1.26	0.089	1.070	0.3	0.04
Retention 1 (L)	9,910	0.228	18.9%	8.50	9.00	8.75	1.66	0.057	0.683	0.3	0.06
Retention 2 (V)	250	0.006	0.5%	8.20		8.20	0.04	0.006	0.069	0.3	0.00
Retention 2 (L)	1,000	0.023	1.9%	8.20	9.20	8.70	0.17	0.011	0.138	0.3	0.01
Retention 3 (V)										0.3	
Retention 3 (L)										0.3	
Offsite Retention (V)										0.3	
Offsite Retention (L)										0.3	
Name (L)										0.3	
Name (L)										0.3	
Green	9,961	0.23	19.0%	8.40	9.50	8.95	1.70			0.3	0.06
Total	52,379	1.202456	100.0%			9.51	9.51	0.200	2.395	Composite C→	0.58



Post-development Soil Storage & CN Calculations

Soil Storage (Post-Development)	
Average Finished Grade (NGVD)	9.51 ft
Average Water Table (NGVD)	2.50 ft
Depth to Water Table	7.01 ft = (9.51 ft) - (2.5 ft)
Soil Storage SFWMD (S*)	8.18 in
%Total Pervious Area (%A _p)	55.2%
Site Specific Soil Storage (S)	4.51 in = (S*) x (%A_p)
Curve Number (CN)	69 = 1000 / (10 + S)

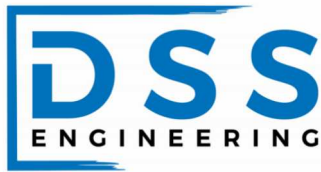
S = Soil Storage (SFWMD Table)*

Post-development Runoff Calculations

Runoff & Max Stage (Post-Development)				
SCS Equation	Rainfall (P)	P Excess (Pe)	Runoff (Q)	Max Stage
Storm Event	Taken from SFWMD Maps	$Pe = \frac{(P-0.2S)^2}{(P+0.8S)}$	$Q = Pe \times A \times \frac{1ft}{12in}$	Cascade Model Output
100 yr 72 hr	9.50 in	5.64 in	0.57 ac-ft	
25 yr 24 hr				
10 yr 24 hr				
5 yr 24 hr				
5 yr 1 hr				

Area (A) = 1.20 ac

The following compares the SFWMD runoff calculations listed under section 2.2 of this report (1" over entire site area vs. 2.5 x % impervious):



Water Quality Computation (Post-Development)	
Compute first inch of runoff from the entire developed site. *(Entire Developed Area = Total Project Area - Lake Area)	1.13 ac-in = (1 in.) X (Total Project Area- Lake Area) 0.09 ac-ft = (1.13 ac-in) / (12 in.)
Compute 2.5 inches times the percentage of imperviousness. Site Area for WQ pervious/impervious calculation <u>only</u> Impervious area, for WQ pervious/impervious calculation <u>only</u> Percentage of imperviousness for water quality For 2.5 in. times the percentage impervious Compute volume required for quality detention	2.50 in 0.95 ac = (Total Project) - (Lake + Roof) 0.29 ac = (Site area for WQ pervious/impervious) - (Pervious) 30.4% = (Impervious area for WQ x 100%) / (Site area for WQ) 0.76 in = (Depth) x (% of Imperviousness for WQ) 0.72 ac-in = (inches to be treated) X (total site - lake) 0.06 ac-ft = (.72 ac-in) / (12 in.)
Since the .09 ac-ft computed for the 1st inch of runoff is greater than the .06 ac-ft computed for 2.5 inches times the percentage of imperviousness, the volume of .09 ac-ft controls.	1.13 ac-in is the minimum volume to be managed for Water Quality. 0.09 ac-ft = (1.13 ac-in) / (12 in.)

Total Project = 1.20 ac
Roof= 0.18 ac
Lake (includes pools)= 0.07 ac
Pervious = 0.66 ac

Summary of runoff calculations comparing the methods established by the Village of Pinecrest:

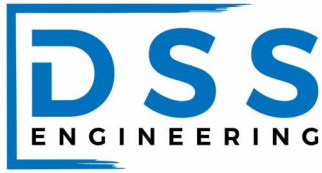
Runoff Volume to be Retained On-Site		
Method	Volume (ac-in)	Volume (ac-ft)
1" Over Entire Site	1.13	0.09
2.5 x % Impervious	0.72	0.06
Difference in Pre- vs. Post-Development	1.76	0.15

Since the difference between the pre- and post-development runoff is greater, the 0.15 ac-ft volume is to be retained on-site within dry retention.

Runoff Volume to be Managed = 1.757 ac-in

Runoff Volume Management		
Total Volume Required	1.757 ac-in	0.146 ac-ft
Volume Managed in Retention	1.959 ac-in	0.163 ac-ft

Storage volume provided in dry retention > Volume required = OK!



4. CONCLUSIONS

The proposed single-family home will capture the runoff volume generated from difference between the pre- and post-development conditions for the 25-year, 24-hour storm event. The site will include a combination of conveyance swales and bioretention systems. The front driveway is to be constructed of concrete slabs graded to the grassed areas. The site perimeter includes a grassed berm to avoid discharging runoff to adjacent properties.

