# Savannah Place Apartments

**Project No. 1798**

## TRAFFIC STUDY

Stuart

**PREPARED FOR:**

## CITY OF STUART

**PREPARED BY:**

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**June 1, 2018**

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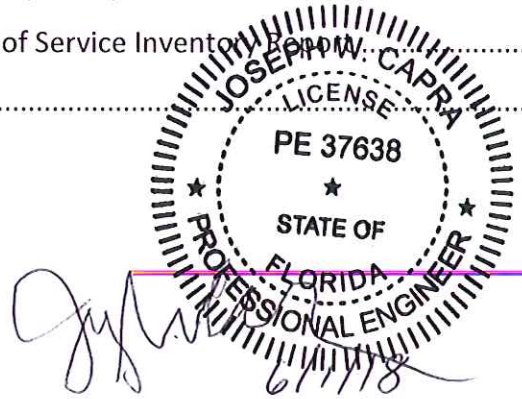

## APPENDIX


Project Traffic Exhibit ..... 1 sheet

HCS7 Two Way Stop Intersection Analysis Reports ..... 4 pages

Martin County 2017 Roadway Level of Service Inventory Report ..... 3 pages

Turn Lane Plan Sheet ..... 1 sheet

# TRAFFIC STUDY

## INTRODUCTION

This Traffic Study is being submitted as part of a Residential Planned Unit Development (R-PUD) application to the City of Stuart. The site is located on the north side of the intersection of NE Baker Road and NE Savannah Road in Section 28, Township 37 South, Range 48 East, in the City of Stuart, Florida. The latitude of the project site is 27° 13' 25" North and the longitude is 80° 14' 45" West.

The project consists of six (6) residential apartment buildings, garages, a clubhouse with leasing office, pool and recreation amenities, roadway, parking, walkways, preserve areas, and associated stormwater management, drainage, paving, grading, and utility improvements.

## TRIP GENERATION

The Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition was utilized to calculate the Daily and AM and PM peak hour trips entering and exiting the site. The project is categorized as ITE Land Use Code No. 221: Multifamily Housing (Mid-Rise) with 280 Dwelling Units (DU).

| Timeframe | ITE Land Use Code | Units | | Fitted Curve Equation | Trips | Pass-By | | Entering Site | | Exiting Site | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily | Multifamily Housing (Mid-Rise) (ITE LUC 221) | 280 | Dwelling Units | T=5.45(X)-1.75 | 1,524 | 0% | 0 | 50% | 762 | 50% | 762 |
| AM Peak Hour | Multifamily Housing (Mid-Rise) (ITE LUC 221) | 280 | Dwelling Units | Ln(T)=0.98*Ln(X)-0.98 | 94 | 0% | 0 | 26% | 24 | 74% | 70 |
| PM Peak Hour | Multifamily Housing (Mid-Rise) (ITE LUC 221) | 280 | Dwelling Units | Ln(T)=0.96*Ln(X)-0.63 | 119 | 0% | 0 | 61% | 73 | 39% | 46 |

*Table 1 ITE Trip Generation 10th Edition Daily, AM and PM Peak Hour Calculations*

The trip generation analysis reveals that the proposed project will generate:

- 1,524 Daily trips of which 762 are entering and 762 are exiting (50/50)
- 94 AM peak hour trips of which 24 are entering and 70 are exiting (26/74)
- 119 PM peak hour trips of which 73 are entering and 46 are exiting (61/39)
- 73 PM entering trips are considered the greatest peak hour peak direction
- Note that no passer-by trips were used to reduce the trip generation

## TRIP DISTRIBUTION AND ASSIGNMENT

The traffic generated by the proposed project has been assigned to the directly accessed roadway and distributed onto the roadway network. The information regarding the roadway links was obtained from the Martin County 2017 Roadway Level of Service Inventory Report.

The following roadway links were analyzed:

- Savannah Road (CR-723)
- Baker Road
- Green River Parkway

These links have been chosen for analysis due to their connectivity to the site and likeliness to be utilized by project traffic. Savannah Road connects to Jensen Beach Boulevard which provides easterly access to the Indian River, Jensen Beach and shopping destinations. Baker Road connects to

US-1 which is the area major arterial and provides many destinations. Green River Parkway connects to Jensen Beach Boulevard providing westerly access to shopping destinations.

## STUDY AREA

The first accessed roadway to the site is Baker Road. But because the site is uniquely placed near the intersection of Savannah and Baker Road all traffic will have to utilize Savannah Road to enter the site. Please refer to the Turn Lane Plan for more detail regarding the entrance to the site. Both Baker Road and Savannah Road were analyzed as the first accessed roadway link as seen in Table 2 below. When the greatest peak hour peak direction trips are applied, the impact upon the level of service (LOS) is greater than 5%, which is the threshold per the City of Stuart Land Development Code (Section 4.05).

| Road Name | From | To | Generalized Service Capacity | PM Peak Hour Peak Direction Project | Impact Percentage Upon LOS |
|---|---|---|---|---|---|
| Savannah Rd (CR-723) | NE 24th St | CR-707A | 880 | 73 | 8.30% |
| Baker Road | SR-5 (US-1) | CR-723 | 750 | 73 | 9.73% |

