



STORMWATER CALCULATIONS FOR 50 SW 5TH STREET POMPANO BEACH

Project Name and Location:

50 SW 5TH Street
Pompano Beach, Florida
Robayna Project No. 250057

Prepared for:

Ramos Architects and
780 Tamiami Canal Road
Miami, Florida

Prepared by:

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Report Date: April 29, 2025

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PZ25-12000015

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PRE-DEVELOPMENT STAGE STORAGE CALCULATIONS

| | |
|------------------------|--------------------------------|
| Date: | 4/21/2025 |
| Project Name: | 50 SW 5th Street Pompano Beach |
| Project Number: | 250057 |
| Prepared By: | M. Pajon |

SURFACE WATER MANAGEMENT CALCULATIONS (S.F.W.M.D. CRITERIA)

I. GIVEN:

A. ACREAGE:

- | | | |
|----|---------------------|---|
| 1. | Lake Area = | 0.000 ac. |
| 2. | Buildings = | 0.060 ac. |
| 3. | Pavement & Others = | 0.185 ac. |
| 4. | Green Areas = | 0.030 ac. (Including Lake Bank, Swale and Dry Detention Area) |
| 5. | Total = | <u>0.275 ac.</u> |

B. OTHER:

- | | | |
|----|---------------------------------------|---|
| 1. | The current zoning on the property is | = |
|----|---------------------------------------|---|

II. DESIGN CRITERIA:

A. WATER QUALITY CRITERIA:

Quality standards shall be provided during a 3 year, 1 hour storm event for one of the following three combinations:

1. If a wet detention system, then whichever is the greater of the following:
 - a. The first inch of runoff from the entire project site.
 - b. The amount of 2.5 inches times the percent impervious for the project site.
2. If a dry detention system, then 75% of the volume required for the wet detention system.
3. If a retention system, then 50% of the volume required.

Also, the following shall apply:

4. If the property is zoned "Commercial", at least 0.5 inches of retention or dry detention pre-treatment will be required.
5. Any detention system shall be designed to discharge no more than 0.5 inches of the detained volume per day.

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B. WATER QUANTITY CRITERIA:

1. DESIGN EVENTS AND RAINFALL AMOUNTS:

- a. Design Event for Quality:
Frequency: N.A. year
Duration: N.A. hour
Amount: N.A. inches
- b. Design Event for Verifying Flood Zone (add 1-foot for Residential/Commercial per FBC):
Frequency: 100 year
Duration: 1 day
Amount: 15.00 inches
- c. Design Event for Minimum Discharge Elevation:
Frequency: 25 year
Duration: 3 day
Amount: 16.00 inches
- d. Design Event for Minimum Finish Floor Elevation:
Frequency: 100 year
Duration: 3 day
Amount: 20.00 inches

2. ADDITIONAL DESIGN INFORMATION:

- a. Design Water / Control Elevation: **2.50** NGVD.
(Note: Proposed minimum road elevation must be at least 2 feet above the wet season water table or control elevation.)
- b. Drainage Basin / Canal Number:
- c. Receiving System Regulated Stage Elevation: NGVD.
- d. Design Storm Allowable Discharge: **0.00** cfs.
- e. Time of Concentration: **0.17** hour
- f. Minimum Discharge:
Residential projects shall have systems with the calculated ability to discharge by surface flow or subsurface percolation at least 3/8 inch per day.

III. COMPUTATIONS:

A. WATER QUALITY COMPUTATIONS:

- 1. Compute the first inch of runoff from the entire developed project site:
= 1.00 inch X 0.275 acres X (1 foot / 12 inches)
= **0.023 ac-ft for the first inch of runoff**
- 2. Compute 2.5 inches times the percent impervious for the developed project site:
 - a. Site area for water quality pervious / impervious calculations only:
= Total Project - (Lake Area + Buildings)
= 0.275 acres - (0.000 acres + 0.060 acres)
= **0.215 acres of site area for water quality calculations**

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- b. Impervious area for water quality pervious / impervious calculations only:
- $$\begin{aligned}
 &= \text{Site area for water quality} - \text{Pervious area} \\
 &= 0.215 \text{ acres} - 0.030 \text{ acres} \\
 &= \mathbf{0.185 \text{ acres of impervious area for water quality calculations}}
 \end{aligned}$$
- c. Percentage of impervious area for water quality:
- $$\begin{aligned}
 &= \text{Impervious area for water quality} / \text{Site area for water quality} \times 100\% \\
 &= 0.185 \text{ acres} / 0.215 \text{ acres} \times 100\% \\
 &= \mathbf{86.05 \% \text{ Impervious}}
 \end{aligned}$$
- d. For 2.5 inches times the percentage of impervious area:
- $$\begin{aligned}
 &= 2.5 \text{ inches} \times 86.05 \% \\
 &= \mathbf{2.151 \text{ inches to be treated}}
 \end{aligned}$$
- e. Compute volume required for quality detention:
- $$\begin{aligned}
 &= \text{Inches to be treated} \times (\text{Total Site Area} - \text{Lake Area}) \\
 &= 2.151 \text{ inches} \times (0.275 \text{ acres} - 0.000 \text{ acres}) \times (1 \text{ foot} / 12 \text{ inches}) \\
 &= \mathbf{0.049 \text{ ac-ft required for detention storage}}
 \end{aligned}$$
3. The first inch of runoff from the entire developed site = 0.023 ac-ft
 2.5 inches times the percentage of impervious area = 0.049 ac-ft
- | |
|---|
| The volume of 0.049 ac-ft controls |
|---|
4. If the project is zoned "Commercial" or if the project were discharging directly to a sensitive receiving body and is more than 40% impervious, 0.5 inches of dry detention pre-treatment must be provided:
- $$\begin{aligned}
 &= 0.5 \text{ inches} \times (\text{Total Site Area} - \text{Lake Area}) \\
 &= 0.5 \text{ inches} \times (0.275 \text{ acres} - 0.000 \text{ acres}) \times (1 \text{ foot} / 12 \text{ inches}) \\
 &= \mathbf{0.011 \text{ ac-ft required for pre-treatment}}
 \end{aligned}$$
5. Compute credit for using one of the following systems:
- a. Wet detention volume to be provided:
- $$\begin{aligned}
 &= \text{Total required detention} - \text{Pre-treatment} \\
 &= 0.049 \text{ ac-ft} - 0.011 \text{ ac-ft} \\
 &= \mathbf{0.038 \text{ ac-ft of volume required for wet detention}}
 \end{aligned}$$
- b. Dry detention volume to be provided (75% of the total required detention volume):
- $$\begin{aligned}
 &= \text{Total required detention volume} \times 75\% \\
 &= 0.049 \text{ ac-ft} \times 75\% \\
 &= \mathbf{0.037 \text{ ac-ft of volume required for dry detention}}
 \end{aligned}$$
- c. Dry retention volume to be provided (50% of the total required detention volume):
- $$\begin{aligned}
 &= \text{Total required detention volume} \times 50\% \\
 &= 0.049 \text{ ac-ft} \times 50\% \\
 &= \mathbf{0.025 \text{ ac-ft of volume required for dry retention}}
 \end{aligned}$$

B. SUMMARY OF WATER QUALITY COMPUTATIONS:

| Item: | Description: | Quantity |
|-------|---|-------------|
| A.1 | First inch of runoff from entire project site = | 0.023 ac-ft |
| A.2 | 2.5 inches times percent impervious = | 0.049 ac-ft |
| A.3 | Volume to be treated = | 0.049 ac-ft |
| A.4 | Pre-treatment required for commercial site = | 0.011 ac-ft |
| A.5.a | Wet detention volume required = | 0.038 ac-ft |
| A.5.b | Dry detention volume required = | 0.037 ac-ft |
| A.5.c | Dry retention volume required = | 0.025 ac-ft |
| A.5.d | Exfiltration trench volume required = | 0.049 ac-ft |

C. STAGE ELEVATION INFORMATION:

| Item: | Description: | S type | Length ft. | Area ac. | Low ft. | High ft. | I % | C % | Total Area % |
|---------------|---------------------|--------|------------|--------------|-------------|-------------|--------------|--------------|--------------|
| 1 | N.A. | V | | | | | | | 0.00 |
| 2 | N.A. | L | | | | | | | 0.00 |
| 3 | Dry Retention | V | | | | | | | 0.00 |
| 4 | Sidewalk | L | | | | | | | 0.00 |
| 5 | Pool Deck | V | | | | | | | 0.00 |
| 6 | Green Area | L | | 0.030 | 5.52 | 6.52 | 0 | 50 | 10.91 |
| 7 | Impervious | L | | 0.185 | 5.52 | 6.98 | 100 | 100 | 67.27 |
| 8 | Rear Swale | L | | | | | | | 0.00 |
| 9 | N.A. | L | | | | | | | 0.00 |
| 10 | N.A. | L | | | | | | | 0.00 |
| 11 | Buildings | V | | 0.060 | 6.98 | | 100 | 100 | 21.82 |
| T | Exfiltration Trench | | | | | | | | |
| Total: | | | | 0.275 | 5.52 | 6.98 | 89.09 | 94.55 | 100.0 |

* Abbreviations: S = Storage; (V = Vertical Storage & L = Linear Storage)
I = Impervious
C = Compaction; (Use the following compaction factors: 0%, 50%, 100%)
T = Exfiltration Trench (Groundwater Elevation is Low, and Lowest Inlet is High)

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D. SCS CURVE NUMBER AND SOIL STORAGE CALCULATIONS:

1. Soil Moisture Storage Table:

Existing Soil Type: **2 FLATWOODS**

| Depth to Water Table ft. | Cumulative Water Storage (Pre.-Dev.) in. | Compacted Water Storage (Post 50%) in. | Compacted Water Storage (Post 100%) in. |
|-----------------------------|--|--|---|
| 1 | 0.76 | 0.67 | 0.57 |
| 2 | 2.50 | 2.19 | 1.88 |
| 3 | 5.40 | 4.73 | 4.05 |
| 4 | 9.00 | 7.88 | 6.75 |

2. Available Soil Storage Calculation:

| Item: | Description: | Ave. Elev. ft. | S in. | P Area acres | Volume Stored ac-in |
|---------------|---------------|-------------------|--------------|--------------------|---------------------------|
| 1 | N.A. | 0.00 | 0.00 | 0.000 | 0.00 |
| 2 | N.A. | 0.00 | 0.00 | 0.000 | 0.00 |
| 3 | Dry Retention | 0.00 | 0.00 | 0.000 | 0.00 |
| 4 | Sidewalk | 0.00 | 0.00 | 0.000 | 0.00 |
| 5 | Pool Deck | 0.00 | 0.00 | 0.000 | 0.00 |
| 6 | Green Area | 6.02 | 6.36 | 0.030 | 0.19 |
| 7 | Impervious | 6.25 | 6.08 | 0.000 | 0.00 |
| 8 | Rear Swale | 0.00 | 0.00 | 0.000 | 0.00 |
| 9 | N.A. | 0.00 | 0.00 | 0.000 | 0.00 |
| 10 | N.A. | 0.00 | 0.00 | 0.000 | 0.00 |
| 11 | Buildings | 3.49 | 0.56 | 0.000 | 0.00 |
| Total: | | 6.02 | 13.00 | 0.030 | 0.19 |

* Abbreviations: S = Soil Storage
P = Pervious

3. Moisture Storage Calculation (S):

$$\begin{aligned}
 &= \text{Available soil storage} / \text{Total Site Area} \\
 &= 0.19 \text{ ac-in} / 0.275 \text{ acres} \\
 &= \underline{\underline{0.69 \text{ inches}}}
 \end{aligned}$$

4. SCS Curve Number Calculation (CN):

$$\begin{aligned}
 &= 1000 / (S + 10) \\
 &= 1000 / (0.694 + 10) \\
 &= \underline{\underline{94}}
 \end{aligned}$$

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E. SURFACE STORAGE CALCULATIONS:

1. Stage vs. Storage Calculations:

| Stage ft. | STORAGE (ac-ft) | | | | | | | | | | | | |
|--------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|------------|----------------|
| | Item: | 1 ac-ft | 2 ac-ft | 3 ac-ft | 4 ac-ft | 5 ac-ft | 6 ac-ft | 7 ac-ft | 8 ac-ft | 9 ac-ft | 10 ac-ft | T ac-ft | Total ac-ft |
| 2.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| 6.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 |
| 7.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 |
| 7.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 |
| 8.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.38 |
| 8.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.49 |
| 9.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.60 |
| 9.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.71 |
| 10.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 | 0.69 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 |
| 10.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.92 |
| 11.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.88 | 0.00 | 0.00 | 0.00 | 0.00 | 1.03 |
| 11.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.97 | 0.00 | 0.00 | 0.00 | 0.00 | 1.14 |
| 12.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 1.06 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 |
| | | | | | | | | | | | | | |

* Abbreviations: T = Exfiltration Trench

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POST-DEVELOPMENT STAGE STORAGE CALCULATIONS

Date: 4/21/2025
Project Name: 50 SW 5th Street Pompano Beach
Project Number: 250057
Prepared By: M. Pajon

SURFACE WATER MANAGEMENT CALCULATIONS (S.F.W.M.D. CRITERIA)

I. GIVEN:

A. ACREAGE:

- | | | |
|-----------|---------------------|---|
| 1. | Lake Area = | 0.000 ac. |
| 2. | Buildings = | 0.193 ac. |
| 3. | Pavement & Others = | 0.037 ac. |
| 4. | Green Areas = | 0.045 ac. (Including Lake Bank, Swale and Dry Detention Area) |
| 5. | Total = | <u>0.275 ac.</u> |

B. OTHER:

1. The current zoning on the property is =

II. DESIGN CRITERIA:

A. WATER QUALITY CRITERIA:

Quality standards shall be provided during a 3 year, 1 hour storm event for one of the following three combinations:

1. If a wet detention system, then whichever is the greater of the following:
 - a. The first inch of runoff from the entire project site.
 - b. The amount of 2.5 inches times the percent impervious for the project site.
2. If a dry detention system, then 75% of the volume required for the wet detention system.
3. If a retention system, then 50% of the volume required.

Also, the following shall apply:

4. If the property is zoned "Commercial", at least 0.5 inches of retention or dry detention pre-treatment will be required.
5. Any detention system shall be designed to discharge no more than 0.5 inches of the detained volume per day.

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B. WATER QUANTITY CRITERIA:

1. DESIGN EVENTS AND RAINFALL AMOUNTS:

- a. Design Event for Quality:
Frequency: N.A. year
Duration: N.A. hour
Amount: N.A. inches
- b. Design Event for Verifying Flood Zone (add 1-foot for Residential/Commercial per FBC):
Frequency: 100 year
Duration: 1 day
Amount: 15.00 inches
- c. Design Event for Minimum Discharge Elevation:
Frequency: 25 year
Duration: 3 day
Amount: 16.00 inches
- d. Design Event for Minimum Finish Floor Elevation:
Frequency: 100 year
Duration: 3 day
Amount: 20.00 inches

2. ADDITIONAL DESIGN INFORMATION:

- a. Design Water / Control Elevation: **2.50** NAVD
(Note: Proposed minimum road elevation must be at least 2 feet above the wet season water table or control elevation.)
- b. Drainage Basin / Canal Number:
- c. Receiving System Regulated Stage Elevation: NGVD.
- d. Design Storm Allowable Discharge: **0.00** cfs.
- e. Time of Concentration: **0.17** hour
- f. Minimum Discharge:
Residential projects shall have systems with the calculated ability to discharge by surface flow or subsurface percolation at least 3/8 inch per day.

III. COMPUTATIONS:

A. WATER QUALITY COMPUTATIONS:

- 1. Compute the first inch of runoff from the entire developed project site:
= 1.00 inch X 0.275 acres X (1 foot / 12 inches)
= **0.023 ac-ft for the first inch of runoff**
- 2. Compute 2.5 inches times the percent impervious for the developed project site:
 - a. Site area for water quality pervious / impervious calculations only:
= Total Project - (Lake Area + Buildings)
= 0.275 acres - (0.000 acres + 0.193 acres)
= **0.082 acres of site area for water quality calculations**

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- b. Impervious area for water quality pervious / impervious calculations only:
 = Site area for water quality - Pervious area
 = 0.082 acres - 0.045 acres
 = **0.037 acres of impervious area for water quality calculations**
- c. Percentage of impervious area for water quality:
 = Impervious area for water quality / Site area for water quality X 100%
 = 0.037 acres / 0.082 acres X 100%
 = **45.12 % Impervious**
- d. For 2.5 inches times the percentage of impervious area:
 = 2.5 inches X 45.12 %
 = **1.128 inches to be treated**
- e. Compute volume required for quality detention:
 = Inches to be treated X (Total Site Area - Lake Area)
 = 1.128 inches X (0.275 acres - 0.000 acres) X (1 foot / 12 inches)
 = **0.026 ac-ft required for detention storage**
3. The first inch of runoff from the entire developed site = 0.023 ac-ft
 2.5 inches times the percentage of impervious area = 0.026 ac-ft
- | |
|---|
| The volume of 0.026 ac-ft controls |
|---|
4. If the project is zoned "Commercial" or if the project were discharging directly to a sensitive receiving body and is more than 40% impervious, 0.5 inches of dry detention pre-treatment must be provided:
 = 0.5 inches X (Total Site Area - Lake Area)
 = 0.5 inches X (0.275 acres - 0.000 acres) X (1 foot / 12 inches)
 = **0.011 ac-ft required for pre-treatment**
5. Compute credit for using one of the following systems:
- a. Wet detention volume to be provided:
 = Total required detention - Pre-treatment
 = 0.026 ac-ft - 0.011 ac-ft
 = **0.014 ac-ft of volume required for wet detention**
- b. Dry detention volume to be provided (75% of the total required detention volume):
 = Total required detention volume X 75%
 = 0.026 ac-ft X 75%
 = **0.019 ac-ft of volume required for dry detention**
- c. Dry retention volume to be provided (50% of the total required detention volume):
 = Total required detention volume X 50%
 = 0.026 ac-ft X 50%
 = **0.013 ac-ft of volume required for dry retention**

B. SUMMARY OF WATER QUALITY COMPUTATIONS:

| Item: | Description: | Quantity |
|-------|---|-------------|
| A.1 | First inch of runoff from entire project site = | 0.023 ac-ft |
| A.2 | 2.5 inches times percent impervious = | 0.026 ac-ft |
| A.3 | Volume to be treated = | 0.026 ac-ft |
| A.4 | Pre-treatment required for commercial site = | 0.011 ac-ft |
| A.5.a | Wet detention volume required = | 0.014 ac-ft |
| A.5.b | Dry detention volume required = | 0.019 ac-ft |
| A.5.c | Dry retention volume required = | 0.013 ac-ft |
| A.5.d | Exfiltration trench volume required = | 0.026 ac-ft |
| | | |