The drainage flow patterns will remain generally unchanged. As can be observed from the calculations above, the runoff volume generated on-site will be mitigated adequately to satisfy Village of Pinecrest's stormwater management requirements for the given storm event.

LIST OF APPENDICES

- Appendix A: Pre- and Post-Development Drainage Area Maps
- Appendix B: Rainfall Map for 25-Year, 24-Hour Storm Event
- Appendix C: Percolation Test & Boring Report

HERRERA
RESIDENCE

0825 SW 122ND STREET
MIAMI, FL 33156
SEAL

DJS ENGINEERING, LLC
DILLON SWIDERSKI, 2010, P.E., CIVIL
FL REG NO. 30466

REVISIONS

NO.	DESC	DATE

PERMIT SET

BAHU - TRAUTMAN

ARCHITECT

INTERIOR DESIGNER

JOB NUMBER: 20250205

CHECKED BY: DJS

ISSUE DATE: 03/04/2025

SCALE: AS NOTED

SHEET TITLE

SHEET NUMBER

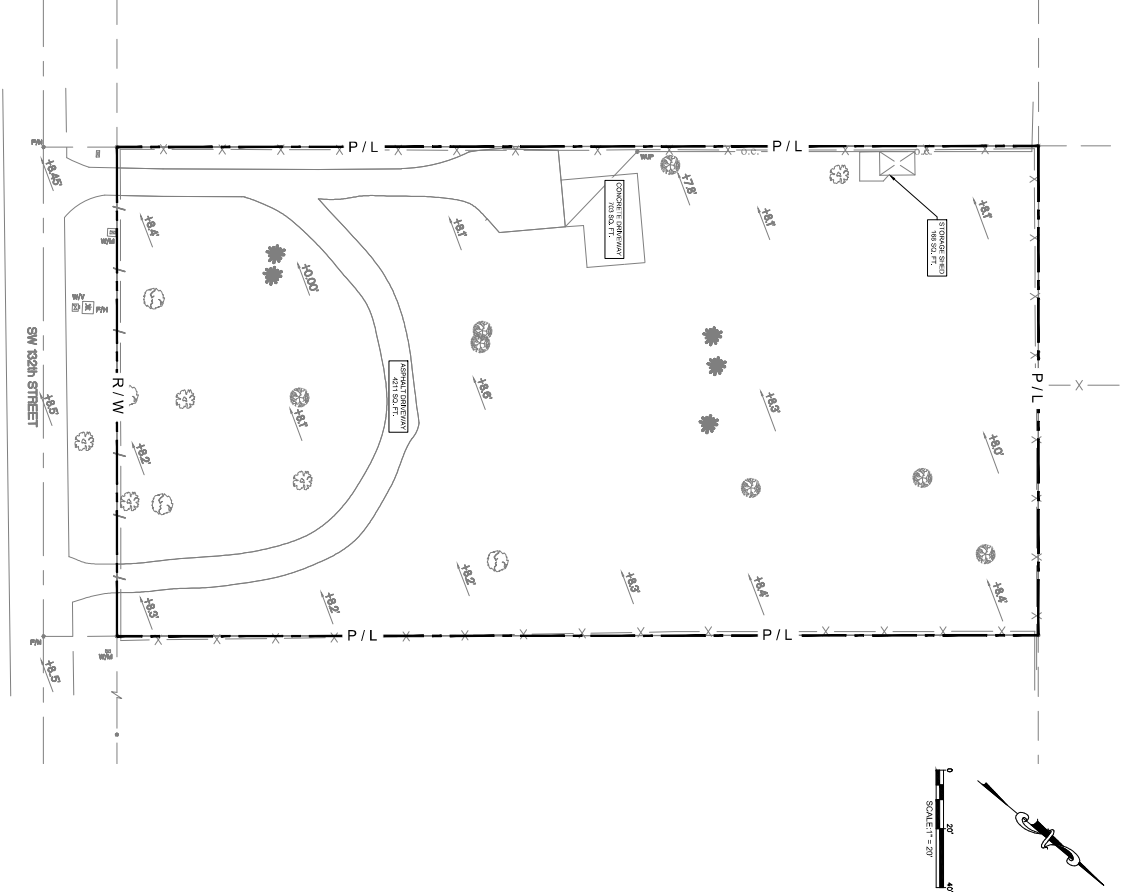
PRE

PRE
IMPROVEMENTS
PLAN

THIS ITEM HAS BEEN DIGITALLY SIGNED
AND SEALED BY DILLON SWIDERSKI, P.E. ON
THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS OF THIS
ITEM ARE VOID AND ANY COPIES
AND SEALED AND THE SIGNATURE MUST BE
VERIFIED ON ANY ELECTRONIC COPIES.

