

Carolina Club

**City of Margate
Broward County**

Application for Rezoning

Submitted:

February 25, 2019 to the City of Margate

On Behalf Of:

Florida Real Estate Value Fund III, LP

PARCEL 1:

ALL OF PARCELS 4-A AND "O-1" OF HOLIDAY SPRINGS EAST, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 133, AT PAGE 49, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, TOGETHER WITH CAROLINA GOLF COURSE BEING A PORTION OF SECTION 23, TOWNSHIP 48 SOUTH, RANGE 41 EAST, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PORTION OF SECTION 23, TOWNSHIP 48 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

CAROLINA GOLF COURSE:

A PORTION OF SECTION 23, TOWNSHIP 48 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 29'45" WEST ALONG THE NORTH LINE OF SAID SECTION 23, A DISTANCE OF 1749.15 FEET; THENCE SOUTH 00 DEGREES 30' 15" WEST 806.02 FEET TO AN INTERSECTION WITH THE NORTHERLY RIGHT-OF-WAY LINE OF COLLECTOR ROAD NORTH AS RECORDED IN OFFICIAL RECORDS BOOK 15091, PAGE 37 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA AND THE POINT OF BEGINNING SAID POINT ALSO BEING LOCATED ON THE NORTHERLY LINE OF TRACT 12 HOLIDAY SPRINGS VILLAGE SECTION FOUR, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 82, PAGE 47 OF THE PUBLIC RECORDS OF BROWARD COUNTY; THENCE ALONG SAID NORTHERLY LINE OF TRACT 12 THE FOLLOWING TWENTY (20) COURSES AND DISTANCES:

1. NORTH 30 DEGREES 10'02" WEST, 400.19 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHWEST;
2. NORTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 280.00 FEET, A DELTA 45 DEGREES 37' 13", AN ARC DISTANCE OF 222.94 FEET TO A POINT OF TANGENCY;
3. NORTH 75 DEGREES 47'15" WEST, 218.36 FEET;
4. SOUTH 26 DEGREES 52'22" WEST, 119.85 FEET;
5. SOUTH 06 DEGREES 05'25" WEST, 478.62 FEET;
6. SOUTH 12 DEGREES 50'05" WEST, 801.11 FEET, TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;

7. SOUTHERLY SOUTHWESTERLY AND NORTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 60.00 FEET, A DELTA 105 DEGREES 15' 17", AN ARC DISTANCE OF 110.22 FEET TO A POINT OF TANGENCY;
8. NORTH 61 DEGREES 54'39" WEST, 197.20 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHEAST;
9. NORTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 220.00 FEET, A DELTA OF 56 DEGREES 33' 51 " , AN ARC DISTANCE OF 217.19 FEET TO A POINT OF REVERSE CURVE;
10. CONTINUING NORTHWESTERLY ALONG THE ARC OF CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 190.53 FEET, A DELTA 61 DEGREES 38' 34", AN ARC DISTANCE OF 204.99 FEET TO A POINT OF TANGENCY;
11. NORTH 66 DEGREES 59'22" WEST, 298.98 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHEAST;
12. NORTHWESTERLY, WESTERLY AND SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 350.00 FEET, A DELTA 95 DEGREES 58'55", AN ARC DISTANCE 586.32 FEET TO A POINT OF TANGENCY;
13. SOUTH 17 DEGREES 01'44" WEST, 472.58 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE EAST;
14. SOUTHERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 250.00 FEET, A DELTA OF 40 DEGREES 53' 51 " , AN ARC DISTANCE OF 178.45 FEET TO A POINT OF REVERSE CURVE;
15. SOUTHERLY ALONG THE ARC OF A CURVE CONCAVE TO THE WEST HAVING A RADIUS OF 100.00 FEET, A DELTA 63 DEGREES 41' 53", AN ARC DISTANCE OF 111.17 FEET TO A POINT OF REVERSE CURVE;
16. SOUTHWESTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE SOUTHEAST, HAVING A RADIUS OF 673.11 FEET, A DELTA OF 31 DEGREES 47' 58", AN ARC DISTANCE 373.58 FEET TO A POINT OF REVERSE CURVE;
17. SOUTHERLY AND SOUTHWESTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 50.00 FEET, A DELTA OF 93 DEGREES 21'37", AN ARC DISTANCE OF 81.47 FEET TO A POINT OF COMPOUND CURVE;
18. NORTHWESTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE NORTHEAST, HAVING A RADIUS OF 270.00 FEET, A DELTA OF 25 DEGREES 09' 12", AN ARC DISTANCE OF 118.53 FEET TO A POINT OF TANGENCY;
19. NORTH 53 DEGREES 27'24" WEST 106.88 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHWEST;
20. NORTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS 336.93 FEET, A DELTA OF 37 DEGREES 34'23", AN ARC DISTANCE OF 220.95 FEET TO A POINT OF CUSP, SAID POINT BEING LOCATED ON THE SOUTH LINE OF TRACT 3, HOLIDAY SPRINGS VILLAGE AND OCEAN CLUB SECTION ONE, ACCORDING TO PLAT THEREOF AS RECORDED IN PLAT BOOK 77, PAGE 8, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA;

THENCE ALONG THE SOUTH, EASTERLY AND NORTHERLY LINES OF SAID TRACT 3, THE FOLLOWING SIX (6) COURSES AND DISTANCES;