C. STAGE ELEVATION INFORMATION:

| Item: | Description: | S type | Length ft. | Area ac. | Low ft. | High ft. | I % | C % | Total Area % |
|---------------|---------------------|--------|------------|--------------|-------------|-------------|--------------|--------------|--------------|
| 1 | N.A. | V | | | | | | | 0.00 |
| 2 | N.A. | L | | | | | | | 0.00 |
| 3 | Dry Retention | V | | | | | | | 0.00 |
| 4 | Sidewalk | L | | | | | | | 0.00 |
| 5 | Pool Deck | V | | | | | | | 0.00 |
| 6 | Green Area | L | | 0.045 | 5.52 | 6.64 | 0 | 50 | 16.36 |
| 7 | Impervious | L | | 0.037 | 5.52 | 6.98 | 100 | 100 | 13.45 |
| 8 | Rear Swale | L | | | | | | | 0.00 |
| 9 | N.A. | L | | | | | | | 0.00 |
| 10 | Covered Parking | V | | 0.083 | 6.50 | | 100 | 100 | 30.18 |
| 11 | Buildings | V | | 0.110 | 6.98 | | 100 | 100 | 40.00 |
| T | Exfiltration Trench | | 115 | | 2.50 | 6.00 | | | |
| Total: | | | | 0.275 | 5.52 | 6.98 | 83.64 | 91.82 | 100.0 |

* Abbreviations:

S = Storage; (V = Vertical Storage & L = Linear Storage)

I = Impervious

C = Compaction; (Use the following compaction factors: 0%, 50%, 100%)

T = Exfiltration Trench (Grounwater Elevation is Low, and Lowest Inlet is High)

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D. SCS CURVE NUMBER AND SOIL STORAGE CALCULATIONS:

1. Soil Moisture Storage Table:

Existing Soil Type: **2** **FLATWOODS**

| Depth to Water Table ft. | Cumulative Water Storage (Pre-Dev.) in. | Compacted Water Storage (Post 50%) in. | Compacted Water Storage (Post 100%) in. |
|-----------------------------|---|--|---|
| 1 | 0.76 | 0.67 | 0.57 |
| 2 | 2.50 | 2.19 | 1.88 |
| 3 | 5.40 | 4.73 | 4.05 |
| 4 | 9.00 | 7.88 | 6.75 |

2. Available Soil Storage Calculation:

| Item: | Description: | Ave. Elev. ft. | S in. | P Area acres | Volume Stored ac-in |
|---------------|-----------------|-------------------|--------------|--------------------|---------------------------|
| 1 | N.A. | 0.00 | 0.00 | 0.000 | 0.00 |
| 2 | N.A. | 0.00 | 0.00 | 0.000 | 0.00 |
| 3 | Dry Retention | 0.00 | 0.00 | 0.000 | 0.00 |
| 4 | Sidewalk | 0.00 | 0.00 | 0.000 | 0.00 |
| 5 | Pool Deck | 0.00 | 0.00 | 0.000 | 0.00 |
| 6 | Green Area | 6.08 | 6.55 | 0.045 | 0.29 |
| 7 | Impervious | 6.25 | 6.08 | 0.000 | 0.00 |
| 8 | Rear Swale | 0.00 | 0.00 | 0.000 | 0.00 |
| 9 | N.A. | 0.00 | 0.00 | 0.000 | 0.00 |
| 10 | Covered Parking | 3.25 | 0.43 | 0.000 | 0.00 |
| 11 | Buildings | 3.49 | 0.56 | 0.000 | 0.00 |
| Total: | | 6.08 | 13.62 | 0.045 | 0.29 |

* Abbreviations: S = Soil Storage
P = Pervious

3. Moisture Storage Calculation (S):
 = Available soil storage / Total Site Area
 = 0.29 ac-in / 0.275 acres
 = **1.07 inches**
4. SCS Curve Number Calculation (CN):
 = $1000 / (S + 10)$
 = $1000 / (1.072 + 10)$
 = **90**

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E. SURFACE STORAGE CALCULATIONS:

1. Stage vs. Storage Calculations:

| Stage ft. | STORAGE (ac-ft) | | | | | | | | | | | | |
|--------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|------------|----------------|
| | Item: | 1 ac-ft | 2 ac-ft | 3 ac-ft | 4 ac-ft | 5 ac-ft | 6 ac-ft | 7 ac-ft | 8 ac-ft | 9 ac-ft | 10 ac-ft | T ac-ft | Total ac-ft |
| 2.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| 3.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 |
| 4.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 |
| 4.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 |
| 5.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 |
| 5.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 |
| 6.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.07 |
| 6.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.27 | 0.06 | 0.36 |
| 7.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.03 | 0.00 | 0.00 | 0.31 | 0.06 | 0.44 |
| 7.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.05 | 0.00 | 0.00 | 0.35 | 0.06 | 0.52 |
| 8.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.06 | 0.00 | 0.00 | 0.39 | 0.06 | 0.61 |
| 8.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.08 | 0.00 | 0.00 | 0.44 | 0.06 | 0.69 |
| 9.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.10 | 0.00 | 0.00 | 0.48 | 0.06 | 0.77 |
| 9.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.12 | 0.00 | 0.00 | 0.52 | 0.06 | 0.85 |
| 10.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 0.14 | 0.00 | 0.00 | 0.56 | 0.06 | 0.94 |
| 10.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.20 | 0.16 | 0.00 | 0.00 | 0.60 | 0.06 | 1.02 |
| 11.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.22 | 0.18 | 0.00 | 0.00 | 0.64 | 0.06 | 1.10 |
| 11.50 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 | 0.19 | 0.00 | 0.00 | 0.68 | 0.06 | 1.18 |
| 12.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.27 | 0.21 | 0.00 | 0.00 | 0.73 | 0.06 | 1.27 |
| | | | | | | | | | | | | | |

* Abbreviations:

T = Exfiltration Trench

DRC

EXFILTRATION TRENCH CALCULATIONS WATER QUALITY

| | Q (ac-feet)/hour | Q (ac-inch)/hour | K | H2 (ft) | W (ft) | du (ft) | ds (ft) | L (ft) | F.S | Length Calculated (ft) |
|-----------------|----------------------------|----------------------------|----------|-------------------|------------------|-------------------|-------------------|------------------|------------|----------------------------------|
| Required | 0.026 | 0.31 | 1.02E-04 | 3.5 | 4 | 1.667 | 6.5 | 56.5 | 2.0 | 112.9 |
| Provided | 0.026 | 0.32 | 1.02E-04 | 3.5 | 4 | 1.667 | 6.5 | 57.5 | 2.0 | 115.0 |

Note:

K: Hydraulic Conductivity (cfs/sf-ft of head) average

W: Trench Width

H2: Depth to Water Table

L: Length of Trench required

Lt: Length of Trench Provided

F.S. : Security Factor

du: Unsaturated trench depth (ft)

ds: Saturated trench depth (ft)

Lowest Rim = 6 ft

ROBAYNA AND ASSOCIATES, INC.

DRC

PZ25-12000015

08/06/2025

4. RESULTS

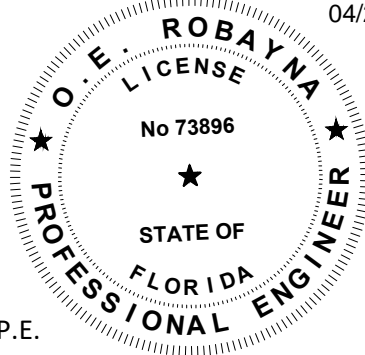
- a. The 100-year 3-day return storm reaches a maximum stage of 6.94 FT NGVD which is lower than the proposed FFE 6.98 FT NGVD. Refer to **Exhibit 6** for the Cascade 2001 results.
- b. The 100-year 1-day return storm reaches a maximum stage of 6.36 FT NGVD. Refer to **Exhibit 6** for the Cascade 2001 results.
- c. The 25-year 3-day return storm reaches a maximum stage of 6.43 FT NGVD. Refer to **Exhibit 6** for the Cascade 2001 results.

| Design Storm Rainfall | Pre-development Stage | Post-development Stage |
|-----------------------|-----------------------|------------------------|
| 25-year 3-day | 7.82 | 6.43 |
| 100-year 1-day | 7.72 | 6.36 |
| 100-year 3-day | 8.26 | 6.94 |

Sincerely yours,

ROBAYNA AND ASSOCIATES INC.

04/29/2025



Oscar E. Robayna, P.E.
State of Florida No. 73896
President

This item has been digitally signed and sealed by Oscar E. Robayna, PE, 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.