PERMIT SET - NOT FOR CONSTRUCTION

PRE-IMPROVEMENTS LAND COVERAGE AREAS		
USE	AREA (SF)	AREA (ACRE)
TOTAL IMPERVIOUS AREA	5082	0.116
TOTAL PERVIOUS AREA	47297	1.086
TOTAL SITE AREA	52379	1.202



6825 SW 132ND STREET
MIAMI, FL 33156

SEAL

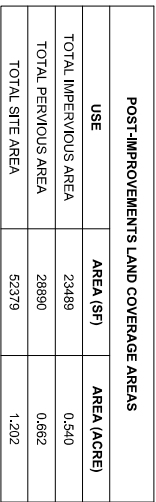
PERMIT SET



SHEET TITLE

SHEET NUMBER

PERMIT SET - NOT FOR CONSTRUCTION



POST-IMPROVEMENTS LAND COVER AGE AREAS

USE	AREA (SF)	AREA (ACRE)
TOTAL IMPERVIOUS AREA	23469	0.540
TOTAL PERVIOUS AREA	26890	0.662
TOTAL SITE AREA	52379	1.202

USE	AREA (SF)	AREA (ACRE)
-----	-----------	-------------

IMPERVIOUS AREA

PREVIOUS AREA

AL SITE AREA

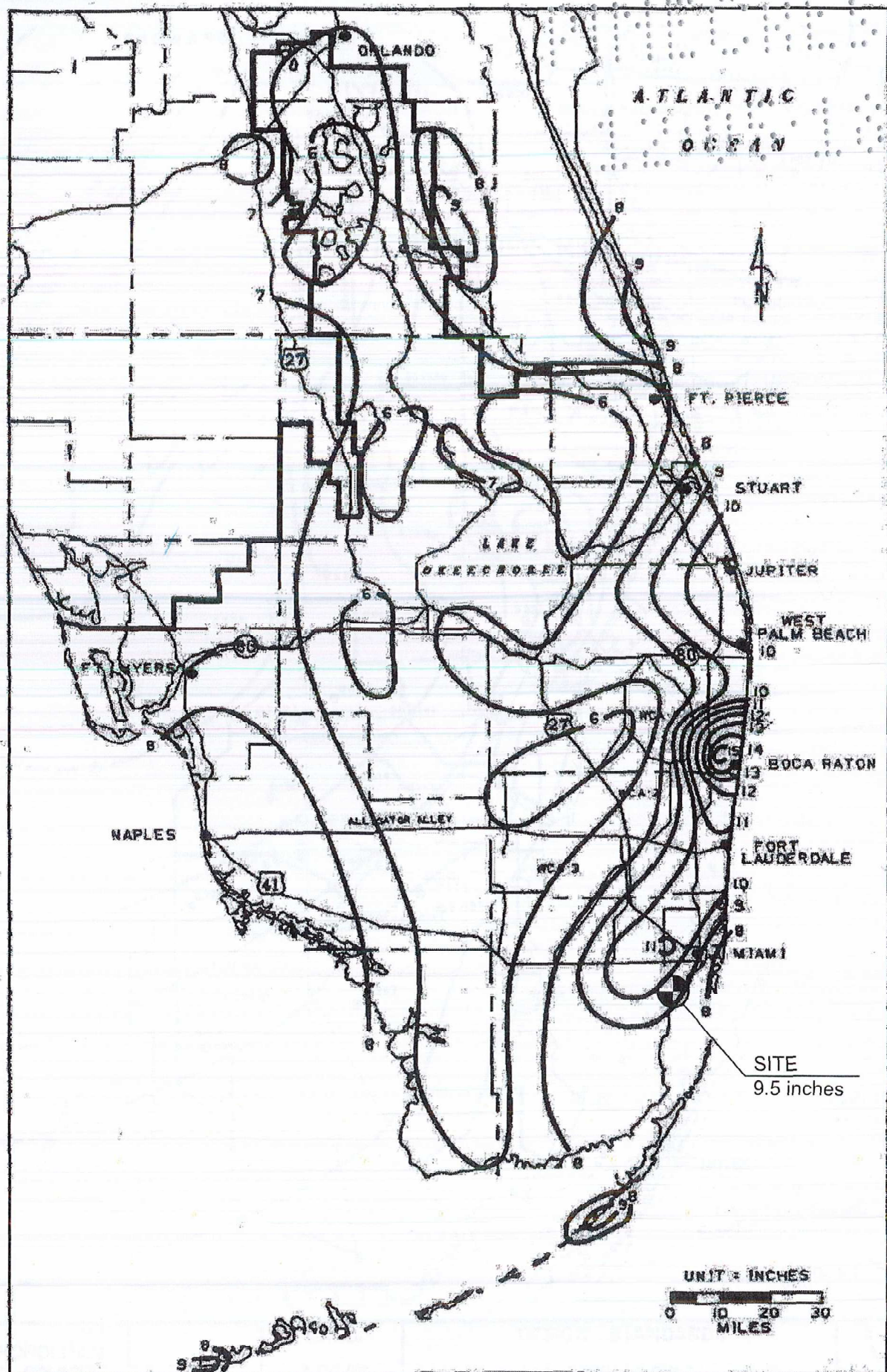
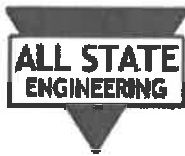


FIGURE C-5. 1-DAY RAINFALL: 25-YEAR RETURN PERIOD



All State Engineering & Testing Consultants, Inc.