*Table 2 Baker and Savannah Road Percent Impact upon LOS*

In order to achieve concurrency project traffic was distributed onto the adjacent roadway links to the allowable impact percent upon LOS. Traffic was equally distributed onto the network as shown in Table 3 below. The information regarding the roadway links was obtained from the Martin County 2017 Roadway Level of Service Inventory Report.

| Road Name | From | To | Generalized Service Capacity | PM Peak Hour Peak Direction Project | Impact Percentage Upon LOS |
|---|---|---|---|---|---|
| Savannah Rd (CR-723) | NE 24th St | CR-707A | 880 | 25 | 2.84% |
| Baker Road | SR-5 (US-1) | CR-723 | 750 | 24 | 3.20% |
| Green River Parkway | Dixie Hwy | Baker Rd | 750 | 24 | 3.20% |

*Table 3 Roadway Network Equal Distribution*

Therefore concurrency can be met for the project when traffic is distributed onto the three connecting roadway links and project trips do not have a significant impact upon the existing roadway LOS. which satisfies City of Stuart Land Development Code (Section 4.05) requirements.

## BUILDOUT PERIOD

The buildout period for the project is the period through issuance of certificate of the final occupancy, which is projected to be in 2021.

## BACKGROUND TRAFFIC

The average annual growth rate has been applied to the buildout period to determine the background traffic expected upon buildout. The information regarding the roadway links was obtained from the Martin County 2017 Roadway Level of Service Inventory Report.

| Road Name | From | To | Generalized Service Capacity | 2017 Peak Hour Directional Volume | Avg Annual Growth Rate | Background Traffic 2021 | PM Peak Hour Peak Direction Project | PM Peak Hour Peak Direction 2021 |
|---|---|---|---|---|---|---|---|---|
| Savannah Rd (CR-723) | CR-707 | NE 24th St | 880 | 606 | 1.3% | 638 | 25 | 663 |
| Baker Road | SR-5 (US-1) | CR-723 | 750 | 234 | 2.2% | 255 | 24 | 279 |
| Green River Parkway | Dixie Hwy | Baker Rd | 750 | 301 | 6.6% | 389 | 24 | 413 |

*Table 4 Background Traffic to Buildout Year 2021*

As seen in Table 4, the project trips plus background traffic do not exceed the generalized service capacity which satisfies City of Stuart Land Development Code (Section 4.05) requirements.

## PROJECT DRIVEWAY AND INTERSECTION

The main entrance to the site is connected to Baker Road. All entering traffic must utilize the stop controlled intersection of Baker and Savannah Road. The intersection has proposed improvements as part of this project. Please refer to the Turn Lane Plan for more detail regarding the entrance and intersection for the site. The intersection and driveway analysis has been provided to ensure that the LOS and capacity are appropriate for the project. HCS7 2 Way Stop Intersection Analysis Software was used to calculate these parameters. The queue lengths determined were used as part of the turn lane design and length of the driveway.

AM PEAK HOUR DRIVEWAY ANALYSIS

| AM - Main Entrance Driveway - Exiting Lanes | | |
|---|---|---|
| | Left Turn | Right Turn |
| Volume V (veh/hr) | 30 | 40 |
| 95% Queue Length (veh) | 0.1 | 0.2 |
| Level of Service (LOS) | A | B |

PM PEAK HOUR DRIVEWAY ANALYSIS

| PM - Main Entrance Driveway - Exiting Lanes | | |
|---|---|---|
| | Left Turn | Right Turn |
| Volume V (veh/hr) | 24 | 49 |
| 95% Queue Length (veh) | 0.1 | 0.2 |
| Level of Service (LOS) | A | B |

*Table 5 AM and PM Driveway Analysis Results*

AM PEAK HOUR INTERSECTION ANALYSIS

| AM - Baker and Savannah Road - 2 Way Stop | | | |
|---|---|---|---|
| | Baker Road | | Savannah Road |
| | Left Turn | Right Turn | NB Left Turn |
| Volume V (veh/hr) | 35 | 35 | 16 |
| 95% Queue Length (veh) | 0.4 | 0.1 | 0 |
| Level of Service (LOS) | C | A | A |

PM PEAK HOUR INTERSECTION ANALYSIS

| PM - Baker and Savannah Road - 2 Way Stop | | | |
|---|---|---|---|
| | Baker Road | | Savannah Road |
| | Left Turn | Right Turn | NB Left Turn |
| Volume V (veh/hr) | 20 | 26 | 48 |
| 95% Queue Length (veh) | 0.3 | 0.1 | 0.1 |
| Level of Service (LOS) | C | A | A |

*Table 6 AM and PM Intersection Analysis Results*

As seen in Table 5 and 6 above, the LOS and capacity provided are sufficient for the project traffic, thus compliant with the City of Stuart Land Development Code (Section 4.05) requirements. The full intersection analysis reports are provided in the appendix for further review. Please refer to the attached traffic distribution exhibit to see the AM and PM peak hour turning movements at the driveway and intersection. The proposed Savannah and Baker Road turn lane and intersection improvements have been reviewed by Martin County Engineering and have been adjusted in compliance with the preliminary design comments.