1. NORTH 88 DEGREES 58' 14" EAST, 202.19 FEET;
2. NORTH 10 DEGREES 41' 19" WEST, 30.43 FEET;
3. NORTH 53 DEGREES 45' 29" EAST, 150.21 FEET;
4. NORTH 13 DEGREES 52' 29" WEST, 315.34 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHWEST;
5. NORTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 180.00 FEET, A DELTA 55 DEGREES 32' 34", AN ARC DISTANCE OF 174.49 FEET TO A POINT OF TANGENCY;
6. NORTH 69 DEGREES 25' 03" WEST, 333.55 FEET TO AN INTERSECTION WITH THE EASTERLY RIGHT-OF-WAY LINE OF HOLIDAY SPRINGS BOULEVARD AS SHOWN ON SAID PLAT OF HOLIDAY SPRINGS VILLAGE AND OCEAN CLUB SECTION ONE;

THENCE NORTH 01 DEGREES 01' 47" WEST ALONG SAID EASTERLY RIGHT-OF-WAY LINE, 163.13 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE EAST; THENCE NORTHERLY ALONG SAID EASTERLY RIGHT-OF-WAY LINE AND ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 868.27 FEET, A DELTA OF 11 DEGREES 48' 59", AN ARC DISTANCE OF 179.07 FEET TO AN INTERSECTION WITH THE SOUTH LINE OF TRACT 4 OF SAID HOLIDAY SPRINGS VILLAGE AND OCEAN CLUB SECTION ONE (A RADIAL LINE THROUGH SAID POINT BEARS SOUTH 79 DEGREES 12' 48" EAST); THENCE SOUTH 87 DEGREES 00' 21" EAST ALONG THE SAID SOUTH LINE OF TRACT 4, A DISTANCE OF 666.12 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST; THENCE NORTHEASTERLY ALONG SAID SOUTHERLY LINE AND ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 146.72 FEET, A DELTA 76 DEGREES 20' 09", AN ARC DISTANCE OF 195.48 FEET TO A POINT ON THE EAST LINE OF SAID TRACT 4;

THENCE NORTH 16 DEGREES 39' 31" EAST, ALONG SAID EAST LINE AND THE EAST LINE OF PARCEL 4-A, HOLIDAY SPRINGS EAST, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 133, PAGE 49 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, A DISTANCE OF 628.23 FEET; THENCE CONTINUING ALONG SAID EAST LINE OF PARCEL 4-A THE FOLLOWING THREE (3) COURSES AND DISTANCES:

1. NORTH 46 DEGREES 11' 17" EAST, 249.54 FEET;
2. NORTH 16 DEGREES 08' 47" EAST, 259.62 FEET;

3. SOUTH 89 DEGREES 29'45" EAST, 90.00 FEET TO AN INTERSECTION WITH THE WEST LINE OF TRACT 5, HOLIDAY SPRINGS VILLAGE SECTION THREE ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 80, PAGE 25 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA;

THENCE ALONG THE WEST, SOUTH AND EAST LINES OF SAID TRACT 5, THE FOLLOWING FIVE (5) COURSES AND DISTANCES:

1. SOUTH 14 DEGREES 02' 16" EAST, 569.45 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHEAST;
2. SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 280.00 FEET, A DELTA OF 75 DEGREES 52' 02", AN ARC DISTANCE OF 370.76 FEET TO A POINT OF TANGENCY;
3. SOUTH 89 DEGREES 54' 18" EAST, 23.97 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
4. NORTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 280.00 FEET, A DELTA OF 86 DEGREES 35'09", AN ARC DISTANCE OF 423.14 FEET TO A POINT OF TANGENCY;
5. NORTH 03 DEGREES 30' 33" EAST, 596.23 FEET TO AN INTERSECTION WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF SAMPLE ROAD, AS DEDICATED BY SAID PLAT OF HOLIDAY SPRINGS EAST;

THENCE SOUTH 89 DEGREES 29' 45" EAST, ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE 717.64 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTH; THENCE EASTERLY ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE AND ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 2009.86 FEET, A DELTA OF 06 DEGREES 32' 50", AN ARC DISTANCE OF 229.67 FEET TO AN INTERSECTION WITH THE WESTERLY RIGHT-OF-WAY LINE OF ROCK ISLAND ROAD AS DEDICATED BY SAID PLAT OF HOLIDAY SPRINGS EAST, (A RADIAL LINE THROUGH SAID POINT BEARS NORTH 06 DEGREES 02'35" WEST);

THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE THE FOLLOWING SIX (6) COURSES AND DISTANCES:

1. SOUTH 49 DEGREES 44'46" EAST, 50.61 FEET TO AN INTERSECTION WITH THE ARC OF A CURVE CONCAVE TO THE NORTHEAST (A RADIAL LINE THROUGH SAID POINT BEARS NORTH 86 DEGREES 33' 04" EAST);
2. SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 1060.00 FEET, A DELTA OF 17 DEGREES 11' 19", AN ARC DISTANCE OF 318.00 FEET TO A POINT OF TANGENCY;
3. SOUTH 27 DEGREES 32'05" EAST, 28.55 FEET;

4. SOUTH 16 DEGREES 51' 26" EAST, 77.94 FEET TO AN INTERSECTION WITH THE ARC OF A NON-RADIAL CURVE CONCAVE TO THE NORTHEAST (A RADIAL LINE THROUGH SAID POINT BEARS NORTH 63 DEGREES 39' 18" EAST);
5. SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 1067.00 FEET, A DELTA OF 03 DEGREES 50' 19", AN ARC DISTANCE OF 71.49 FEET TO A POINT OF TANGENCY;
6. SOUTH 30 DEGREES 11' 01" EAST, 75.35 FEET TO THE INTERSECTION WITH THE SAID NORTHERLY RIGHT-OF-WAY LINE OF COLLECTOR ROAD NORTH;