TESTING LABORATORIES-ENGINEERS-INSPECTION SERVICES-CHEMISTS-DRILLING-ENVIRONMENTAL SERVICES

December 20th, 2024

Revised date 3/14/2025

**Ball-Trautman Architects, LLC.
1533 Sunset Drive Suite # 101,
Miami, FL 33143**

**RE: Geotechnical Engineering Report for
 Single Family Residence
 6825 SW 132nd Street, Miami FL 33156**

To Whom It May Concern,

This letter presents the results of All State Engineering & Testing Consultants, Inc. (ASETC) Geotechnical Engineering Study for the above referenced project. The purpose of the geotechnical engineering study was to evaluate the site subsurface conditions and provide foundation recommendations for the project.

Project Description

Our understanding of the site is based on our observations during our subsurface investigation. Information you provided to us indicates the project consists of the construction of a Single-Family Residence Addition.

Test Method and Subsurface Investigation

The borings were conducted in accordance with procedures outlined for Standard Penetration Test and split spoon sampling of soils by ASTM Method D-1586 as described below.

Two (2) feet long, two (2) inches O.D. split spoon sampler was driven into the ground by successive blows with a 140 lbs hammer dropping thirty (30) inches. The soil sampler was driven two (2) feet at a time (continuous method) then extracted for visual examination and classification of the soil samples.

The number of blows required for one (1) foot penetration of the sample is designated as "N" (known as the standard Penetration Resistance Value). The N Value provides an indication of the relative density of non-cohesive soils and the consistency of cohesive soils. A general evaluation of soils is made from the established correlation between "N" and the relative density or consistency of soils. This dynamic method of soil testing has been widely accepted by foundation engineers and architects to conservatively evaluate the bearing capacity of soils.

The subsurface investigation consisted of performing five (5), 20-ft deep Standard Penetration Test (SPT) borings (B-1, B-2, B-3, B-4, B-5). The borings were performed on December 3rd, 2024.

Based on the information obtained from the SPT borings,

Boring B-1 comprised of

0'-0" to 3'-0" Sand with Rock Pieces with N-Values ranging from 13 to 14;
3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments with N-Values ranging from 14 to 24;
8'-0" to 13'-0" Lime Sand with Rock Fragments with N-Values ranging from 34 to 45;
13'-0" to 20'-0" Lime Rock with Lime Sand with N-Values ranging from 45 to 59;

Boring B-2 comprised of

0'-0" to 3'-0" Sand with Rock Pieces with N-Values ranging from 12 to 16;
3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments with N-Values ranging from 16 to 24;
8'-0" to 13'-0" Lime Sand with Rock Fragments with N-Values ranging from 30 to 44;
13'-0" to 20'-0" Lime Rock with Lime Sand with N-Values ranging from 44 to 62;

Boring B-3 comprised of

0'-0" to 3'-0" Sand with Rock Pieces with N-Values ranging from 12 to 28;
3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments with N-Values ranging from 28 to 39;
8'-0" to 13'-0" Lime Sand with Rock Fragments with N-Values ranging from 47 to 60;
13'-0" to 20'-0" Lime Rock with Lime Sand with N-Values ranging from 60 to 78;

Boring B-4 comprised of

0'-0" to 3'-0" Sand with Rock Pieces with N-Values ranging from 19 to 27;
3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments with N-Values ranging from 27 to 37;
8'-0" to 13'-0" Lime Sand with Rock Fragments with N-Values ranging from 44 to 56;
13'-0" to 20'-0" Lime Rock with Lime Sand with N-Values ranging from 56 to 73;

Boring B-5 comprised of

0'-0" to 3'-0" Sand with Rock Pieces with N-Values ranging from 15 to 23;
3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments with N-Values ranging from 23 to 35;
8'-0" to 13'-0" Lime Sand with Rock Fragments with N-Values ranging from 43 to 55;
13'-0" to 20'-0" Lime Rock with Lime Sand with N-Values ranging from 55 to 79.

Groundwater Conditions

The groundwater table was encountered at 6'-3" to 6'-11" below the existing ground surface during the performance of the borings. The groundwater elevation is expected to change with seasonal and tidal fluctuations, and during storm/hurricane events. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

Foundation Evaluation and Recommendations

Shallow Foundation

Site Recommendations for Addition:

The site preparation work is expected to include site clearing, subgrade leveling, the placement and compaction of fill and backfill material, and proofrolling.

The site clearing should be performed in all the areas of proposed foundation construction and support of on-grade site features. Site clearing should encompass removing all unsuitable materials such as topsoil, organics, trash, and any other deleterious materials. Upon clearing, proofrolling of the areas of proposed construction or support of on-grade features should be performed. Any soft area observed during proofrolling should be removed and replaced with approved fill material.

We recommend excavate entire building area plus 5'-0" outside the perimeter of construction and remove all unsuitable subsurface material to the necessary depth. We anticipate an average excavation depth of approximately 2'-0" below the footers.

Any fill and backfill materials should be placed in lifts which do not exceed twelve (12) inches. The fill and backfill materials are to be compacted to field dry densities of not less than 95% of their Maximum Dry Density as determined by the Modified Proctor Compaction Test (ASTM D-1557). The fill and backfill materials should consist of inorganic granular soils, free from deleterious materials, and should be pre-approved by our firm.