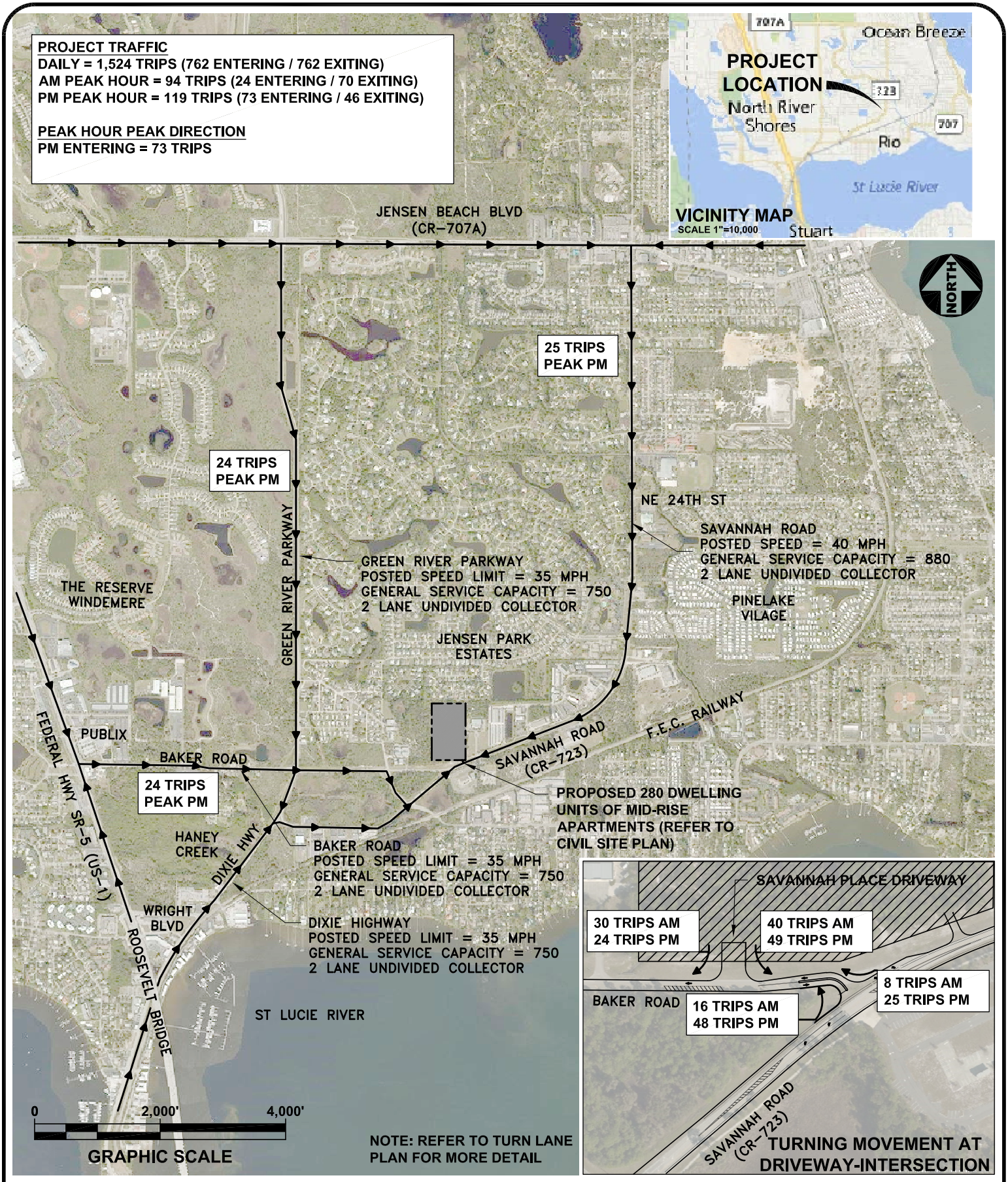
## EXISTING TRAFFIC, ROADWAY IMPROVEMENTS AND LAND USE

The existing traffic and average annual growth rate information was obtained from the latest published version of the Martin County 2017 Roadway Level of Service Inventory Report. Secondly, based on the 2018 Martin County Capital Improvements Plan (CIP) there are no upcoming roadway improvement projects within the area of concern. And the property also has maintained the same land use and zoning standards.

## CONCLUSION

As demonstrated in this report this project meets all applicable sections of the City of Stuart Land Development Code for traffic analysis.

**END OF TRAFFIC STUDY**




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| | |
|---|---|
| DATE: | 3/28/18 |
| DRAWN BY: | ADO |
| DESIGNED BY: | SPM |
| CHECKED BY: | JWC |
| PROJECT No.: | 1798 |
| HORZ. SCALE: | 1" = 2,000' |
| VERT. SCALE: | N/A |
| CADD FILE: | EXHIBITS |

# SAVANNAH PLACE APARTMENTS

MARTIN COUNTY, FLORIDA

## TRAFFIC EXHIBIT

SCALE VERIFICATION

0 0.5

SOLID BAR IS EQUAL TO HALF AN INCH ON ORIGINAL DRAWING, ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

# HCS7 Two-Way Stop-Control Report

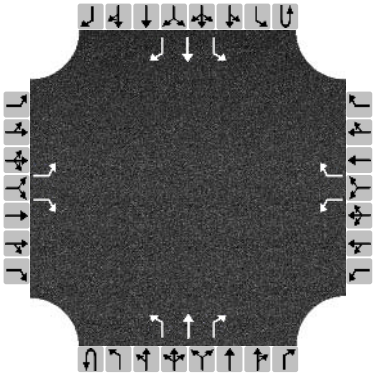
## General Information

| | |
|---|---|
| Analyst | Dylan O'Berry, EIT |
| Agency/Co. | CAPTEC Engineering |
| Date Performed | 5/31/2018 |
| Analysis Year | 2018 |
| Time Analyzed | AM Peak Hour |
| Intersection Orientation | North-South |
| Project Description | Savannah Place Apartments |