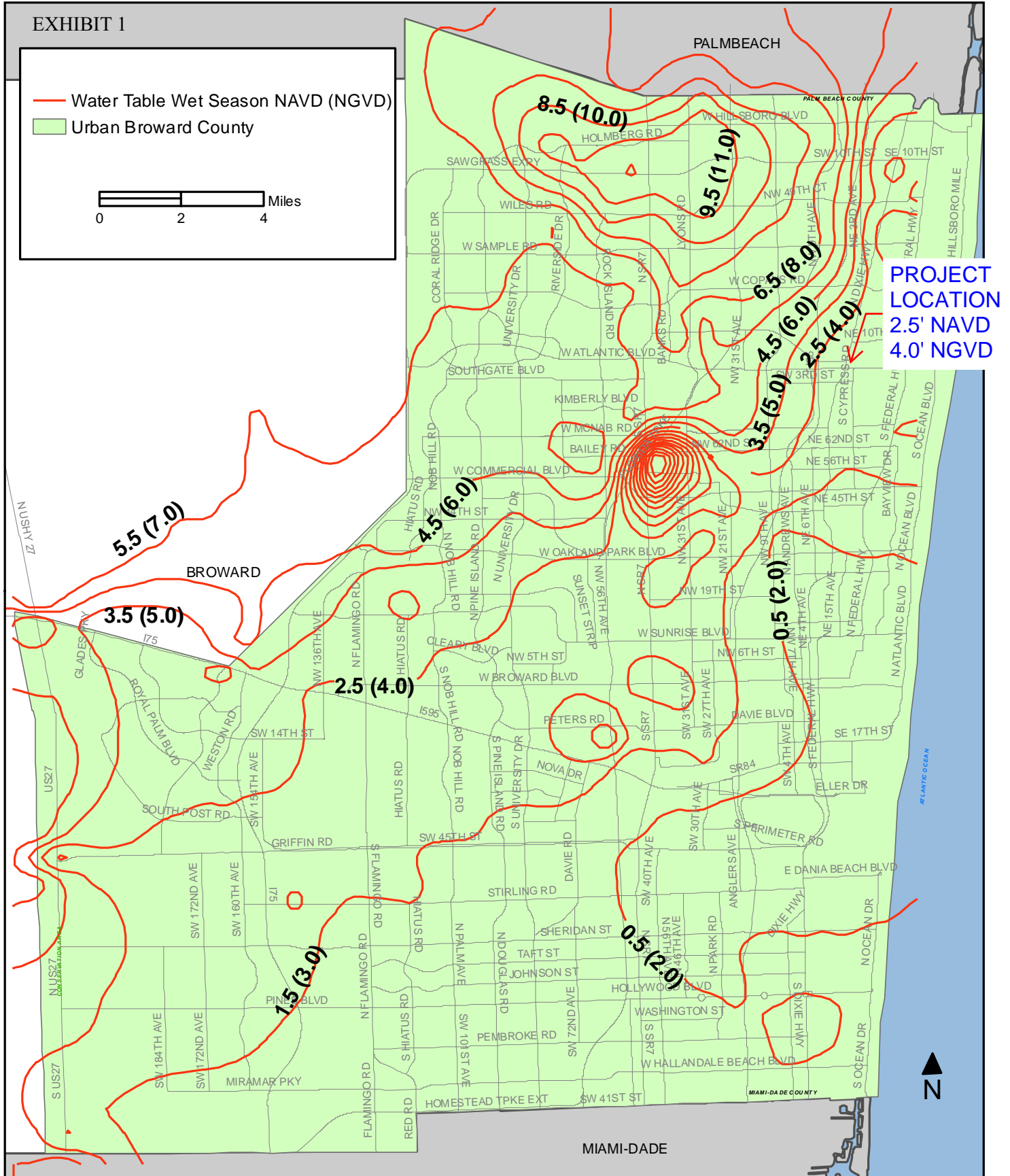
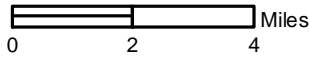
DRC

PZ25-12000015

08/06/2025

EXHIBIT 1

- Water Table Wet Season NAVD (NGVD)
- Urban Broward County



**PROJECT
LOCATION**
2.5' NAVD
4.0' NGVD

DRC

Division Name: Urban Planning Division
Department Name: Resilient Environment Department

This map is for conceptual purposes only and should not be used for legal boundary determinations.
Elevation converted from NGVD to NAVD using the FEMA approved conversion factor for Broward County of (-) 1.5