The footing and slab subgrades should be compacted to field dry densities of not less than 95% of their Maximum Dry Density as determined by the Modified Proctor Compaction Test (ASTM D-1557).

Based on the proposed construction, our evaluation of the site subsurface conditions, the Site Preparation Procedures given above having been achieved and verified, we confirm that spread footings and single column pads may be appropriately designed for a **safe soil bearing capacity of 3000 lb/ft²**.

Limitations

Regardless of the thoroughness of our geotechnical exploration there is always a possibility that conditions on the subject project may be different from those at the test locations. With this being said, ASETC reserves the right to amend/supplement this report upon discovery of new information. Should any subsoil conditions different from those reported in our boring logs be encountered during construction, All State Engineering and Testing Consultants, Inc. should be notified immediately.

The conclusions provided by All State Engineering & Testing Consultants, Inc. are based solely on the information presented in this report. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

We appreciate the opportunity to have been of service to you. Please feel free to contact us if there are any questions or comments pertaining to this report.

Sincerely,



John H. Buscher, PE #41844
All State Engineering &
Testing Consultants, Inc.

ATTACHMENT 1.0 – BORING LOG

ATTACHMENT 1.0 – BORING LOG

SPT SOIL BORING REPORT

CLIENT:		Balli-Trautman Architects, LLC		Page:	1 of 1
CLIENT ADDRESS:		1533 Sunset Drive s # 101, Miami, FL 33143		Report #:	1
PROJECT:		Single Family Residence		Boring #:	B-1
PROJECT ADDRESS:		6825 SW 132nd Street, Miami, FL 33156		Date:	12/3/24
BORING LOCATION:		Southeast Corner		Driller:	TH
DEPTH (FEET)	DESCRIPTION OF MATERIALS	Sample No.	Hammer blows on sampler		"N" Value
1	0'-0" to 3'-0" Sand with Rock Pieces	0'-2'	4	5	13
2			8	6	
3			6	7	
4	3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments	2'-4'	7	7	14
5			8	9	
6		4'-6'	10	10	19
7			11	12	
8	8'-0" to 13'-0" Lime Sand with Rock Fragments	6'-8'	12	12	24
9			14	16	
10		8'-10'	18	19	34
11			19	21	
12	13'-0" to 20'-0" Lime Rock with Lime Sand	10'-12'	20	21	41
13			21	22	
14		12'-14'	23	24	45
15			26	25	
16		14'-16'	27	27	52
17			27	29	
18		16'-18'	29	30	58
19			29	29	
20	End of Boring @ 20'-0"	18'-20'	30	29	59
21		20'-22'			0
22					
23		22'-24'			0
24					
25		24'-26'			0
26					
27	26'-28'			0	
28					
29	28'-30'			0	
30					

WATER TABLE: 6'-3" below surface

Respectfully Submitted,

 John Buscher PE #41844
 All State Engineering & Testing Consultants, Inc.

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SPT SOIL BORING REPORT

CLIENT:		Balli-Trautman Architects, LLC		Page:		1 of 1													
CLIENT ADDRESS:		1533 Sunset Drive s # 101, Miami, FL 33143				Report #:		1											
PROJECT:		Single Family Residence				Boring #:		B-2											
PROJECT ADDRESS:		6825 SW 132nd Street, Miami, FL 33156				Date:		11/21/24											
BORING LOCATION:		Southwest Corner				Driller:		TH											
DEPTH (FEET)	DESCRIPTION OF MATERIALS					Sample No.	Hammer blows on sampler		"N" Value										
1	0'-0" to 3'-0" Sand with Rock Pieces					0'-2'	5	6	12										
2							6	7											
3							7	8											
4	3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments					2'-4'	8	8	16										
5							9	10											
6						4'-6'	10	11	20										
7							11	12											
8	8'-0" to 13'-0" Lime Sand with Rock Fragments					6'-8'	12	12	24										
9							13	14											
10											8'-10'	16	15	30					
11												17	18						
12											10'-12'	18	19	36					
13												21	20						
14						13'-0" to 20'-0" Lime Rock with Lime Sand					12'-14'	24	25	44					
15												25	28						
16											14'-16'	30	27	58					
17												30	31						
18																16'-18'	33	32	64
19																	32	31	
20						18'-20'	31	31	62										
21							31	31											
22						End of Boring @ 20'-0"					20'-22'			0					
23																			
24											22'-24'			0					
25																			
26																24'-26'			0
27																			
28																26'-28'			0
29																			
30											28'-30'			0					

WATER TABLE: 6'-4" below surface

Respectfully Submitted:

John Buscher PE #44844

All State Engineering &
Testing Consultants, Inc.