THENCE ALONG SAID NORTHERLY RIGHT-OF-WAY LINE THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

1. SOUTH 18 DEGREES 02'57" WEST, 52.21 FEET;
2. SOUTH 66 DEGREES 16' 55" WEST, 44.20 FEET;
3. SOUTH 62 DEGREES 46'46" WEST, 163.69 FEET;
4. SOUTH 66 DEGREES 16'55" WEST, 15.65 FEET TO THE POINT OF BEGINNING;

LESS THE FOLLOWING DESCRIBED PARCEL:

A PORTION OF SECTION 23, TOWNSHIP 48 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF TRACT 5, HOLIDAY SPRINGS VILLAGE SECTION THREE, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 80, PAGE 25 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA; THENCE SOUTH 03 DEGREES 30'33" WEST, ALONG THE EAST LINE OF SAID TRACT 5, A DISTANCE OF 40.06 FEET TO AN INTERSECTION WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF SAMPLE ROAD AS DEDICATED BY HOLIDAY SPRINGS EAST, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 133, PAGE 49 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, AND THE POINT OF BEGINNING; THENCE SOUTH 89 DEGREES 29'45" EAST, ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, 114.18 FEET; THENCE SOUTH 45 DEGREES 30' 15" WEST, 49.50 FEET; THENCE SOUTH 00 DEGREES 30' 15" WEST, 15.00 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 103.00 FEET, A DELTA OF 81 DEGREES 08'45", AN ARC DISTANCE OF 145.88 FEET TO AN INTERSECTION WITH THE SAID EAST LINE OF TRACT 5 (A RADIAL LINE THROUGH SAID POINT BEARS NORTH 08 DEGREES 20' 59" WEST); THENCE NORTH 03 DEGREES 30'33" EAST, ALONG SAID EAST LINE, 151.98 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH: (THE FIRST DESCRIBED PARCEL NOT THE LESS OUT PARCEL ABOVE)

AND ALSO, LESS THE FOLLOWING DESCRIBED PARCEL:

A PORTION OF SECTION 23, TOWNSHIP 48 SOUTH, RANGE 41 EAST BROWARD COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOW:

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 23; THENCE N. 89° 29' 45" W. ALONG THE NORTH LINE OF SAID SECTION 23, A DISTANCE OF 2072.10 FEET;

THENCE S. 00° 30' 15" W. A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARCEL; THENCE S. 89° 29' 45" E. ALONG THE NORTH RIGHT OF WAY LINE OF SAMPLE ROAD AS LAID OUT AND IN USE A DISTANCE OF 91.74 FEET; THENCE CONTINUE ALONG SAID RIGHT OF WAY AND ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 2009.86 FEET AND A CENTRAL ANGLE OF 06° 32' 50" FOR AN ARC LENGTH OF 229.67 FEET, SAID CURVE HAVING A CHORD BEARING OF N. 87° 13' 50" E; THENCE S. 49° 44' 46" E. A DISTANCE OF 50.61 FEET; THENCE TO THE BEGINNING POINT OF A CURVE TO THE LEFT HAVING A RADIUS OF 1060.00 FEET AND A CENTRAL ANGLE OF 09° 36' 02" FROM WHICH THE RADIUS POINT BEARS N. 86° 33' 10" E., THENCE LEFT ALONG SAID CURVE AND ALONG THE WESTERLY RIGHT OF WAY OF ROCK ISLAND ROAD AS LAID OUT AND IN USE, FOR AN ARC LENGTH OF 177.62 FEET, SAID CURVE HAVING A CHORD BEARING OF S. 08° 14' 51" E.; THENCE DEPARTING SAID CURVE, S. 76° 35' 03" W. A DISTANCE A DISTANCE OF 43.40 FEET; THENCE ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 20.00 FEET AND A CENTRAL ANGLE OF 73° 14' 56" FOR AN ARC LENGTH OF 25.57 FEET, SAID CURVE HAVING A CHORD BEARING OF N. 66° 47' 29" W.; THENCE ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 20.00 FEET AND A CENTRAL ANGLE OF 98° 01' 37" FOR AN ARC LENGTH OF 34.22 FEET, SAID CURVE HAVING A CHORD BEARING OF N. 79° 10' 50" W.; THENCE S. 51° 48' 22" W. A DISTANCE OF 60.52 FEET; THENCE ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 20.00 FEET AND A CENTRAL ANGLE OF 85° 19' 52" FOR AN ARC LENGTH OF 29.79 FEET, SAID CURVE HAVING A CHORD BEARING OF N. 85° 31' 42" W.; THENCE ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 410.00 FEET AND A CENTRAL ANGLE OF 33° 29' 09" FOR AN ARC LENGTH OF 239.62 FEET, SAID CURVE HAVING A CHORD BEARING OF N. 59° 36' 21" W.; THENCE ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 20.00 FEET AND A CENTRAL ANGLE OF 77° 51' 27" FOR AN ARC LENGTH OF 27.18 FEET, SAID CURVE HAVING A CHORD BEARING OF N. 37° 25' 12" W.; THENCE N. 01° 30' 32" E. A DISTANCE OF 88.85 FEET TO THE SAID POINT OF BEGINNING. CONTAINING 1.50 ACRES MORE OR LESS.