PZ25-12000015

08/06/2025

EXHIBIT 2

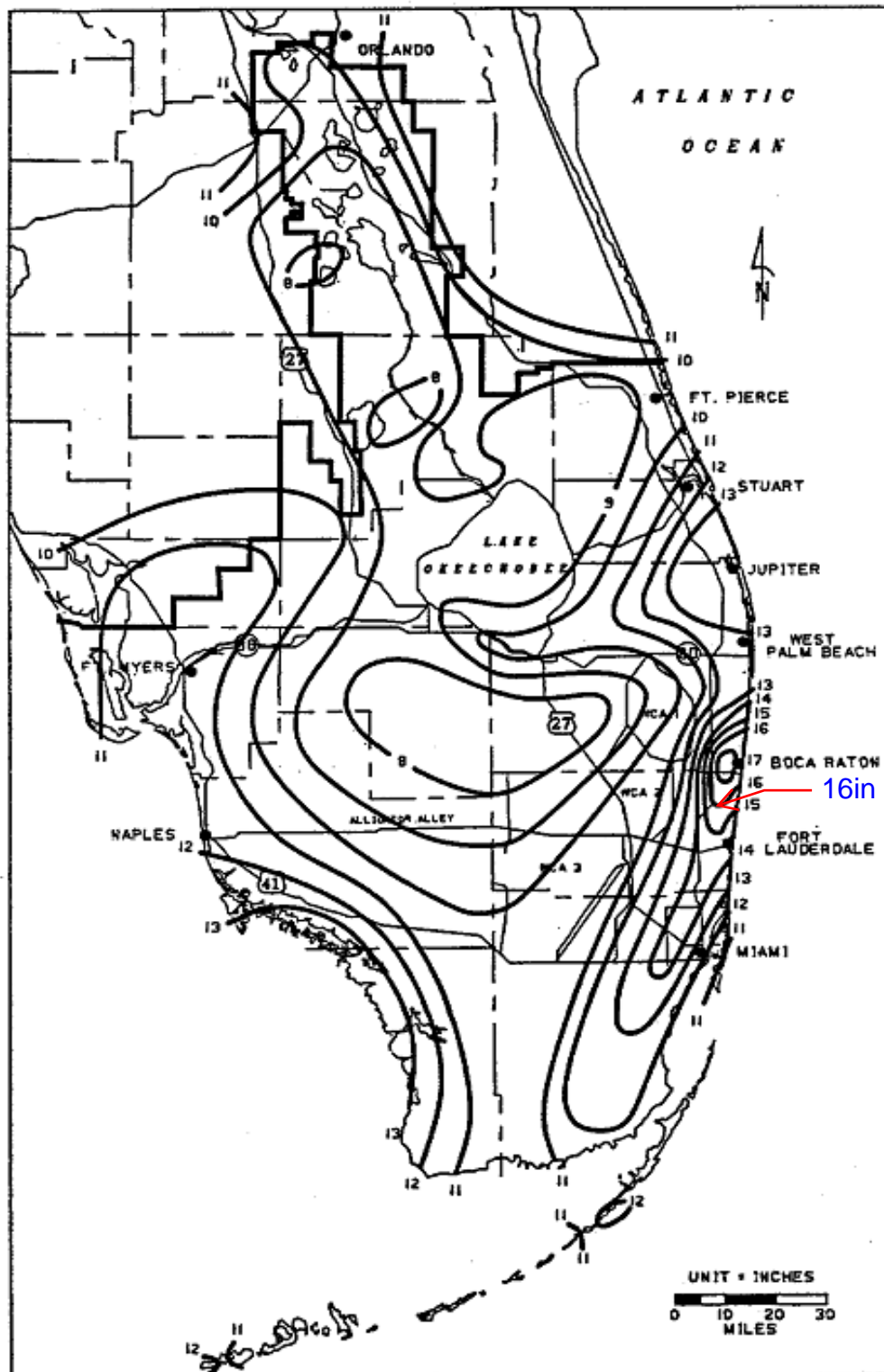


FIGURE C-8. 3-DAY RAINFALL: 25-YEAR RETURN PERIOD

EXHIBIT 2

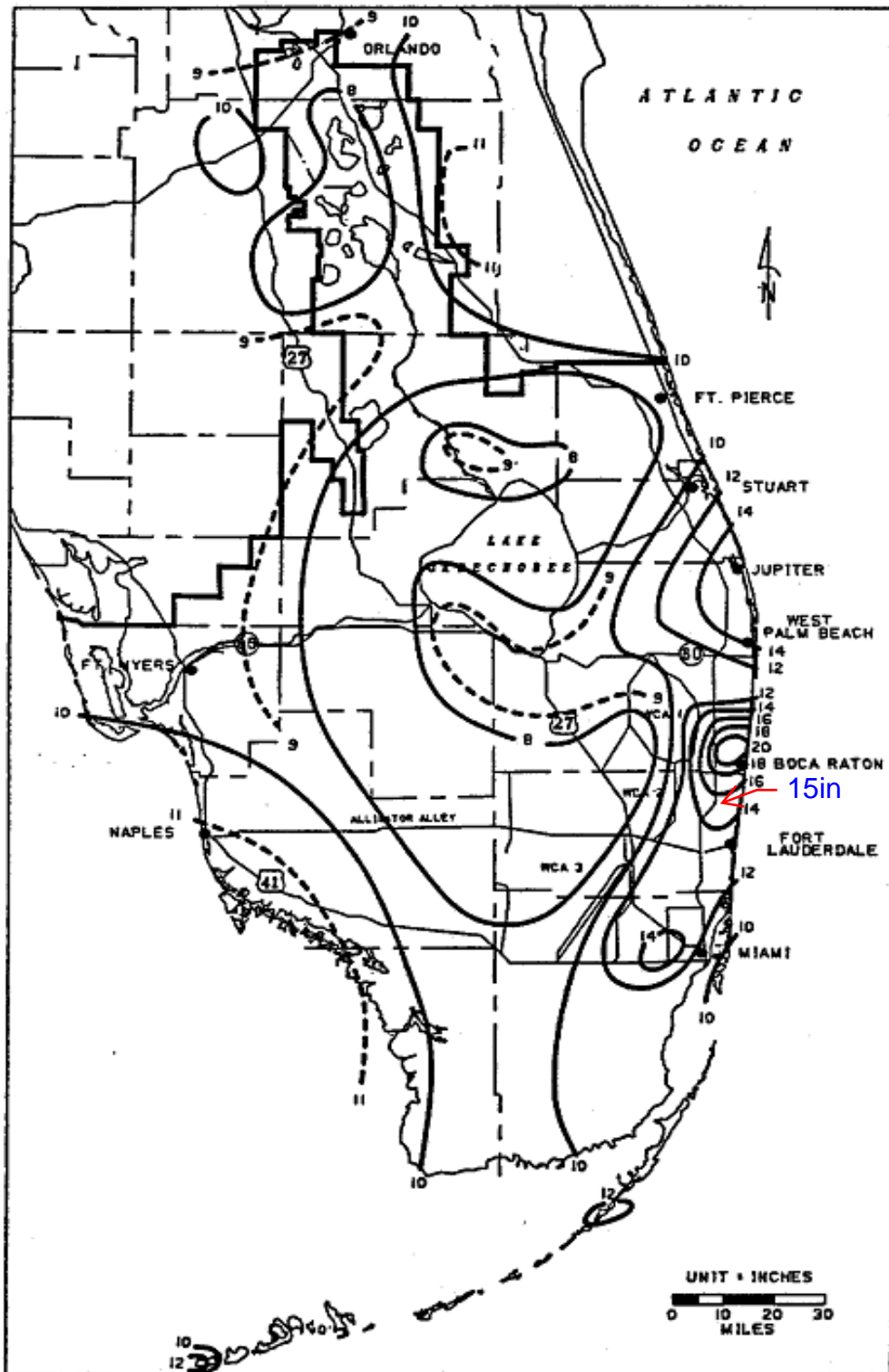


FIGURE C-6. 1-DAY RAINFALL: 100-YEAR RETURN PERIOD

EXHIBIT 2

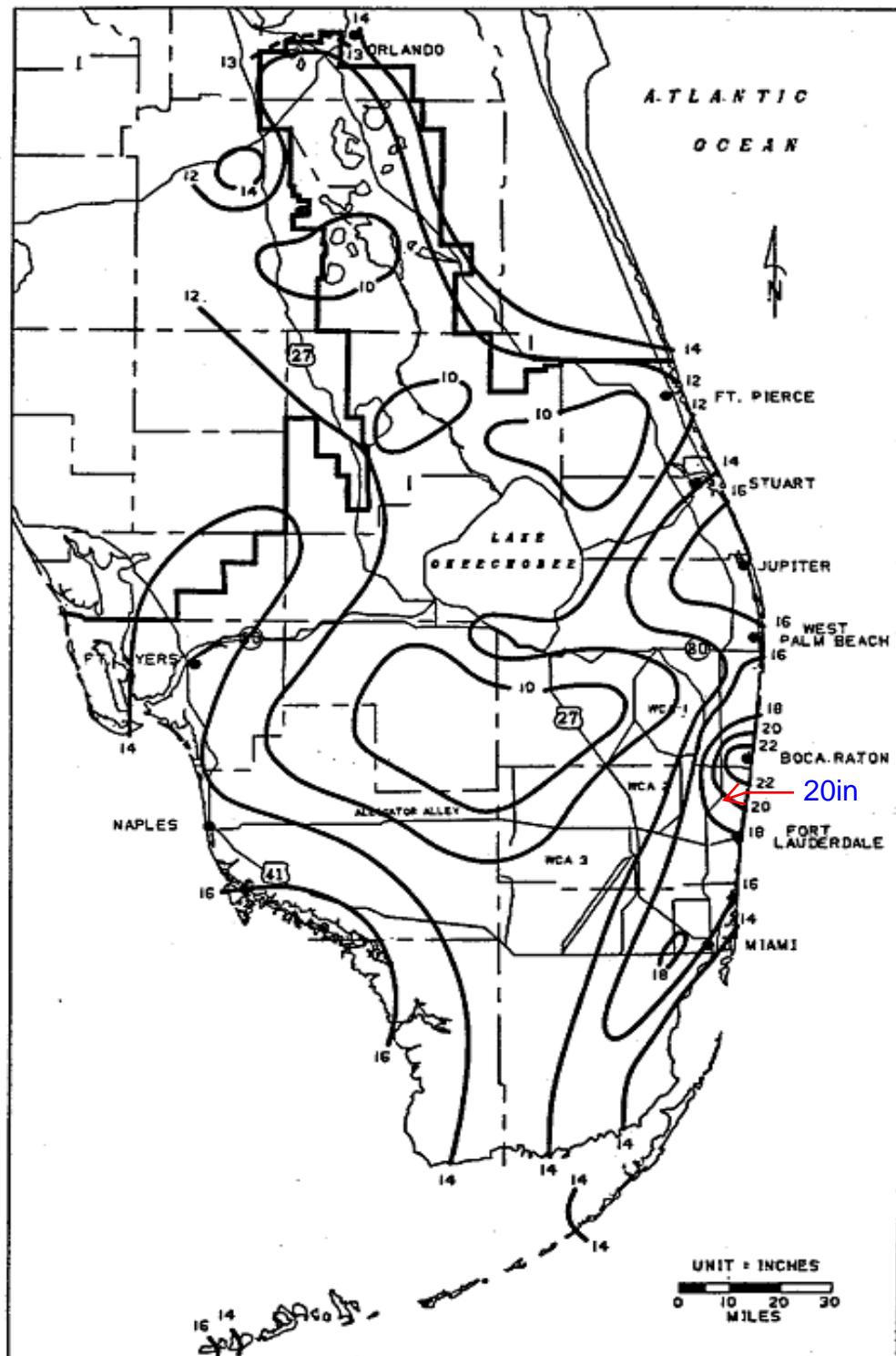
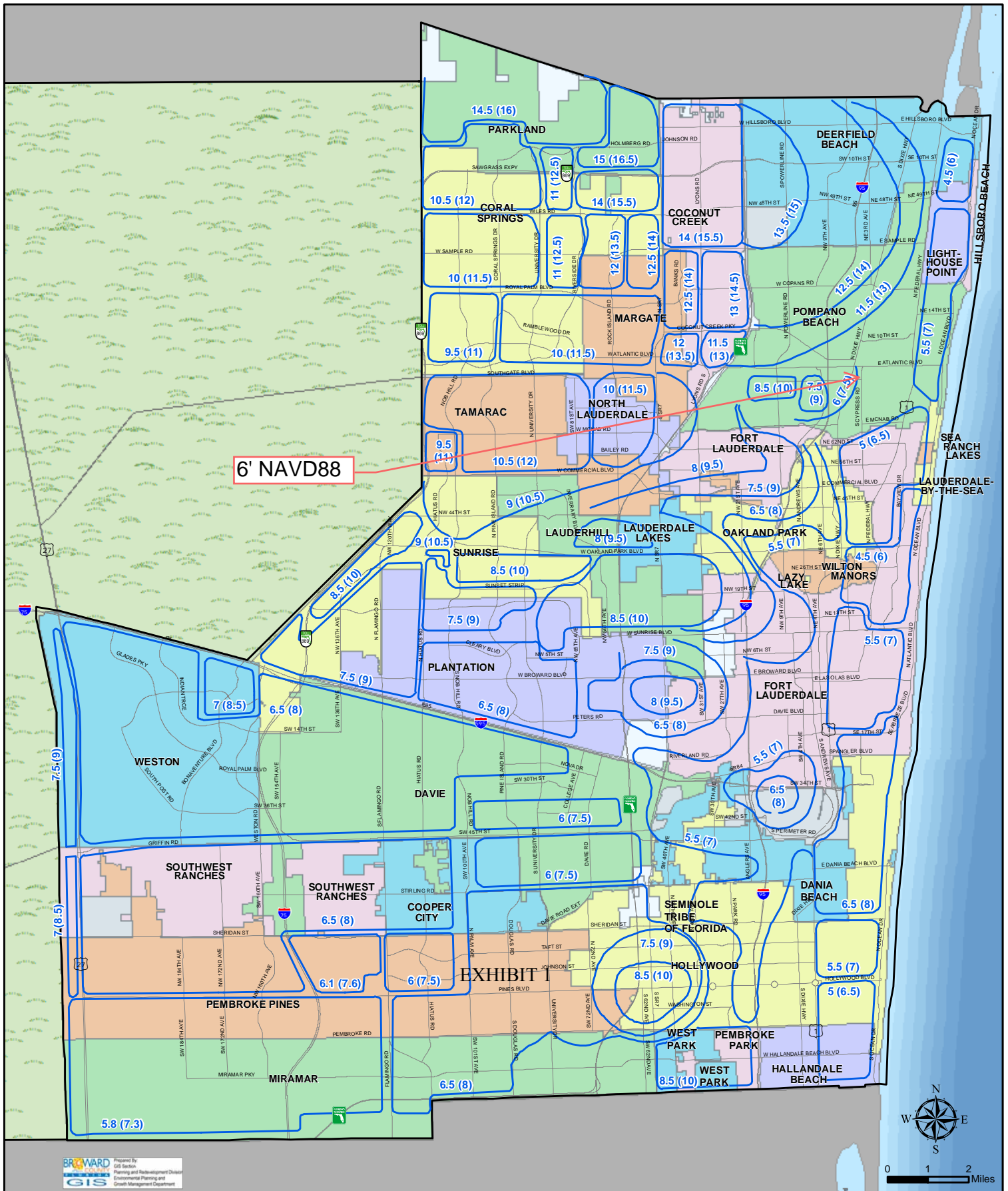


FIGURE C-9. 3-DAY RAINFALL: 100-YEAR RETURN PERIOD



— 100 Year Flood Contours NAVD (NGVD)
Example: 6.5 (8)

EXHIBIT 3

DRO EXHIBIT "D"
100-YEAR FLOOD MAP

This map is for conceptual purposes only and should not be used for legal boundary determinations.