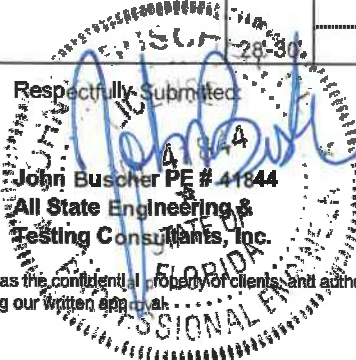
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SPT SOIL BORING REPORT

CLIENT:		Balli-Trautman Architects, LLC	Page:		1 of 1	
CLIENT ADDRESS:		1533 Sunset Drive s # 101, Miami, FL 33143	Report #:		1	
PROJECT:		Single Family Residence	Boring #:		B-3	
PROJECT ADDRESS:		6825 SW 132nd Street, Miami, FL 33156	Date:		12/3/24	
BORING LOCATION:		Center	Driller:		TH	
DEPTH (FEET)	DESCRIPTION OF MATERIALS		Sample No.	Hammer blows on sampler		"N" Value
1	0'-0" to 3'-0" Sand with Rock Pieces			7	8	12
2			0'-2'	4	10	
3				12	14	
4	3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments		2'-4'	14	15	28
5				17	16	33
6			4'-6'	17	19	
7				19	19	39
8	6'-8'	20	19			
9	8'-0" to 13'-0" Lime Sand with Rock Fragments			21	23	47
10			8'-10'	24	27	
11				26	29	57
12			10'-12'	28	28	
13	13'-0" to 20'-0" Lime Rock with Lime Sand			30	31	60
14			12'-14'	29	32	
15				31	33	66
16			14'-16'	33	38	
17				36	38	77
18			16'-18'	39	40	
19		40	39	78		
20	18'-20'	39	40			
21	End of Boring @ 20'-0"					0
22			20'-22'			0
23						
24			22'-24'			0
25						
26			24'-26'			0
27						
28			26'-28'			0
29						
30						0

WATER TABLE: 6'-11" below surface

Respectfully Submitted:



John Buscher PE # 41844
All State Engineering &
Testing Consultants, Inc.

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SPT SOIL BORING REPORT

CLIENT:	Ball-Trautman Architects, LLC	Page:	1 of 1	
CLIENT ADDRESS:	1533 Sunset Drive s # 101, Miami, FL 33143	Report #:	1	
PROJECT:	Single Family Residence	Boring #:	B-4	
PROJECT ADDRESS:	6825 SW 132nd Street, Miami, FL 33156	Date:	12/3/24	
BORING LOCATION:	Notheast Corner	Driller:	TH	
DEPTH (FEET)	DESCRIPTION OF MATERIALS	Sample No.	Hammer blows on sampler	"N" Value
1	0'-0" to 3'-0" Sand with Rock Pieces		8	19
2		0'-2'	10	
3			12	27
4	3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments	2'-4'	14	
5			15	32
6		4'-6'	16	
7			17	37
8		6'-8'	19	
9	8'-0" to 13'-0" Lime Sand with Rock Fragments		20	44
10		8'-10'	23	
11			22	50
12		10'-12'	26	
13	13'-0" to 20'-0" Lime Rock with Lime Sand		25	56
14		12'-14'	29	
15			33	66
16		14'-16'	34	
17			36	72
18		16'-18'	35	
19			35	73
20		18'-20'	36	
21	End of Boring @ 20'-0"			0
22		20'-22'		
23				0
24		22'-24'		
25				0
26		24'-26'		
27				0
28		26'-28'		
29				0
30				

WATER TABLE: 6'-11" below surface

Respectfully Submitted:

John Busch, OPE # 41844

All State Engineering &
Testing Consultants, Inc.

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All State Engineering & Testing Consultants, Inc.

TESTING LABORATORIES-ENGINEERS-INSPECTION SERVICES-CHEMIST-DRILLING-ENVIRONMENTAL SERVICES
12949 West Okeechobee Rd. Unit C-4, Hialeah Gardens, Florida 33018 / Phone: 305-888-3973, Fax: 305-888-7443

SPT SOIL BORING REPORT

CLIENT:		Balli-Trautman Architects, LLC		Page:	1 of 1		
CLIENT ADDRESS:		1533 Sunset Drive s # 101, Miami, FL 33143		Report #:	1		
PROJECT:		Single Family Residence		Boring #:	B-5		
PROJECT ADDRESS:		6825 SW 132nd Street, Miami, FL 33156		Date:	12/3/24		
BORING LOCATION:		Northwest Corner		Driller:	TH		
DEPTH (FEET)	DESCRIPTION OF MATERIALS			Sample No.	Hammer blows on sampler "N" Value		
1	0'-0" to 3'-0" Sand with Rock Pieces			0'-2'	6	7	15
2					8	9	
3					10	11	
4	3'-0" to 8'-0" Coarse Quartz Sand with Lime Sand Fragments			2'-4'	12	13	23
5					14	15	
6				4'-6'	15	15	30
7					16	17	
8				6'-8'	18	19	35
9	8'-0" to 13'-0" Lime Sand with Rock Fragments			8'-10'	19	21	43
10					22	23	
11				10'-12'	23	24	49
12					25	26	
13				26	26	55	
14	13'-0" to 20'-0" Lime Rock with Lime Sand			12'-14'	29	31	66
15					32	33	
16				14'-16'	33	35	77
17					36	39	
18				16'-18'	38	38	79
19					39	40	
20				18'-20'	39	39	
21	End of Boring @ 20'-0"			20'-22'			0
22							
23				22'-24'			0
24							
25				24'-26'			0
26							
27				26'-28'			0
28							
29				28'-30'			0
30							

WATER TABLE: 6'-10" below surface

Respectfully Submitted

John Buscher PE # 41844
All State Engineering & Testing Consultants, Inc.