## Site Information

| | |
|---|---|
| Intersection | Savannah and Baker |
| Jurisdiction | City of Stuart |
| East/West Street | Baker Road |
| North/South Street | Savannah Road |
| Peak Hour Factor | 0.92 |
| Analysis Time Period (hrs) | 1.00 |

## Lanes



Major Street: North-South

## Vehicle Volumes and Adjustments

| Approach | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | U | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R |
| Priority | | 10 | 11 | 12 | | 7 | 8 | 9 | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 |
| Number of Lanes | | 1 | 0 | 1 | | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| Configuration | | L | | R | | L | | R | | L | T | R | | L | T | R |
| Volume, V (veh/h) | | 35 | | 35 | | 5 | | 5 | | 16 | 638 | 5 | | 5 | 198 | 8 |
| Percent Heavy Vehicles (%) | | 0 | | 0 | | 0 | | 0 | | 0 | | | | 0 | | |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | 2 | | | | 2 | | | | | | | | | | |
| Right Turn Channelized | | No | | | | No | | | | No | | | | No | | |
| Median Type/Storage | | Left + Thru | | | | | | | | 1 | | | | | | |

## Critical and Follow-up Headways

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Critical Headway (sec) | | 7.1 | | 6.2 | | 7.1 | | 6.2 | | 4.1 | | | | 4.1 | | |
| Critical Headway (sec) | | 7.50 | | 6.40 | | 7.50 | | 6.40 | | 4.10 | | | | 4.10 | | |
| Base Follow-Up Headway (sec) | | 3.5 | | 3.3 | | 3.5 | | 3.3 | | 2.2 | | | | 2.2 | | |
| Follow-Up Headway (sec) | | 3.50 | | 3.30 | | 3.50 | | 3.30 | | 2.20 | | | | 2.20 | | |

## Delay, Queue Length, and Level of Service

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | 38 | | 38 | | 5 | | 5 | | 17 | | | | 5 | | |
| Capacity, c (veh/h) | | 301 | | 811 | | 297 | | 420 | | 1357 | | | | 900 | | |
| v/c Ratio | | 0.13 | | 0.05 | | 0.02 | | 0.01 | | 0.01 | | | | 0.01 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | 0.4 | | 0.1 | | 0.1 | | 0.0 | | 0.0 | | | | 0.0 | | |
| Control Delay (s/veh) | | 18.7 | | 9.7 | | 17.3 | | 13.7 | | 7.7 | | | | 9.0 | | |
| Level of Service, LOS | | C | | A | | C | | B | | A | | | | A | | |
| Approach Delay (s/veh) | | 14.2 | | | | 15.5 | | | | 0.2 | | | | 0.2 | | |
| Approach LOS | | B | | | | C | | | | | | | | | | |

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# HCS7 Two-Way Stop-Control Report

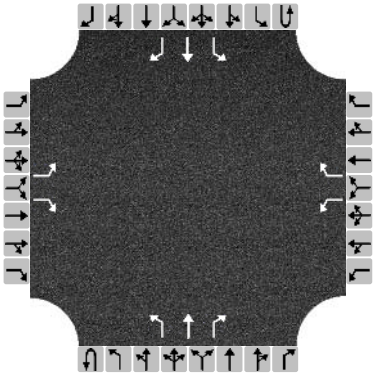
## General Information

| | |
|---|---|
| Analyst | Dylan O'Berry, EIT |
| Agency/Co. | CAPTEC Engineering |
| Date Performed | 5/31/2018 |
| Analysis Year | 2018 |
| Time Analyzed | PM Peak Hour |
| Intersection Orientation | North-South |
| Project Description | Savannah Place Apartments |

## Site Information

| | |
|---|---|
| Intersection | Savannah and Baker |
| Jurisdiction | City of Stuart |
| East/West Street | Baker Road |
| North/South Street | Savannah Road |
| Peak Hour Factor | 0.92 |
| Analysis Time Period (hrs) | 1.00 |

## Lanes



Major Street: North-South

## Vehicle Volumes and Adjustments

| Approach | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | U | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R |
| Priority | | 10 | 11 | 12 | | 7 | 8 | 9 | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 |
| Number of Lanes | | 1 | 0 | 1 | | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| Configuration | | L | | R | | L | | R | | L | T | R | | L | T | R |
| Volume, V (veh/h) | | 20 | | 26 | | 5 | | 5 | | 48 | 638 | 5 | | 5 | 198 | 25 |
| Percent Heavy Vehicles (%) | | 0 | | 0 | | 0 | | 0 | | 0 | | | | 0 | | |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | 2 | | | | 2 | | | | | | | | | | |
| Right Turn Channelized | | No | | | | No | | | | No | | | | No | | |
| Median Type/Storage | | Left + Thru | | | | | | | | 1 | | | | | | |