Elevations converted from NGVD to NAVD using the FEMA approved conversion factor for Broward County of (-)1.5, based on 1997 FEMA Flood Data

#12729 SNowicki 10/2014

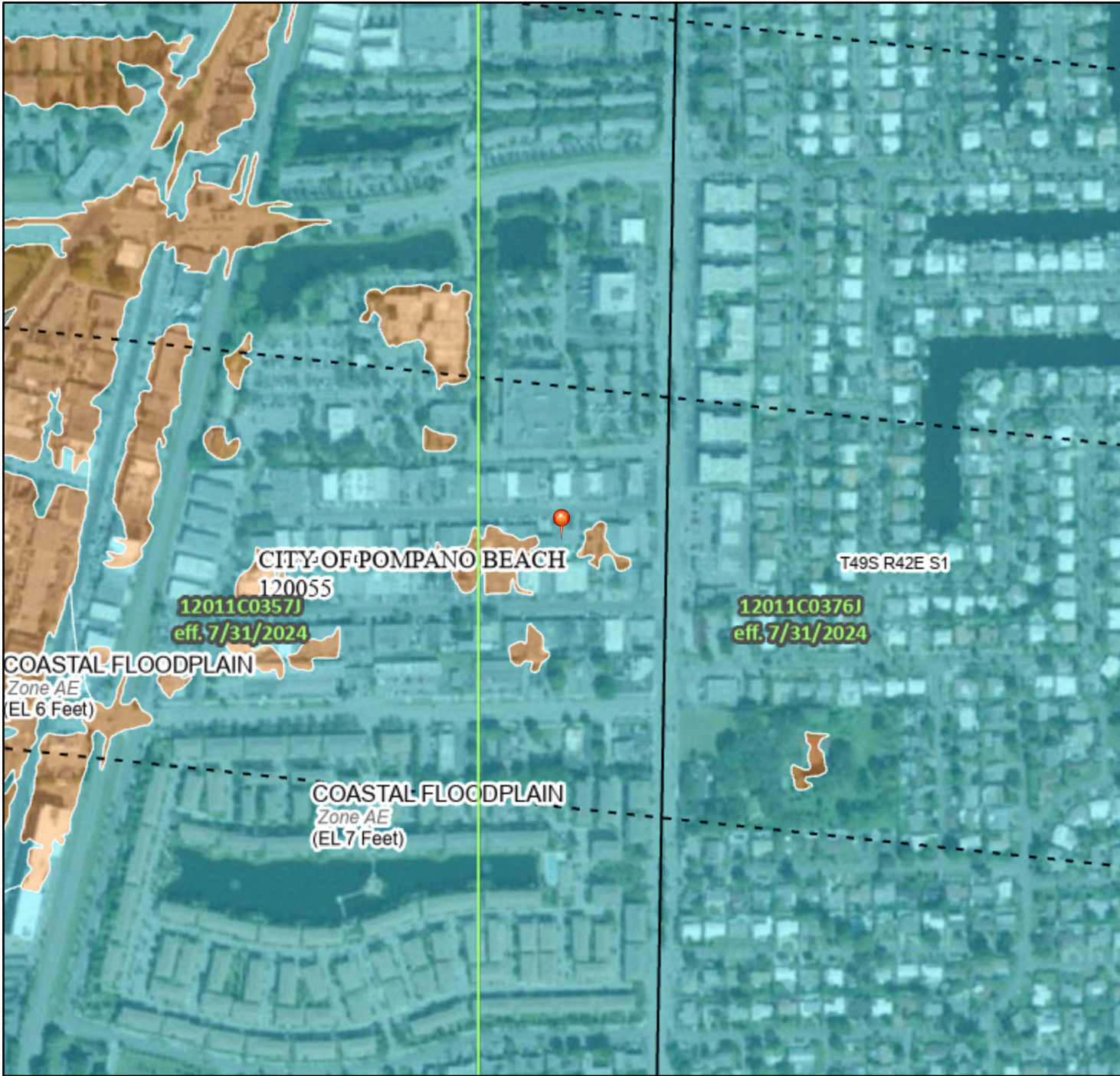
P725-12000015

08/06/2025

National Flood Hazard Layer FIRMMette



80°7'46"W 26°13'43"N



1:6,000

80°7'8"W 26°13'10"N

Basemap Imagery Source: USGS National Map 2023

Legend

EXHIBIT 4

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

| | | |
|-----------------------------|--|---|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE) Zone A, V, A99 |
| | | With BFE or Depth Zone AE, AO, AH, VE, AR |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X |
| | | Future Conditions 1% Annual Chance Flood Hazard Zone X |
| | | Area with Reduced Flood Risk due to Levee. See Notes. Zone X |
| | | Area with Flood Risk due to Levee Zone D |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard Zone X |
| | | Effective LOMRs |
| | | Area of Undetermined Flood Hazard Zone D |
| GENERAL STRUCTURES | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/22/2025 at 2:53 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

PZ25-1200015
08/06/2025

ATM Engineering

TESTING LABORATORIES - ENGINEERING INSPECTION SERVICES - DRILLING - ENVIRONMENTAL SERVICES.

Aubrey Engineering, LLC d/b/a ATM Engineering

1950 W 84th Street, Hialeah, FL 33014 Phone: 305-646-1888 Fax: 305-646-1887

EXHIBIT 5

April 14, 2025

Ramos Architects and Associates
780 Tamiami Canal Road,
Miami, FL 33144

RE: Subsurface Investigation for Proposed Building Addition & Covered Parking Lot
Located at: 50 SW 5th Street, Pompano Beach, FL

Dear Sir.:

Pursuant to your authorization, **ATM ENGINEERING** conducted a subsurface investigation at the above referenced project. The investigation was performed **April 11, 2025**.

The purpose of the investigation was to develop preliminary information about the site and the subsurface conditions existing in the vicinity of the proposed construction.

To achieve the desired objective **two (2) standard penetration test borings and one (1) percolation test** were performed and the logs are enclosed in this report.

TEST METHOD:

The borings were conducted in accordance with the procedures outlined for the standard penetration test and split spoon sampling of soils by ASTM Method D-1586.

A two (2) foot long two (2) inches O.D. Split Spoon Sampler was driven into the ground by successive blows with 140 lbs. The hammer drops thirty (30) inches. The soil sampler was driven two (2) feet at a time, then extracted for visual examination and classification of the retained soil samples.

The number of blows required for a one (1) foot penetration of the sampler 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.

Suitable corrections are applied to this number in order to include the effects of soil overburden pressure and other factors. 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. A continuous drilling and sampling procedure was used therefore, the samples were taken at intervals of two (2) feet or at every change in soil characteristics.

DRC

PZ25-12000015

08/06/2025

ATM Engineering

TESTING LABORATORIES - ENGINEERING INSPECTION SERVICES - DRILLING - ENVIRONMENTAL SERVICES.

Aubrey Engineering, LLC d/b/a ATM Engineering

1950 W 84th Street, Hialeah, FL 33014 Phone: 305-646-1888 Fax: 305-646-1887

EXHIBIT 5

Page 2 of 3

April 14, 2025

Ramos Architects and Associates

The types of foundation material encountered have been visually classified and are described in detail in the boring logs. The results of the field penetration tests are presented in the boring logs in numerical forms. The average ground water level at the site was found at **five (5) feet, five (5) inches** below the existing surface (see logs). Fluctuation in the observed ground water level should be expected due to seasonal climatic changes, rainfall variation, surface water run-off and other specific factors related to the site in question.

FOUNDATION RECOMMENDATIONS FOR THE PROPOSED BUILDING ADDITION & COVERED PARKING LOT:

Our recommendations are based on the information provided by the client as to the type of structure planned and on our subsurface investigation performed on the proposed site. Our recommendations are as follows:

1. Clear the entire building area plus 5'-0" outside the perimeter of construction and remove all top soil, and unsuitable subsurface material to the necessary depth. We anticipate an average clearance depth of approximately six (6) inches.
2. Compact cleared area to a minimum compaction of 98% of the optimum dry density as per AASHTO T-180. Verify densification procedures by taking an adequate number of field density compaction tests. The cleared area should be inspected prior to the commencement of the backfilling operation to ensure that all the unsuitable material has been removed.
3. Backfill building area, plus 5'-0" outside the perimeter of the structure to the required elevation with a clean mixture of sand, lime rock and lime sand fill (or approved fill material) in compacted layers not to exceed 12" in thickness. Compact each layer to a minimum of 98% of the optimum dry density as per AASHTO T180. Verify densification procedures by taking an adequate number of field density tests, especially in the footing area.
4. Excavate footing trenches to the required depth from the ground elevation.
5. Compact the bottom of the footing trench to a minimum compaction of 98% of the optimum dry density as per AASHTO T-180. Verify densification procedures by taking an adequate number of field density compaction tests.

DESIGN RECOMMENDATIONS:

The above foundation recommendation having been achieved and verified, we anticipate that the foundation and footings may be appropriately proportioned for a safe soil bearing capacity not to exceed **2500 pounds per square foot**. The use of spread footings and single column pads is suggested. A monolithic slab foundation may also be adopted.

DRC

PZ25-12000015

08/06/2025

ATM Engineering

TESTING LABORATORIES - ENGINEERING INSPECTION SERVICES - DRILLING - ENVIRONMENTAL SERVICES.

Aubrey Engineering, LLC d/b/a ATM Engineering
1950 W 84th Street, Hialeah, FL 33014 Phone: 305-646-1888 Fax: 305-646-1887

EXHIBIT 5

Page 3 of 3

April 14, 2025

Ramos Architects and Associates


CONCLUSION:


Regardless of the thoroughness of our Geotechnical exploration there is always a possibility that conditions on the subject property (site) may be different from those at the test locations. Therefore, should any subsoil condition different from those reported in our boring logs be encountered during construction, **ATM ENGINEERING**, should be notified immediately.