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TESTING LABORATORIES-ENGINEERS-INSPECTION SERVICES-CHEMISTS-DRILLING-ENVIRONMENTAL SERVICES
12949 W Okeechobee Rd, Unit 4, Hialeah Gardens, FL 33018 Office: 305-888-3373 Fax: 305-888-7443 info@allstateengineering.com

PERCOLATION TEST USUAL OPEN HOLE - CONSTANT HEAD

DATE:	December 5, 2024	Test Number:	P-1
CLIENT:	Balli-Trautman Architects		
CLIENT ADDRESS:	1533 Sunset Drive S # 101, Miami, FL 333143		
PROJECT:	Single Family Residence		
PROJECT ADDRESS:	6825 SW 132 nd Street, Miami, FL		
LOCATION OF TEST:	South Side		

INTERVAL	ELAPSED TIME (MINUTES)	GPM
1	1:00	8
2	1:00	8
3	1:00	8
4	1:00	8
5	1:00	8
6	1:00	8
7	1:00	8
8	1:00	8
9	1:00	8
10	1:00	8

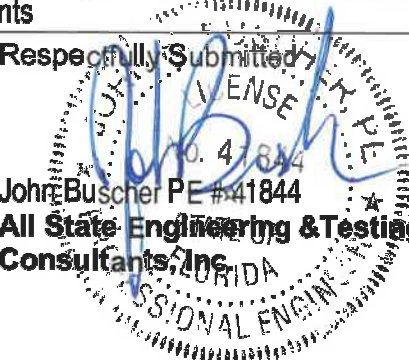
DEPTH OF HOLE :	15 feet	DIA. OF HOLE :	0.5 feet	PERC. RATE:	8.0 GPM
DEPTH OF WATER TABLE BELOW GROUND SURFACE :			6 feet		
SATURATED HOLE DEPTH :	9 feet	STABILIZED FLOW RATE:	0.017824		
		k-VALUE:	1.56E-04		

SUBSURFACE INVESTIGATION

Depth Below Ground Surface	Soil Description
0'-0" to 3'-0"	Sand with Rock Pieces
3'-0" to 8'-0"	Cemented Sand with Lime Sand Fragments
8'-0" to 15'-0"	Lime Sand with Rock Fragments