PARCEL 2:

A PORTION OF SECTION 23, TOWNSHIP 48 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 29'45" WEST, ALONG THE NORTH LINE OF SAID SECTION 23, A DISTANCE OF 1729.04 FEET; THENCE SOUTH 00 DEGREES 30' 15" WEST, 862.76 FEET TO AN INTERSECTION WITH THE SOUTH LINE OF COLLECTOR ROAD NORTH AS RECORDED IN OFFICIAL RECORDS BOOK 15091, PAGE 37 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, SAID INTERSECTION ALSO BEING THE NORTHWEST CORNER OF PARCEL "N" OF SAID PLAT OF HOLIDAY SPRINGS EAST, AND THE POINT OF BEGINNING;

THENCE ALONG THE WEST LINE OF SAID PLAT OF HOLIDAY SPRINGS EAST, THE FOLLOWING TEN (10) COURSES AND DISTANCES:

1. SOUTH 09 DEGREES 55' 17" EAST, 194.55 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE WEST;
2. SOUTHERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 1500.00 FEET, A DELTA OF 29 DEGREES 08'07", AN ARC DISTANCE OF 762.76 FEET TO A POINT OF TANGENCY;
3. SOUTH 19 DEGREES 12'50" WEST, 479.94 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
4. SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 375.00 FEET, A DELTA OF 21 DEGREES 36' 04', AN ARC DISTANCE OF 141.38 FEET TO A POINT OF TANGENCY;
5. SOUTH 40 DEGREES 48'54" WEST, 271.21 FEET;
6. SOUTH 10 DEGREES 02'00" WEST, 121.29 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE EAST;
7. SOUTHERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 275.00 FEET, A DELTA OF 30 DEGREES 12' 15", AN ARC DISTANCE OF 144.97 FEET TO A POINT OF TANGENCY;
8. SOUTH 20 DEGREES 10' 15" EAST, 276.94 FEET;
9. SOUTH 07 DEGREES 30'04" EAST, 283.49 FEET;
10. SOUTH 25 DEGREES 18'34" EAST, 336.14 FEET TO AN INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF COLLECTOR ROAD SOUTH AS RECORDED IN OFFICIAL RECORDS BOOK 15091, PAGE 37 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA;

THENCE SOUTH 73 DEGREES 39' 42" WEST, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE 169.87 FEET TO AN INTERSECTION WITH THE NORTHERLY LINE OF TRACT 13, HOLIDAY SPRINGS VILLAGE SECTION FIVE, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 84, PAGE 27 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA; THENCE ALONG SAID NORTHERLY LINE THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

1. NORTH 27 DEGREES 27'42" WEST, 655.36 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHWEST;
2. NORTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 150.00 FEET, A DELTA OF 75 DEGREES 52' 41 " , AN ARC DISTANCE OF 198.65 FEET TO A POINT OF TANGENCY;
3. SOUTH 76 DEGREES 39' 37" WEST, 460.60 FEET;
4. NORTH 78 DEGREES 26' 13" WEST, 79.78 FEET TO AN INTERSECTION WITH THE NORTH LINE OF PARCEL L-4 OF SAID PLAT OF HOLIDAY SPRINGS EAST AND WITH THE ARC OF A NON-TANGENT CURVE CONCAVE TO THE SOUTHWEST (A RADIAL LINE THROUGH SAID POINT BEARS SOUTH 36 DEGREES 57' 51" WEST);

THENCE ALONG THE SAID NORTHERLY LINE OF PARCEL L-4 THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

1. NORTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 800.00 FEET, A DELTA OF 26 DEGREES 31' 12", AN ARC DISTANCE OF 370.29 FEET TO A POINT OF TANGENCY;
2. NORTH 79 DEGREES 33' 21" WEST, 251.00 FEET TO THE BEGINNING OF TANGENT CURVE CONCAVE TO THE SOUTH;
3. NORTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 350.00 FEET, A DELTA OF 14 DEGREES 50' 04", AN ARC DISTANCE OF 90.62 FEET TO A POINT OF REVERSE CURVE;
4. NORTHWESTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE NORTH, HAVING A RADIUS OF 375.00 FEET, A DELTA OF 27 DEGREES 34' 26", AN ARC DISTANCE OF 180.47 FEET TO A POINT OF TANGENCY, SAID POINT BEING LOCATED ON THE SAID NORTHERLY LINE OF TRACT 13, HOLIDAY SPRINGS VILLAGE SECTION FIVE;

THENCE NORTH 66 DEGREES 48' 59" WEST, ALONG SAID NORTHERLY LINE OF TRACT 13, A DISTANCE OF 162.00 FEET TO AN INTERSECTION WITH THE EASTERLY RIGHT-OF-WAY LINE OF COLLECTOR ROAD NORTH AS RECORDED IN OFFICIAL RECORDS BOOK 15091, PAGE 37 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA; THENCE NORTH 07 DEGREES 29'53" WEST, ALONG SAID EASTERLY RIGHT-OF-WAY LINE, 211.31 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHEAST; THENCE NORTHERLY ALONG SAID EASTERLY RIGHT-OF-WAY LINE AND ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 620.00 FEET, A DELTA OF 22 DEGREES 32' 51", AN ARC DISTANCE OF 243.99 FEET TO AN INTERSECTION WITH THE SOUTHERLY LINE OF SAID TRACT 12, HOLIDAY SPRINGS VILLAGE SECTION FOUR, AND WITH THE ARC OF A NON-RADIAL CURVE CONCAVE TO THE SOUTHEAST (RADIAL LINES THROUGH SAID POINT BEAR SOUTH 74 DEGREES 57' 01" EAST (620.00 FOOT RADIUS) AND SOUTH 24 DEGREES 30'43" EAST (50.00 FOOT RADIUS); THENCE ALONG SAID SOUTHERLY LINE OF TRACT 12, THE FOLLOWING TEN (10) COURSES AND DISTANCES:

1. NORTHEASTERLY ALONG THE ARC OF SAID NON-RADIAL CURVE, HAVING A RADIUS OF 50.00 FEET, A DELTA OF 17 DEGREES 10' 43", AN ARC DISTANCE OF 14.99 FEET TO A POINT OF TANGENCY;
2. NORTH 82 DEGREES 40'00" EAST, 885.46 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTH;
3. SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 700.00 FEET, A DELTA OF 27 DEGREES 56'57", AN ARC DISTANCE OF 341.46 FEET TO A POINT OF TANGENCY;
4. SOUTH 69 DEGREES 23'04" EAST, 383.41 FEET;
5. NORTH 43 DEGREES 20' 38" EAST, 395.40 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
6. NORTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 750.00 FEET, A DELTA OF 20 DEGREES 35' 42", AN ARC DISTANCE OF 269.59 FEET TO A POINT OF TANGENCY;
7. NORTH 22 DEGREES 44' 56" EAST, 292.57 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
8. NORTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 750.00 FEET, A DELTA OF 20 DEGREES 58' 58", AN ARC DISTANCE OF 274.66 FEET TO A POINT OF TANGENCY;
9. NORTH 01 DEGREES 45' 58" EAST, 482.45 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHEAST;
10. NORTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 50.00 FEET, A DELTA OF 64 DEGREES 30' 57", AN ARC DISTANCE OF 56.30 FEET TO A POINT OF TANGENCY, SAID POINT BEING LOCATED ON THE SAID SOUTHERLY RIGHT-OF-WAY LINE OF COLLECTOR ROAD NORTH;

THENCE NORTH 66 DEGREES 16'55" EAST, ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE 124.41 FEET TO THE POINT OF BEGINNING;

TOGETHER WITH:

PARCEL 3:

A PORTION OF SECTION 23, TOWNSHIP 48 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA,
MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 23; THENCE SOUTH 89 DEGREES 28'44" EAST, ALONG THE SOUTH LINE OF SAID SECTION 23, A DISTANCE OF 1215.08 FEET; THENCE NORTH 00 DEGREES 31'16" EAST, 360.00 FEET TO THE NORTHWEST CORNER OF PARCEL M OF SAID PLAT OF HOLIDAY SPRINGS EAST, SAID POINT ALSO BEING LOCATED ON THE EASTERLY RIGHT-OF-WAY LINE OF COLLECTOR ROAD SOUTH, AS RECORDED IN OFFICIAL RECORDS BOOK 15091, PAGE 37 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA AND THE POINT OF BEGINNING; THENCE NORTH 00 DEGREES 31' 16" EAST, ALONG SAID EASTERLY RIGHT-OF-WAY LINE, 71.28 FEET TO AN INTERSECTION WITH THE SOUTHERLY LINE OF SAID TRACT 13, HOLIDAY SPRINGS VILLAGE SECTION FIVE; THENCE NORTH 77 DEGREES 46'53" EAST, ALONG SAID SOUTHERLY LINE, 708.04 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST; THENCE NORTHEASTERLY ALONG SAID SOUTHERLY LINE AND ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 250.00 FEET, A DELTA OF 32 DEGREES 09' 14", AN ARC DISTANCE OF 140.30 FEET TO A POINT OF TANGENCY AND THE SOUTHERLY MOST CORNER OF PARCEL L-3 OF SAID PLAT OF HOLIDAY SPRINGS EAST;

THENCE ALONG THE SOUTHERLY LINE OF SAID PARCEL L-3, THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

1. NORTH 45 DEGREES 37' 39" EAST, 388.55 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTH;
2. EASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 100.00 FEET, A DELTA OF 53 DEGREES 02' 02", AN ARC DISTANCE OF 92.56 FEET TO A POINT OF REVERSE CURVE;
3. NORTHEASTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 75.00 FEET, A DELTA OF 97 DEGREES 28' 51", AN ARC DISTANCE OF 127.60 FEET TO A POINT OF REVERSE CURVE;
4. NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE SOUTH, HAVING A RADIUS OF 50.00 FEET, A DELTA OF 178 DEGREES 54' 47", AN ARC DISTANCE OF 156.13 FEET TO A POINT OF TANGENCY, SAID POINT BEING LOCATED ON SAID SOUTHERLY LINE OF TRACT 13, HOLIDAY SPRINGS VILLAGE SECTION FIVE; THENCE ALONG SAID SOUTHERLY LINE OF TRACT 13 THE FOLLOWING SEVEN (7) COURSES AND DISTANCES:

1. SOUTH 00 DEGREES 05'36" WEST, 447.63 FEET TO AN INTERSECTION WITH THE ARC OF A NON-RADIAL CURVE CONCAVE TO THE NORTHWEST (A RADIAL LINE THROUGH SAID POINT BEARS NORTH 33 DEGREES 39' 24" EAST);
2. EASTERLY AND NORTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 280.00 FEET, A DELTA OF 93 DEGREES 05'43", AN ARC DISTANCE OF 454.95 FEET TO A POINT OF TANGENCY;
3. NORTH 30 DEGREES 33' 41" EAST, 44.90 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE WEST;

4. NORTHERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 750.00 FEET, A DELTA OF 48 DEGREES 51' 03", AN ARC DISTANCE OF 639.46 FEET TO A POINT OF TANGENCY;
5. NORTH 18 DEGREES 17' 22" WEST, 30.00 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHEAST;
6. NORTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 60.00 FEET, A DELTA OF 90 DEGREES 00' 00", AN ARC DISTANCE OF 94.25 FEET TO A POINT OF TANGENCY;
7. NORTH 71 DEGREES 42' 38" EAST, 68.62 FEET TO THE EASTERLY MOST CORNER OF SAID TRACT 13;

THENCE NORTH 27 DEGREES 27'42" WEST, ALONG THE NORTHERLY LINE OF SAID TRACT 13, A DISTANCE OF 23.40 FEET TO AN INTERSECTION WITH THE SOUTHERLY RIGHT-OF-WAY OF COLLECTOR ROAD SOUTH, AS RECORDED IN OFFICIAL RECORDS BOOK 15091, PAGE 37 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA; THENCE NORTH 73 DEGREES 39'42" EAST, ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, 135.12 FEET TO AN INTERSECTION WITH THE WESTERLY LINE OF SAID PLAT OF HOLIDAY SPRINGS EAST; THENCE ALONG SAID WESTERLY LINE THE FOLLOWING SIX (6) COURSES AND DISTANCES:

1. SOUTH 22 DEGREES 02' 55" EAST, 141.19 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE WEST;
2. SOUTHERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 800.00 FEET, A DELTA OF 40 DEGREES 53'05", AN ARC DISTANCE OF 570.86 FEET TO A POINT OF TANGENCY;
3. SOUTH 18 DEGREES 50' 10" WEST, 231.34 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
4. SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 360.79 FEET, A DELTA OF 35 DEGREES 21' 31 " , AN ARC DISTANCE OF 222.65 FEET TO A POINT OF COMPOUND CURVE;
5. SOUTHWESTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 377.39 FEET, A DELTA OF 36 DEGREES 19' 35", AN ARC DISTANCE OF 239.27 FEET TO A POINT OF TANGENCY;
6. NORTH 89 DEGREES 28'44" WEST, 1700.43 FEET TO THE POINT OF BEGINNING;

TOGETHER WITH:

PARCEL 4:

A PORTION OF SECTION 23, TOWNSHIP 48 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA,
MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 23; THENCE SOUTH 89 DEGREES 28'44" EAST, ALONG THE SOUTH LINE OF SAID SECTION 23, A DISTANCE OF 1155.08 FEET; THENCE NORTH 00 DEGREES 31' 16" EAST, 340.00 FEET TO A POINT LOCATED ON THE WESTERLY RIGHT-OF-WAY LINE OF COLLECTOR ROAD SOUTH, AS RECORDED IN OFFICIAL RECORDS BOOK 15091, PAGE 37 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, SAID POINT ALSO BEING THE NORTHEAST CORNER OF TRACT 11, HOLIDAY SPRINGS VILLAGE SECTION TWO, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 80, PAGE 24 OF THE PUBLIC RECORDS OF BROWARD COUNTY FLORIDA, AND THE POINT OF BEGINNING; THENCE ALONG THE EASTERLY LINE OF SAID TRACT 11, THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

1. NORTH 89 DEGREES 28'44" WEST, 150.00 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHEAST;
2. NORTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 180.00 FEET, A DELTA OF 39 DEGREES 52'54", AN ARC DISTANCE OF 125.29 FEET TO A POINT OF COMPOUND CURVE;
3. NORTHWESTERLY AND NORTHERLY ALONG THE ARC OF A CURVE CONCAVE TO THE NORTHEAST, HAVING A RADIUS OF 750.00 FEET, A DELTA OF 66 DEGREES 15' 13", AN ARC DISTANCE OF 867.26 FEET TO A POINT OF REVERSE CURVE;
4. NORTHERLY AND NORTHWESTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 200.00 FEET, A DELTA OF 54 DEGREES 52'30" , AN ARC DISTANCE OF 191.55 FEET TO AN INTERSECTION WITH A NON-RADIAL LINE (A RADIAL LINE THROUGH SAID POINT BEARS SOUTH 51 DEGREES 46' 53" WEST) AND THE NORTHERLY MOST CORNER OF SAID TRACT 11;