## Critical and Follow-up Headways

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Critical Headway (sec) | | 7.1 | | 6.2 | | 7.1 | | 6.2 | | 4.1 | | | | 4.1 | | |
| Critical Headway (sec) | | 7.50 | | 6.40 | | 7.50 | | 6.40 | | 4.10 | | | | 4.10 | | |
| Base Follow-Up Headway (sec) | | 3.5 | | 3.3 | | 3.5 | | 3.3 | | 2.2 | | | | 2.2 | | |
| Follow-Up Headway (sec) | | 3.50 | | 3.30 | | 3.50 | | 3.30 | | 2.20 | | | | 2.20 | | |

## Delay, Queue Length, and Level of Service

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | 22 | | 28 | | 5 | | 5 | | 52 | | | | 5 | | |
| Capacity, c (veh/h) | | 268 | | 811 | | 265 | | 420 | | 1336 | | | | 900 | | |
| v/c Ratio | | 0.08 | | 0.03 | | 0.02 | | 0.01 | | 0.04 | | | | 0.01 | | |
| 95% Queue Length, $Q_{95}$ (veh) | | 0.3 | | 0.1 | | 0.1 | | 0.0 | | 0.1 | | | | 0.0 | | |
| Control Delay (s/veh) | | 19.6 | | 9.6 | | 18.8 | | 13.7 | | 7.8 | | | | 9.0 | | |
| Level of Service, LOS | | C | | A | | C | | B | | A | | | | A | | |
| Approach Delay (s/veh) | | 14.0 | | | | 16.3 | | | | 0.5 | | | | 0.2 | | |
| Approach LOS | | B | | | | C | | | | | | | | | | |

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# HCS7 Two-Way Stop-Control Report

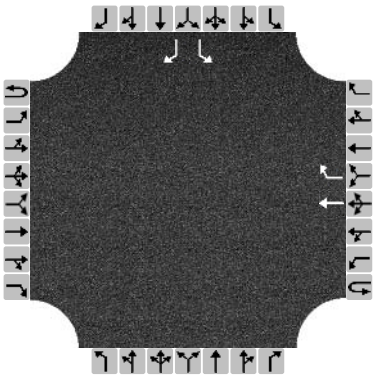
## General Information

| | |
|---|---|
| Analyst | Dylan O'Berry, EIT |
| Agency/Co. | CAPTEC Engineering |
| Date Performed | 6/1/2018 |
| Analysis Year | 2018 |
| Time Analyzed | AM Peak Hour |
| Intersection Orientation | East-West |
| Project Description | Savannah Place Apartments |

## Site Information

| | |
|---|---|
| Intersection | Baker and Driveway |
| Jurisdiction | City of Stuart |
| East/West Street | Baker Road |
| North/South Street | Entrance Driveway |
| Peak Hour Factor | 0.92 |
| Analysis Time Period (hrs) | 1.00 |

## Lanes



Major Street: East-West

## Vehicle Volumes and Adjustments

| Approach | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | U | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | | 0 | 0 | 0 | | 1 | 0 | 1 |
| Configuration | | | | | | | T | R | | | | | | L | | R |
| Volume, V (veh/h) | | | | | | | 255 | 24 | | | | | | 30 | | 40 |
| Percent Heavy Vehicles (%) | | | | | | | | | | | | | | 0 | | 0 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | | | | | | 2 | | |
| Right Turn Channelized | | No | | | | No | | | | No | | | | No | | |
| Median Type/Storage | | Undivided | | | | | | | | | | | | | | |

## Critical and Follow-up Headways

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Critical Headway (sec) | | | | | | | | | | | | | | 7.1 | | 6.2 |
| Critical Headway (sec) | | | | | | | | | | | | | | 6.80 | | 6.40 |
| Base Follow-Up Headway (sec) | | | | | | | | | | | | | | 3.5 | | 3.3 |
| Follow-Up Headway (sec) | | | | | | | | | | | | | | 3.50 | | 3.30 |

## Delay, Queue Length, and Level of Service

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | | | | | | | | | | | 33 | | 43 |
| Capacity, c (veh/h) | | | | | | | | | | | | | | 1019 | | 738 |
| v/c Ratio | | | | | | | | | | | | | | 0.03 | | 0.06 |
| 95% Queue Length, $Q_{95}$ (veh) | | | | | | | | | | | | | | 0.1 | | 0.2 |
| Control Delay (s/veh) | | | | | | | | | | | | | | 8.7 | | 10.2 |
| Level of Service, LOS | | | | | | | | | | | | | | A | | B |
| Approach Delay (s/veh) | | | | | | | | | | | | | | 9.5 | | |
| Approach LOS | | | | | | | | | | | | | | A | | |

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# HCS7 Two-Way Stop-Control Report

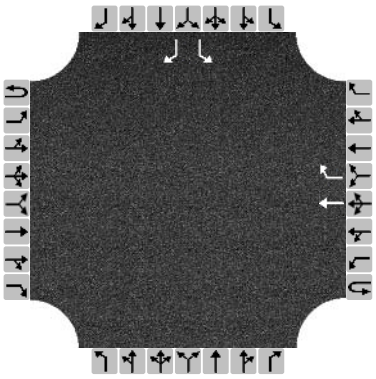
## General Information

| | |
|---|---|
| Analyst | Dylan O'Berry, EIT |
| Agency/Co. | CAPTEC Engineering |
| Date Performed | 6/1/2018 |
| Analysis Year | 2018 |
| Time Analyzed | PM Peak Hour |
| Intersection Orientation | East-West |
| Project Description | Savannah Place Apartments |