Field Technician: TH
Typed by: AS

Respectfully Submitted,

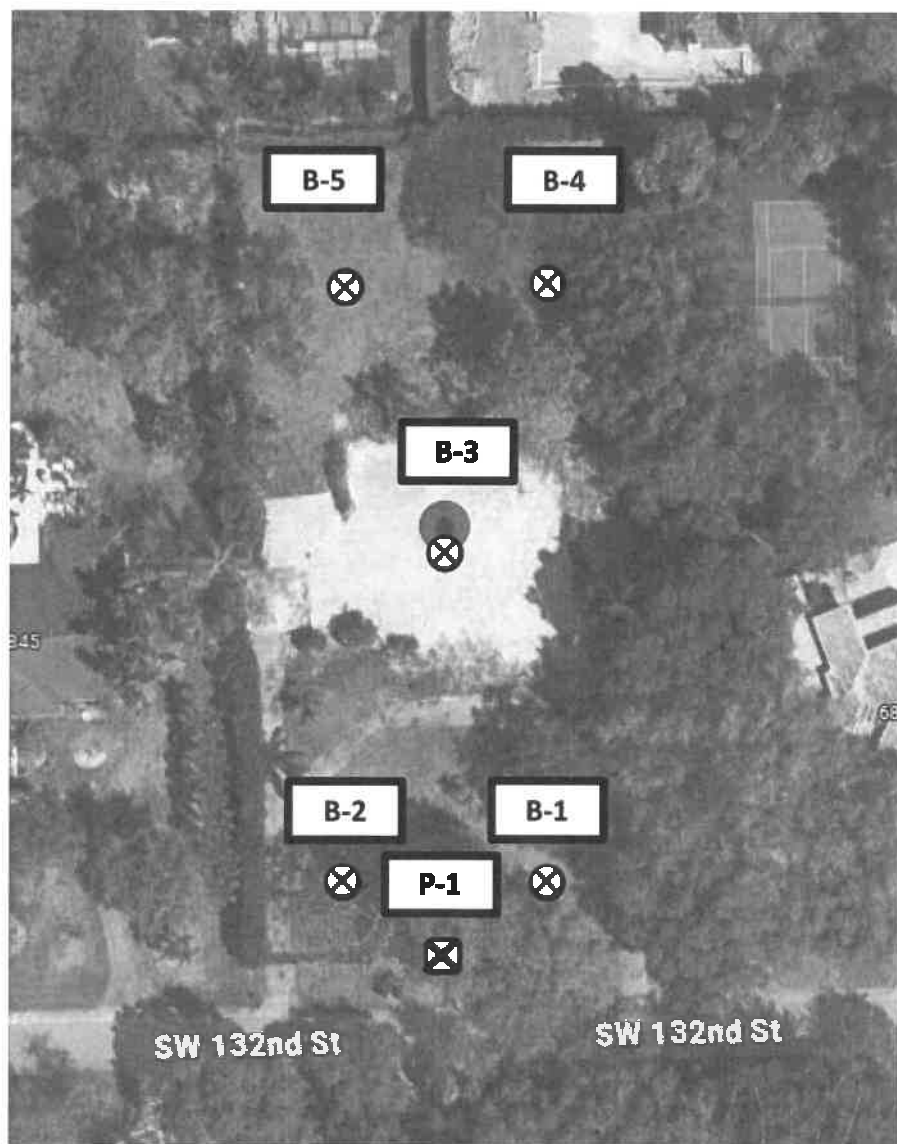

John Buscher PE #41844
All State Engineering & Testing
Consultants, Inc.



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TESTING LABORATORIES-ENGINEERS-INSPECTION SERVICES-CHEMISTS-DRILLING-ENVIRONMENTAL SERVICES
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Boring Location Map **6825 SW 132nd Street, Miami, FL 33156**

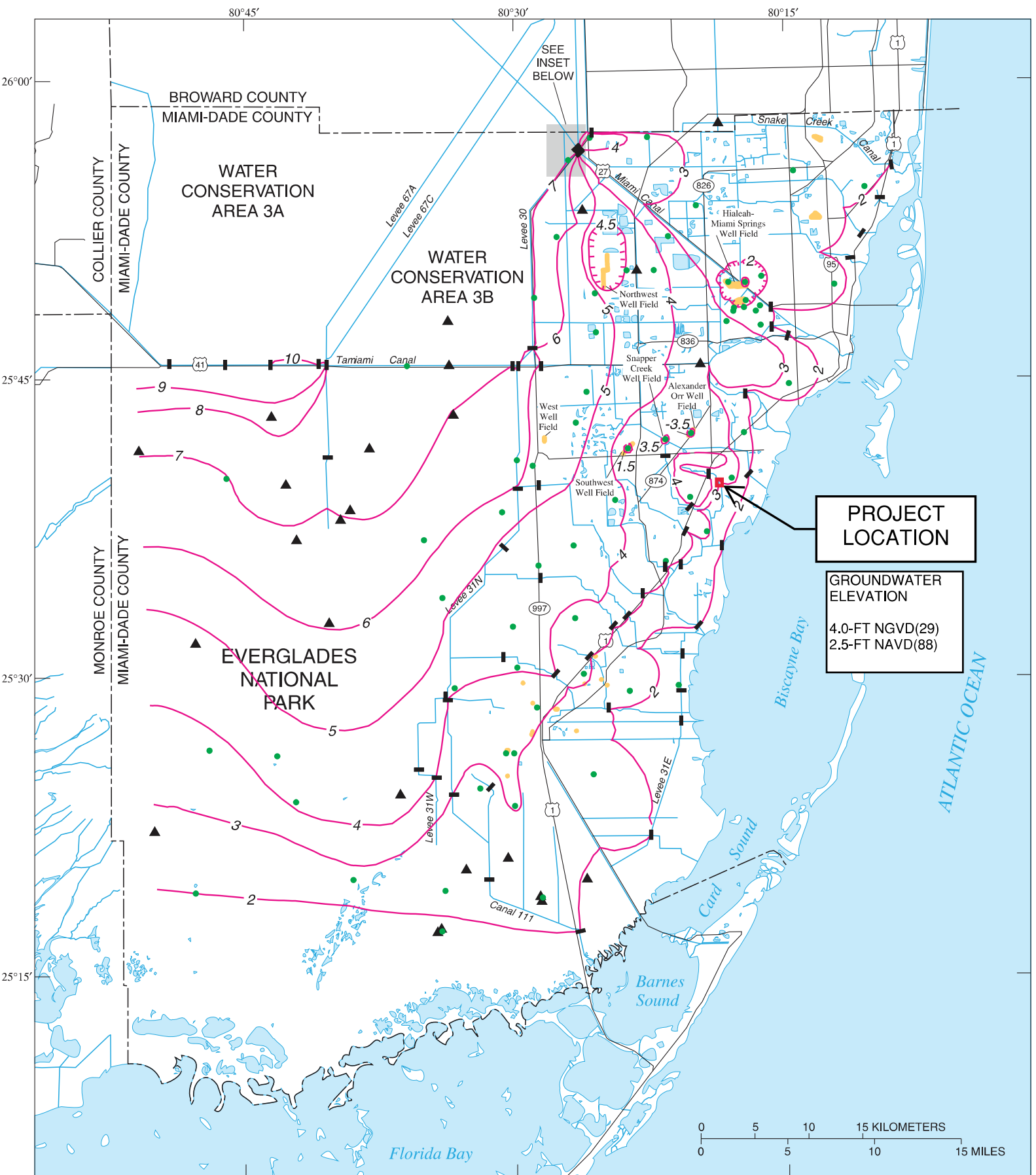


Legend

-  Boring Location
-  Percolation Location

LIST OF FIGURES

Figure 1: Miami-Dade County Seasonal High Groundwater Table Map



AVERAGE OCTOBER WATER LEVELS 1990-99