This report was prepared exclusively for the use of **Ramos Architects and Associates**. The conclusions provided by **ATM ENGINEERING** 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 your company. Please feel free to contact us if there are any questions or comments pertaining to this report.

Sincerely yours,


Waseem Quadri, P.E. #51481 & S.T. #1154
Special Inspector - Threshold Buildings
ATM Engineering




Robert Shank
President

RS/

DRC

PZ25-12000015

08/06/2025

ATM Engineering

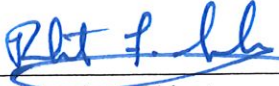
Testing Laboratories - Engineering Inspection Services - Chemist - Drilling - Environmental Services
Aubrey Engineering, LLC d/b/a ATM Engineering
1950 West 84th Street, Hialeah, Florida 33014/Phone: 305-646-1888/Fax: 305-646-1887


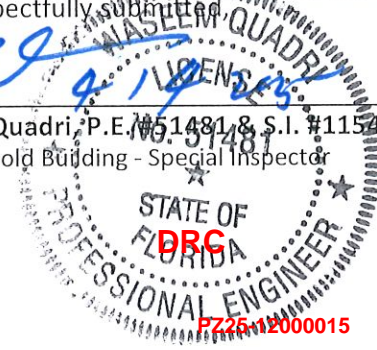
SOIL BORING LOG

EXHIBIT 5

| CLIENT | Ramos Architects and Associates | | | Order No | 25-0411 | |
|--------------|---|------------|-------------------------|----------------|-----------|-----------------|
| ADDRESS | 780 Tamiami Canal Road, Miami, FL 33144 | | | Report No. | 1 | |
| PROJECT | Proposed Building Addition & Covered Parking Lot | | | Boring No. | B-1 | |
| ADDRESS | 50 SW 5th Street, Pompano Beach, FL | | | Date | 4/11/2025 | |
| LOCATION | As Marked on Aerial Photography | | | Driller/Hleper | AG/MP | |
| | | | | Helper | MP | |
| Depth (feet) | DESCRIPTION OF MATERIALS | Sample No. | Hammer blows on sampler | | "N" | "N" Curve |
| | Soil Boring from 0' to 20' | | | | | 10 20 30 40 50+ |
| 1 | 0'-0" to 0'-2" Asphalt | 0'-2' | 11 | 13 | 25 | |
| 2 | 0'-2" to 1'-0" Backfill - tan silica sand with some rocks | | 12 | 9 | | |
| 3 | 1'-0" to 4'-0" Dark brown silica sand with some rocks | 2'-4' | 8 | 7 | 14 | |
| 4 | | | 7 | 6 | | |
| 5 | 4'-0" to 8'-6" Light brown medium silica sand | 4'-6' | 6 | 7 | 15 | |
| 6 | | | 8 | 7 | | |
| 7 | | 6'-8' | 7 | 9 | 18 | |
| 8 | | | 9 | 8 | | |
| 9 | 8'-6" to 10'-0" Brown medium sand | 8'-10' | 7 | 9 | 19 | |
| 10 | | | 10 | 9 | | |
| 11 | | 10'-12' | 8 | 11 | 21 | |
| 12 | | | 10 | 9 | | |
| 13 | 10'-0" to 20'-0" Tan medium silica sand with some rocks | 12'-14' | 9 | 10 | 20 | |
| 14 | | | 10 | 13 | | |
| 15 | | 14'-16' | 12 | 11 | 22 | |
| 16 | | | 11 | 10 | | |
| 17 | | 16'-18' | 10 | 12 | 23 | |
| 18 | | | 11 | 13 | | |
| 19 | | 18'-20' | 12 | 11 | 26 | |
| 20 | | | 15 | 12 | | |
| 21 | End of Boring @ 20' | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |

Water Level: (▼) 5'-6"
Sample Type: Split Spoon (SS)
At Date: 4/11/2025


Robert Shank, President

Respectfully submitted,

Waseem Quadri, P.E. #14818, S.I. #1154
Threshold Building - Special Inspector

PZ25-12000015
08/06/2025

ATM Engineering

Testing Laboratories - Engineering Inspection Services - Chemist - Drilling - Environmental Services
Aubrey Engineering, LLC d/b/a ATM Engineering
1950 West 84th Street, Hialeah, Florida 33014/Phone: 305-646-1888/Fax: 305-646-1887

SOIL BORING LOG


EXHIBIT 5

| CLIENT | Ramos Architects and Associates | | | Order No | 25-0411 | |
|--------------|---|--|--|----------------|-------------------------|----------------|
| ADDRESS | 780 Tamiami Canal Road, Miami, FL 33144 | | | Report No. | 1 | |
| PROJECT | Proposed Building Addition & Covered Parking Lot | | | Boring No. | B-2 | |
| ADDRESS | 50 SW 5th Street, Pompano Beach, FL | | | Date | 4/11/2025 | |
| LOCATION | As Marked on Aerial Photography | | | Driller/Hleper | AG/MP | |
| | | | | Helper | MP | |
| Depth (feet) | DESCRIPTION OF MATERIALS | | | Sample No. | Hammer blows on sampler | "N" Curve |
| | Soil Boring from 0' to 20' | | | | | 10 20 30 40 50 |
| 1 | 0'-0" to 0'-2" Asphalt | | | 0'-2' | 13 10 | 19 |
| 2 | 0'-2" to 1'-0" Backfill - tan lime sand and rocks | | | | 9 4 | |
| 3 | | | | 2'-4' | 4 5 | 10 |
| 4 | 1'-0" to 4'-6" Dark brown silica sand with some rocks | | | | 5 6 | |
| 5 | | | | 4'-6' | 6 7 | 14 |
| 6 | | | | | 7 6 | |
| 7 | | | | 6'-8' | 6 5 | 9 |
| 8 | 4'-6" to 10'-0" Brown medium silica sand | | | | 4 6 | |
| 9 | | | | 8'-10' | 6 7 | 15 |
| 10 | | | | | 8 9 | |
| 11 | | | | 10'-12' | 9 8 | 15 |
| 12 | 10'-0" to 12'-6" Dark brown medium silica sand | | | | 7 9 | |
| 13 | | | | 12'-14' | 10 10 | 19 |
| 14 | | | | | 9 8 | |
| 15 | | | | 14'-16' | 10 11 | 21 |
| 16 | | | | | 10 10 | |
| 17 | 12'-6" to 20'-0" Tan medium silica sand with some rocks | | | 16'-18' | 9 8 | 21 |
| 18 | | | | | 13 12 | |
| 19 | | | | 18'-20' | 12 11 | 21 |
| 20 | | | | | 10 13 | |
| 21 | End of Boring @ 20' | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |

Water Level: (▼) 5'-4"
Sample Type: Split Spoon (SS)
At Date: 4/11/2025


Robert Shank, President

Respectfully submitted,


Waseem Quadri, P.E. #51481 & S.I. #1154
Threshold Building - Special Inspector

#225-12000015
08/06/2025

ATM Engineering

Testing Laboratories - Engineering Inspection Services - Chemist - Drilling - Environmental Services
Aubrey Engineering, LLC d/b/a ATM Engineering
1950 W 84th Street, Hialeah, Florida 33014 - Phone: 305-646-1888/Fax: 305-646-1887

PERCOLATION TEST USUAL OPEN HOLE TEST (CONSTANT HEAD)

EXHIBIT 5

| | | |
|------------------|--|-----------------|
| CLIENT: | Ramos Architects and Associates | Date: 4/11/2025 |
| CLIENT ADDRESS: | 780 Tamiami Canal Road, Miami, FL 33144 | TEST #: P-1 |
| PROJECT NAME: | Proposed Building Addition & Covered Parking Lot | |
| PROJECT ADDRESS: | 50 SW 5th Street, Pompano Beach, FL | |

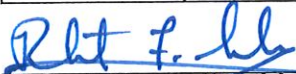
| | | | |
|-----------------------------------|---------------------------------|------|------|
| LOCATION OF TEST | As Marked on Aerial Photography | | |
| DIAMETER OF HOLE (IN) | 6 | LAT: | LON: |
| DEPTH HOLE (FEET) | 15 | | |
| WATER TABLE BELOW GROUND SURFACE: | 5 ft | 3 in | |

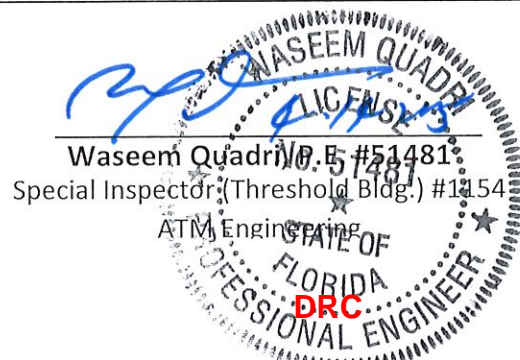
| No. | Elapse Time (minute) | GPM |
|-----|----------------------|-----|
| 1 | 1 | 6.0 |
| 2 | 1 | 6.0 |
| 3 | 1 | 5.0 |
| 4 | 1 | 5.0 |
| 5 | 1 | 5.0 |
| 6 | 1 | 4.0 |
| 7 | 1 | 4.0 |
| 8 | 1 | 4.0 |
| 9 | 1 | 4.0 |
| 10 | 1 | 4.0 |

| | |
|--------------------|-----------|
| PERCOLATION RATE : | 4.7 |
| K-VALUE: | 1.016E-04 |

| SOIL DEPTH | SOIL DESCRIPTION |
|------------------|------------------------------------|
| 0'-0" to 0'-2" | Asphalt |
| 0'-2" to 1'-0" | Backfill - tan lime sand and rocks |
| 1'-0" to 4'-0" | Dark brown sand with some rocks |
| 4'-0" to 7'-0" | Light brown silica sand |
| 7'-0" to 12'-0" | Brown medium silica sand |
| 12'-0" to 15'-0" | Tan medium sand with some rocks |

| | |
|-------------|-------|
| FIELD TECH. | AG/MP |
| TYPE BY: | jt |


Robert Shank, President



PZ25-12000015

08/06/2025



Project Name: 50 SW 5TH STREET

Reviewer: MARIA

Project Number: 250057

Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: Total Basin

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 25 year

3 Day Rainfall: 16 inches

Area: 0.275 acres

Ground Storage: 0.69 inches

Time of Concentration: 0.17 hours

Initial Stage: 2.5 ft NGVD

| Stage (ft NGVD) | Storage (acre-ft) |
|--------------------|----------------------|
| 2.50 | 0.00 |
| 3.50 | 0.00 |
| 4.50 | 0.00 |
| 5.50 | 0.00 |
| 6.50 | 0.08 |
| 7.50 | 0.28 |
| 8.50 | 0.49 |