## Site Information

| | |
|---|---|
| Intersection | Baker and Driveway |
| Jurisdiction | City of Stuart |
| East/West Street | Baker Road |
| North/South Street | Entrance Driveway |
| Peak Hour Factor | 0.92 |
| Analysis Time Period (hrs) | 1.00 |

## Lanes



Major Street: East-West

## Vehicle Volumes and Adjustments

| Approach | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | U | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R |
| Priority | 1U | 1 | 2 | 3 | 4U | 4 | 5 | 6 | | 7 | 8 | 9 | | 10 | 11 | 12 |
| Number of Lanes | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | | 0 | 0 | 0 | | 1 | 0 | 1 |
| Configuration | | | | | | | T | R | | | | | | L | | R |
| Volume, V (veh/h) | | | | | | | 255 | 73 | | | | | | 24 | | 49 |
| Percent Heavy Vehicles (%) | | | | | | | | | | | | | | 3 | | 3 |
| Proportion Time Blocked | | | | | | | | | | | | | | | | |
| Percent Grade (%) | | | | | | | | | | | | | 2 | | | |
| Right Turn Channelized | No | | | | No | | | | No | | | | No | | | |
| Median Type/Storage | Undivided | | | | | | | | | | | | | | | |

## Critical and Follow-up Headways

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Critical Headway (sec) | | | | | | | | | | | | | | 7.1 | | 6.2 |
| Critical Headway (sec) | | | | | | | | | | | | | | 6.83 | | 6.43 |
| Base Follow-Up Headway (sec) | | | | | | | | | | | | | | 3.5 | | 3.3 |
| Follow-Up Headway (sec) | | | | | | | | | | | | | | 3.53 | | 3.33 |

## Delay, Queue Length, and Level of Service

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow Rate, v (veh/h) | | | | | | | | | | | | | | 26 | | 53 |
| Capacity, c (veh/h) | | | | | | | | | | | | | | 1010 | | 730 |
| v/c Ratio | | | | | | | | | | | | | | 0.03 | | 0.07 |
| 95% Queue Length, $Q_{95}$ (veh) | | | | | | | | | | | | | | 0.1 | | 0.2 |
| Control Delay (s/veh) | | | | | | | | | | | | | | 8.7 | | 10.3 |
| Level of Service, LOS | | | | | | | | | | | | | | A | | B |
| Approach Delay (s/veh) | | | | | | | | | | | | | 9.8 | | | |
| Approach LOS | | | | | | | | | | | | | A | | | |

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# Martin County 2017 Roadway Level of Service Inventory Report

| Road Name | From | To | Generalized Service Capacity | 2017 AADT | Peak Hour Factor $K_{30}$ | Directional Distribution $D_{100}$ | 2017 Peak Hour Directional Volume | 2017 Generalized LOS | Avg. Annual Growth Rate |
|---|---|---|---|---|---|---|---|---|---|
| Baker Rd | SR-5 | CR-723 | 750 | 5,114 | 0.08 | 0.56 | 234 | C | 2.2% |
| Berry Ave | Golden Bear Wy | CR-714 | 750 | 3,609 | 0.08 | 0.57 | 174 | C | 5.1% |
| Berry Ave | CR-714 | Sunset Tr | 750 | 1,918 | 0.08 | 0.55 | 88 | C | 6.1% |
| Britt Rd | Pine Lake Dr | SR-5 | 750 | 4,666 | 0.08 | 0.54 | 189 | C | 0.5% |
| Citrus Blvd. | CR-714 (Martin Hwy) | Port St. Lucie Blvd. | 1200 | 4,860 | 0.12 | 0.82 | 444 | A/B | 8.0% |
| Commerce Ave | Salerno Rd | Monroe St | 750 | 6,074 | 0.10 | 0.59 | 355 | C | 0.8% |
| Commerce Ave | Monroe St | Indian St | 750 | 6,750 | 0.11 | 0.56 | 383 | D | 1.9% |
| Country Club Dr | Palm Beach County | Island Way | 750 | 2,730 | 0.08 | 0.56 | 127 | C | 1.8% |
| Country Club Dr | Island Way | Little Club Dr | 750 | 4,545 | 0.08 | 0.57 | 149 | C | 8.0% |
| County Line Rd | Little Club Dr | SR-5 | 750 | 2,746 | 0.08 | 0.53 | 109 | C | 1.6% |
| Cove Rd | SR-76 | Willoughby Blvd | 880 | 14,326 | 0.08 | 0.54 | 635 | C | 2.4% |
| Cove Rd | Willoughby Blvd | SR-5 | 880 | 15,819 | 0.08 | 0.52 | 665 | C | 2.7% |
| Cove Rd | SR-5 | CR-A1A | 750 | 13,638 | 0.08 | 0.64 | 654 | D | 3.0% |
| Cove Rd | CR-A1A | End | 675 | 5,167 | 0.08 | 0.55 | 260 | C | 0.5% |
| CR-609 (Allapattah Rd) | SR-710 | CR-714 | 740 | 1,867 | 0.09 | 0.58 | 86 | A/B | 5.6% |
| CR-609 (Allapattah Rd) | CR-714 | St Lucie County | 740 | 1,933 | 0.09 | 0.56 | 91 | A/B | 8.0% |
| CR-707 (Beach Rd) | Palm Beach County | CR-708 | 675 | 1,724 | 0.09 | 0.70 | 103 | C | 3.3% |
| CR-707 (Dixie Hwy) | CR-723/CR-707 | CR-707 (Indian River Dr) | 750 | 5,435 | 0.08 | 0.51 | 242 | C | 0.5% |
| CR-707 (Indian River Dr) | CR-707 (Dixie Hwy) | CR-707A (Jensen Beach Blvd.) | 675 | 10,764 | 0.11 | 0.50 | 593 | D | 0.9% |
| CR-707 (Indian River Dr) | CR-707A | SR-732 | 675 | 6,131 | 0.09 | 0.60 | 233 | C | 3.0% |
| CR-707 (Indian River Dr) | SR-732 | St. Lucie County | 675 | 6,430 | 0.09 | 0.57 | 247 | C | 3.2% |