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

| Struc | Max (cfs) | Time (hr) | Min (cfs) | Time (hr) |
|-------|-----------|-----------|-----------|-----------|
|-------|-----------|-----------|-----------|-----------|

BASIN MAXIMUM AND MINIMUM STAGES

| Basin | Max (ft) | Time (hr) | Min (ft) | Time (hr) |
|-------------|----------|-----------|----------|-----------|
| Total Basin | 7.82 | 73.60 | 2.50 | 0.00 |

BASIN WATER BUDGETS (all units in acre-ft)

| Basin | Total Runoff | Structure Inflow | Structure Outflow | Initial Storage | Final Storage | Residual |
|-------------|-----------------|---------------------|----------------------|--------------------|------------------|----------|
| Total Basin | 0.35 | 0.00 | 0.00 | 0.00 | 0.35 | 0.00 |

DRC

PZ25-12000015

08/06/2025

Project Name: 50 SW 5TH STREET

Reviewer: MARIA

Project Number: 250057

Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: Total Basin

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 24 hr

Design Frequency: 100 year

1 Day Rainfall: 15 inches

Area: 0.275 acres

Ground Storage: 0.69 inches

Time of Concentration: 0.17 hours

Initial Stage: 2.5 ft NGVD

| Stage (ft NGVD) | Storage (acre-ft) |
|--------------------|----------------------|
| 2.50 | 0.00 |
| 3.50 | 0.00 |
| 4.50 | 0.00 |
| 5.50 | 0.00 |
| 6.50 | 0.08 |
| 7.50 | 0.28 |
| 8.50 | 0.49 |

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

| Struc | Max (cfs) | Time (hr) | Min (cfs) | Time (hr) |
|-------|-----------|-----------|-----------|-----------|
|-------|-----------|-----------|-----------|-----------|

BASIN MAXIMUM AND MINIMUM STAGES

| Basin | Max (ft) | Time (hr) | Min (ft) | Time (hr) |
|-------------|----------|-----------|----------|-----------|
| Total Basin | 7.72 | 25.60 | 2.50 | 0.00 |

BASIN WATER BUDGETS (all units in acre-ft)

| Basin | Total Runoff | Structure Inflow | Structure Outflow | Initial Storage | Final Storage | Residual |
|-------------|-----------------|---------------------|----------------------|--------------------|------------------|----------|
| Total Basin | 0.33 | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 |

DRC

PZ25-12000015

08/06/2025

Project Name: 50 SW 5TH STREET

Reviewer: MARIA

Project Number: 250057

Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: Total Basin

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 100 year

3 Day Rainfall: 20 inches

Area: 0.275 acres

Ground Storage: 0.69 inches

Time of Concentration: 0.17 hours

Initial Stage: 2.5 ft NGVD

| Stage (ft NGVD) | Storage (acre-ft) |
|--------------------|----------------------|
| 2.50 | 0.00 |
| 3.50 | 0.00 |
| 4.50 | 0.00 |
| 5.50 | 0.00 |
| 6.50 | 0.08 |
| 7.50 | 0.28 |
| 8.50 | 0.49 |

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

| Struc | Max (cfs) | Time (hr) | Min (cfs) | Time (hr) |
|-------|-----------|-----------|-----------|-----------|
|-------|-----------|-----------|-----------|-----------|

BASIN MAXIMUM AND MINIMUM STAGES

| Basin | Max (ft) | Time (hr) | Min (ft) | Time (hr) |
|-------------|----------|-----------|----------|-----------|
| Total Basin | 8.26 | 73.40 | 2.50 | 0.00 |

BASIN WATER BUDGETS (all units in acre-ft)

| Basin | Total Runoff | Structure Inflow | Structure Outflow | Initial Storage | Final Storage | Residual |
|-------------|-----------------|---------------------|----------------------|--------------------|------------------|----------|
| Total Basin | 0.44 | 0.00 | 0.00 | 0.00 | 0.44 | 0.00 |

DRC

PZ25-12000015

08/06/2025

Project Name: 50 SW 5TH STREET

Reviewer: MARIA

Project Number: 250057

Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: Total Basin

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 25 year

3 Day Rainfall: 16 inches

Area: 0.275 acres

Ground Storage: 1.07 inches

Time of Concentration: 0.17 hours

Initial Stage: 2.5 ft NGVD

| Stage (ft NGVD) | Storage (acre-ft) |
|--------------------|----------------------|
| 2.50 | 0.00 |
| 3.50 | 0.02 |
| 4.50 | 0.04 |
| 5.50 | 0.05 |
| 6.50 | 0.36 |
| 7.50 | 0.52 |
| 8.50 | 0.69 |

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

| Struc | Max (cfs) | Time (hr) | Min (cfs) | Time (hr) |
|-------|-----------|-----------|-----------|-----------|
|-------|-----------|-----------|-----------|-----------|

BASIN MAXIMUM AND MINIMUM STAGES

| Basin | Max (ft) | Time (hr) | Min (ft) | Time (hr) |
|-------------|----------|-----------|----------|-----------|
| Total Basin | 6.43 | 73.60 | 2.50 | 0.00 |

BASIN WATER BUDGETS (all units in acre-ft)

| Basin | Total Runoff | Structure Inflow | Structure Outflow | Initial Storage | Final Storage | Residual |
|-------------|-----------------|---------------------|----------------------|--------------------|------------------|----------|
| Total Basin | 0.34 | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 |

DRC

PZ25-12000015

08/06/2025

Project Name: 50 SW 5TH STREET

Reviewer: MARIA

Project Number: 250057

Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: Total Basin

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 24 hr

Design Frequency: 100 year

1 Day Rainfall: 15 inches

Area: 0.275 acres

Ground Storage: 1.07 inches

Time of Concentration: 0.17 hours

Initial Stage: 2.5 ft NGVD

| Stage (ft NGVD) | Storage (acre-ft) |
|--------------------|----------------------|
| 2.50 | 0.00 |
| 3.50 | 0.02 |
| 4.50 | 0.04 |
| 5.50 | 0.05 |
| 6.50 | 0.36 |
| 7.50 | 0.52 |
| 8.50 | 0.69 |

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

| Struc | Max (cfs) | Time (hr) | Min (cfs) | Time (hr) |
|-------|-----------|-----------|-----------|-----------|
|-------|-----------|-----------|-----------|-----------|

BASIN MAXIMUM AND MINIMUM STAGES

| Basin | Max (ft) | Time (hr) | Min (ft) | Time (hr) |
|-------------|----------|-----------|----------|-----------|
| Total Basin | 6.36 | 25.60 | 2.50 | 0.00 |

BASIN WATER BUDGETS (all units in acre-ft)

| Basin | Total Runoff | Structure Inflow | Structure Outflow | Initial Storage | Final Storage | Residual |
|-------------|-----------------|---------------------|----------------------|--------------------|------------------|----------|
| Total Basin | 0.32 | 0.00 | 0.00 | 0.00 | 0.32 | 0.00 |

DRC

PZ25-12000015

08/06/2025

Project Name: 50 SW 5TH STREET

Reviewer: MARIA

Project Number: 250057

Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: Total Basin

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 100 year

3 Day Rainfall: 20 inches

Area: 0.275 acres

Ground Storage: 1.07 inches

Time of Concentration: 0.17 hours

Initial Stage: 2.5 ft NGVD

| Stage (ft NGVD) | Storage (acre-ft) |
|--------------------|----------------------|
| 2.50 | 0.00 |
| 3.50 | 0.02 |
| 4.50 | 0.04 |
| 5.50 | 0.05 |
| 6.50 | 0.36 |
| 7.50 | 0.52 |
| 8.50 | 0.69 |

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

| Struc | Max (cfs) | Time (hr) | Min (cfs) | Time (hr) |
|-------|-----------|-----------|-----------|-----------|
|-------|-----------|-----------|-----------|-----------|

BASIN MAXIMUM AND MINIMUM STAGES

| Basin | Max (ft) | Time (hr) | Min (ft) | Time (hr) |
|-------------|----------|-----------|----------|-----------|
| Total Basin | 6.94 | 73.60 | 2.50 | 0.00 |

BASIN WATER BUDGETS (all units in acre-ft)

| Basin | Total Runoff | Structure Inflow | Structure Outflow | Initial Storage | Final Storage | Residual |
|-------------|-----------------|---------------------|----------------------|--------------------|------------------|----------|
| Total Basin | 0.43 | 0.00 | 0.00 | 0.00 | 0.43 | 0.00 |

DRC

PZ25-12000015

08/06/2025