Segments with shaded LOS require additional analysis.
The peaks are: CR-A1A (PM/SB); Murphy Rd (PM/NB); SR-5 (PM/NB); and SR-714 (PM/WB).


Effective March 1, 2018

# Martin County 2017 Roadway Level of Service Inventory Report

| Road Name | From | To | Generalized Service Capacity | 2017 AADT | Peak Hour Factor $K_{30}$ | Directional Distribution $D_{100}$ | 2017 Peak Hour Directional Volume | 2017 Generalized LOS | Avg. Annual Growth Rate |
|---|---|---|---|---|---|---|---|---|---|
| CR-714 (Veteran's Memorial Bridge) | Mapp Rd | SR-76 | 2000 | 23,206 | 0.11 | 0.60 | 1,538 | C | 8.0% |
| CR-723 (Savanna Rd) | CR-707 | NE 24th St | 880 | 8,872 | 0.08 | 0.69 | 606 | C | 1.3% |
| CR-723 (Savanna Rd) | NE 24th St | CR-707A (Jensen Beach Blvd.) | 880 | 10,388 | 0.09 | 0.52 | 415 | C | 0.5% |
| CR-726 (Citrus Blvd) | SR-710 | Greenridge Ln | 740 | 3,459 | 0.08 | 0.59 | 119 | A/B | 8.0% |
| CR-726 (Citrus Blvd) | Greenridge Ln | CR-76A | 740 | 2,561 | 0.08 | 0.59 | 104 | A/B | 5.1% |
| CR-76A (Citrus Blvd.) | CR-726 | SR-714 | 1200 | 4,115 | 0.08 | 0.55 | 164 | A/B | 5.5% |
| CR-76A (SW 96th St) | CR-726 | Pennsylvania Ave | 1200 | 3,833 | 0.08 | 0.56 | 168 | A/B | 3.2% |
| CR-76A (SW 96th St) | Pennsylvania Ave | SR-76 | 800 | 8,395 | 0.07 | 0.54 | 319 | C | 6.2% |
| CR-A1A (Dixie Hwy) | SR-5 | CR-708 | 750 | 3,160 | 0.09 | 0.62 | 173 | C | 6.5% |
| CR-A1A (Dixie Hwy) | CR-708 | Osprey St | 880 | 7,177 | 0.11 | 0.53 | 437 | C | 3.0% |
| CR-A1A (Dixie Hwy) | Osprey St | Heritage Blvd | 1190 | 6,253 | 0.08 | 0.56 | 282 | A/B | 4.7% |
| CR-A1A (Dixie Hwy) | Heritage Blvd | Cove Rd | 1190 | 6,792 | 0.08 | 0.54 | 284 | A/B | 4.5% |
| CR-A1A (Dixie Hwy) | Cove Rd | Salerno Rd | 790 | 11,814 | 0.09 | 0.52 | 559 | D | 1.7% |
| CR-A1A (Dixie Hwy) | Salerno Rd | St. Lucie Blvd | 750 | 16,923 | 0.09 | 0.55 | 777 | E | 3.2% |
| CR-A1A (Dixie Hwy) | St Lucie Blvd | Jefferson St | 750 | 13,538 | 0.10 | 0.52 | 718 | D | 2.9% |
| CR-A1A (Dixie Hwy) | Jefferson St | Indian St | 1630 | 17,855 | 0.09 | 0.55 | 819 | D | 2.7% |
| CR-A1A (Dixie Hwy) | Indian St | SR-714 | 2000 | 15,931 | 0.09 | 0.53 | 786 | C | 2.7% |
| CR-A1A (Dixie Hwy) | SR-714 | SE Fifth St | 675 | 6,464 | 0.10 | 0.54 | 350 | D | 2.8% |
| Crossrip St | CR-A1A | Gomez Ave | 675 | 2,781 | 0.10 | 0.59 | 169 | C | 3.2% |
| Dixie Hwy | Joan Jefferson Wy | Wright Blvd | 750 | 8,172 | 0.12 | 0.64 | 605 | D | 0.5% |
| Dr Martin Luther King Jr Blvd | Farm Rd | SR-710 | 675 | 2,122 | 0.09 | 0.64 | 97 | C | 4.7% |

Segments with shaded LOS require additional analysis.
The peaks are: CR-A1A (PM/SB); Murphy Rd (PM/NB); SR-5 (PM/NB); and SR-714 (PM/WB).


Effective March 1, 2018

# Martin County 2017 Roadway Level of Service Inventory Report

| Road Name | From | To | Generalized Service Capacity | 2017 AADT | Peak Hour Factor $K_{30}$ | Directional Distribution $D_{100}$ | 2017 Peak Hour Directional Volume | 2017 Generalized LOS | Avg. Annual Growth Rate |
|---|---|---|---|---|---|---|---|---|---|
| Farm Rd | Dr Martin Luther King Jr Dr | Palm Wy | 750 | 2,509 | 0.13 | 0.57 | 191 | C | 2.6% |
| Fork Rd | Pine Lake Dr | SR-5 | 675 | 1,602 | 0.08 | 0.66 | 62 | C | 6.6% |
| Fox Brown Rd | SR-710 | CR-714 | 740 | 402 | 0.08 | 0.65 | 21 | A/B | 0.0% |
| Goldenrod Rd | Britt Rd | SR-732 | 1630 | 5,605 | 0.08 | 0.54 | 198 | C | 2.3% |
| Goldenrod Rd | SR-732 | SR-5 | 750 | 6,612 | 0.09 | 0.54 | 297 | C | 0.6% |
| Goldenrod Rd | SR-5 | Westmoreland Blvd | 750 | 3,831 | 0.08 | 0.85 | 302 | C | 2.3% |
| Gomez Ave | CR-708 | Crossrip St | 750 | 3,823 | 0.08 | 0.52 | 161 | C | 2.4% |
| Gomez Ave | Crossrip St | Osprey St | 750 | 999 | 0.07 | 0.52 | 43 | C | 0.5% |
| Green River Parkway | Dixie Hwy | Baker Rd | 750 | 6,526 | 0.09 | 0.50 | 301 | C | 6.6% |
| Green River Parkway | Baker Rd | SR-732 | 880 | 7,827 | 0.12 | 0.63 | 594 | C | 7.0% |
| Green River Parkway | SR-732 | St. Lucie County | 1190 | 8,184 | 0.09 | 0.56 | 435 | C | 4.7% |
| Horseshoe Point Rd | CR-A1A | Kubin Ave | 675 | 5,975 | 0.08 | 0.66 | 324 | C | 1.2% |
| Indian St | SR-76 | Willoughby Blvd | 2000 | 26,838 | 0.11 | 0.63 | 1,784 | C | 8.0% |
| Indian St | Willoughby Blvd | SR-5 | 2000 | 27,536 | 0.08 | 0.57 | 1,162 | C | 8.0% |
| Indian St | SR-5 | Commerce Ave | 2000 | 23,065 | 0.08 | 0.53 | 1,142 | C | 4.4% |
| Indian St | Commerce Ave | CR-A1A | 2000 | 25,604 | 0.09 | 0.54 | 1,084 | C | 4.4% |
| Indian St | CR-A1A | St Lucie Blvd | 675 | 7,771 | 0.09 | 0.55 | 336 | D | 3.3% |
| Indian River Dr | Palmer St | CR-707 | 750 | 7,460 | 0.09 | 0.52 | 352 | C | 3.1% |
| Island Way | Palm Beach County | Jupiter Road | 1200 | 4,208 | 0.10 | 0.59 | 248 | A/B | 2.5% |
| Island Way | Jupiter Road | Country Club Dr | 750 | 4,783 | 0.08 | 0.50 | 81 | C | 1.9% |
| Jack James Rd | SR-76 | Blue Water Wy | 750 | 3,074 | 0.12 | 0.52 | 209 | C | 5.4% |

Segments with shaded LOS require additional analysis.
The peaks are: CR-A1A (PM/SB); Murphy Rd (PM/NB); SR-5 (PM/NB); and SR-714 (PM/WB).

**SAVANNAH ROAD TURN LANES**
**45 MPH DESIGN SPEED**
**(TURN LANE & TRANSITION PER FDOT INDEX 301 & 526)**


CAPTEC Engineering, Inc.
Civil Engineering Professionals
301 NW Flagler Ave. Ste. 201
Stuart, Florida 34994
Phone: (772) 692-4344
Fax: (772) 692-4341
Engineering Business No. EB 0007697


| | |
|---|---|
| DATE: | 03/08/18 |
| DRAWN BY: | MDB |
| DESIGNED BY: | SPM |
| CHECKED BY: | JWC |
| PROJECT No.: | 1798 |
| HORZ. SCALE: | 1" = 50' |
| VERT. SCALE: | N/A |
| CADD FILE: | SITE PLAN-2 |

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| | | | |

**SCALE VERIFICATION**
0 — 1"
SOLID BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

**SAVANNAH PLACE APARTMENTS**
MARTIN COUNTY, FLORIDA

**SANVANNAH ROAD TURN LANES**


Joseph W. Capra
301 N.W. Flagler Ave., Ste. 201
Stuart, Florida 34994
P.E. No. 37638


Printed Date:

JOB No.: 1798
SHEET 1 OF 1


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