THENCE SOUTH 71 DEGREES 45' 12" WEST, ALONG THE NORTH LINE OF SAID TRACT 11, A DISTANCE OF 354.14 FEET TO AN INTERSECTION WITH THE ARC OF NON-RADIAL CURVE CONCAVE TO THE SOUTHEAST (A RADIAL LINE THROUGH SAID POINT BEARS SOUTH 87 DEGREES 30' 33" EAST) AND THE EASTERLY RIGHT-OF-WAY LINE OF HOLIDAY SPRINGS BOULEVARD AS SHOWN ON SAID PLAT OF HOLIDAY SPRINGS VILLAGE SECTION TWO; THENCE NORTHEASTERLY ALONG SAID EASTERLY RIGHT-OF-WAY LINE AND ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 1026.86 FEET, A DELTA OF 14 DEGREES 03' 44", AN ARC DISTANCE OF 252.02 FEET TO A POINT OF TANGENCY; THENCE NORTH 16 DEGREES 33' 12" EAST, ALONG SAID EASTERLY RIGHT-OF-WAY LINE, 150.00 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST; THENCE NORTHEASTERLY ALONG SAID EASTERLY RIGHT-OF-WAY LINE AND ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 1106.86 FEET, A DELTA OF 01 DEGREES 21' 13", AN ARC DISTANCE OF 26.15 FEET TO THE SOUTHWESTERLY CORNER OF TRACT 10 OF SAID HOLIDAY SPRINGS VILLAGE SECTION TWO (A RADIAL LINE THROUGH SAID POINT BEARS NORTH 74 DEGREES 48' 02" WEST); THENCE ALONG THE SOUTH AND EAST LINES OF SAID TRACT 10, THE FOLLOWING THREE (3) COURSES AND DISTANCES:

1. NORTH 64 DEGREES 15' 41" EAST, 388.32 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO NORTHWEST;
2. NORTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 180.00 FEET, A DELTA OF 59 DEGREES 04' 12", AN ARC DISTANCE OF 185.57 FEET TO A POINT OF TANGENCY;
3. NORTH 05 DEGREES 11' 29" EAST, 378.57 FEET TO AN INTERSECTION WITH THE SOUTH LINE OF TRACT 2 OF SAID HOLIDAY SPRINGS VILLAGE AND OCEAN CLUB SECTION ONE, AND WITH THE ARC OF A NON-RADIAL CURVE CONCAVE TO THE NORTHWEST (A RADIAL LINE THROUGH SAID POINT BEARS NORTH 28 DEGREES 44" 46" WEST);

THENCE ALONG THE SOUTH AND EASTERLY LINE OF SAID TRACT 2 THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

1. NORTHEASTERLY ALONG THE ARC OF SAID CURVE CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 784.45 FEET, A DELTA OF 02 DEGREES 41' 03", AN ARC DISTANCE OF 36.75 FEET TO AN INTERSECTION WITH A NON-RADIAL LINE (A RADIAL LINE THROUGH SAID POINT BEARS NORTH 31 DEGREES 25' 49" WEST);
2. NORTH 05 DEGREES 11' 29" EAST, 270.21 FEET;
3. SOUTH 87 DEGREES 35' 06" WEST, 68.28 FEET TO AN INTERSECTION WITH THE ARC OF A NON-RADIAL CURVE CONCAVE TO THE SOUTHWEST (A RADIAL LINE THROUGH SAID POINT BEARS SOUTH 89 DEGREES 23' 23" WEST);
4. NORTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 276.93 FEET, A DELTA OF 52 DEGREES 50' 46", AN ARC DISTANCE OF 255.42 FEET TO A POINT OF CUSP, SAID POINT BEING LOCATED ON THE SOUTHERLY LINE OF SAID TRACT 12, HOLIDAY SPRINGS VILLAGE SECTION FOUR;

THENCE SOUTH 53 DEGREES 27' 24" EAST, ALONG SAID SOUTHERLY LINE, 106.88 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHEAST; THENCE SOUTHEASTERLY ALONG SAID SOUTHERLY LINE, AND ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 330.00 FEET, A DELTA OF 30 DEGREES 22' 34", AN ARC DISTANCE OF 174.95 FEET TO A POINT OF REVERSE CURVE; THENCE CONTINUING SOUTHEASTERLY ALONG SAID SOUTHERLY LINE AND ALONG THE ARC OF CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 50.00 FEET, A DELTA OF 84 DEGREES 44' 17", AN ARC DISTANCE OF 73.95 FEET TO A POINT OF REVERSE CURVE; THENCE ALONG SAID SOUTHERLY LINE OF TRACT 12, AND THE WESTERLY LINE OF SAID TRACT 13, HOLIDAY SPRINGS VILLAGE SECTION FIVE, THE FOLLOWING TWO (2) COURSES AND DISTANCES:

1. SOUTHEASTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE NORTHEAST, HAVING A RADIUS OF 680.00 FEET, A DELTA OF 08 DEGREES 24' 12", AN ARC DISTANCE OF 99.73 FEET TO A POINT OF TANGENCY;
2. SOUTH 07 DEGREES 29'52" EAST, 331.13 FEET TO THE NORTHERLY MOST CORNER OF PARCEL L-1 OF SAID PLAT OF HOLIDAY SPRINGS EAST;

THENCE ALONG THE WEST AND SOUTH LINES OF SAID PARCEL L-1 THE FOLLOWING TWO (2) COURSES AND DISTANCES:

1. SOUTH 01 DEGREES 58' 35" EAST, 366.35 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHEAST;
2. SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 125.00 FEET, A DELTA OF 76 DEGREES 27'37", AN ARC DISTANCE OF 166.81 FEET TO A POINT OF TANGENCY;

THENCE SOUTH 78 DEGREES 26' 13 EAST, ALONG THE SOUTH LINE OF SAID PARCEL L-1, AND THE WESTERLY LINE OF SAID TRACT 13 OF HOLIDAY SPRINGS VILLAGE SECTION FIVE, 466.97 FEET TO THE NORTHWEST CORNER OF PARCEL L-2 OF SAID HOLIDAY SPRINGS EAST; THENCE ALONG THE WESTERLY LINE OF SAID PARCEL L-2 THE FOLLOWING THREE (3) COURSES AND DISTANCES:

1. SOUTH 67 DEGREES 55'50" EAST, 319.17 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHWEST;
2. SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 150.00 FEET, A DELTA OF 34 DEGREES 22' 18", AN ARC DISTANCE OF 89.99 FEET TO A POINT OF COMPOUND CURVE:
3. SOUTHERLY AND SOUTHWESTERLY ALONG THE ARC OF A CURVE CONCAVE TO THE WEST, HAVING A RADIUS OF 90.00 FEET, A DELTA OF 101 DEGREES 32' 13", AN ARC DISTANCE OF 159.49 FEET TO A POINT OF TANGENCY, SAID POINT BEING LOCATED ON THE SAID WESTERLY LINE OF TRACT 13, HOLIDAY SPRINGS VILLAGE SECTION FIVE;

THENCE ALONG THE SAID WESTERLY LINE OF TRACT 13, THE FOLLOWING FIVE (5) COURSES AND DISTANCES:

1. SOUTH 67 DEGREES 58' 41" WEST, 493.79 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
2. SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 750.00 FEET, A DELTA OF 27 DEGREES 21' 16", AN ARC DISTANCE OF 350.07 FEET TO A POINT OF TANGENCY;

3. NORTH 84 DEGREES 40' 03" WEST, 221.50 FEET TO AN INTERSECTION WITH A NON-RADIAL CURVE CONCAVE TO THE SOUTHEAST (A RADIAL LINE THROUGH SAID POINT BEARS SOUTH 54 DEGREES 56' 48" EAST);
4. SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 1000.00 FEET, A DELTA OF 18 DEGREES 35' 39", AN ARC DISTANCE OF 324.53 FEET TO AN INTERSECTION WITH A NON-RADIAL LINE (A RADIAL LINE THROUGH SAID POINT BEARS SOUTH 73 DEGREES 32'27" EAST);
5. SOUTH 45 DEGREES 45' 02" EAST, 493.16 FEET TO AN INTERSECTION WITH THE SAID WEST RIGHT-OF-WAY LINE OF COLLECTOR ROAD SOUTH;

THENCE SOUTH 00 DEGREES 31' 16" WEST, ALONG SAID WEST RIGHT-OF-WAY LINE, 170.00 FEET TO THE POINT OF BEGINNING.

SAID LANDS LYING IN THE CITY OF MARGATE, BROWARD COUNTY, FLORIDA.

FEE PARCELS 1 THROUGH 4 CONTAINING 143.0077 ACRES, MORE OR LESS. SEE MAP SHEETS FOR INDIVIDUAL DETAIL

PARCEL 5:

NON-EXCLUSIVE EASEMENT RIGHTS OVER, ACROSS AND THROUGH THOSE PORTIONS OF TRACT 10, (WHICH ARE NOW OR HEREAFTER DESIGNATED AS BEING FOR THE COMMON USE AND ENJOYMENT OF PURCHASERS OF THE CONDOMINIUM UNITS TO BE CONSTRUCTED ON TRACT 10), FOR THE PURPOSE OF PROVIDING INGRESS AND EGRESS TO THE LAKES AND CANALS NOW OR HEREAFTER EXISTING ON OR ADJACENT TO TRACT 10 AND FOR THE PURPOSE OF MAINTAINING AND USING SUCH LAKES AND CANALS, AS MORE PARTICULARLY SET FORTH IN THAT CERTAIN GRANT OF EASEMENT RECORDED IN OFFICIAL RECORDS BOOK 12164, PAGE 160 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

PARCEL 6:

NON-EXCLUSIVE EASEMENT RIGHTS OVER, ACROSS AND THROUGH THOSE PORTIONS OF TRACT 3, (WHICH ARE NOW OR HEREAFTER DESIGNATED AS BEING FOR THE COMMON USE AND ENJOYMENT OF PURCHASERS OF THE TOWNHOUSE UNITS TO BE CONSTRUCTED UPON TRACT 3), FOR THE PURPOSE OF PROVIDING INGRESS AND EGRESS TO THE LAKES AND CANALS NOW OR HEREAFTER EXISTING ON OR ADJACENT TO TRACT 3 AND FOR THE PURPOSE OF MAINTAINING AND USING SUCH LAKES AND CANALS;

AND FURTHER A NON-EXCLUSIVE EASEMENT FOR THE USE AND ENJOYMENT OF THE EXISTING PUMP STATION AND ENCLOSURE (AS DESCRIBED IN EASEMENT RECORDED IN OFFICIAL RECORDS BOOK 8252, PAGE 76, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA), TOGETHER WITH INGRESS AND EGRESS THERETO FOR THE PURPOSE OF PROVIDING IRRIGATION TO THE ADJACENT RECREATION CENTER AND GOLF COURSE LOCATED UPON THE HOLIDAY LANDS, AS MORE PARTICULARLY SET FORTH IN THAT CERTAIN GRANT OF EASEMENT RECORDED IN OFFICIAL RECORDS BOOK 11998, PAGE 819, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

PARCEL 7:

NON-EXCLUSIVE EASEMENT RIGHTS FOR THE PURPOSE OF DIRECTING THE SURFACE WATER DRAINAGE FROM BOTH THE GOLF COURSE AND THE ADJACENT PROPERTY INTO THAT CERTAIN MASTER DRAINAGE SYSTEM, AND FOR THE PURPOSE OF CONSTRUCTING, REPAIRING AND MAINTAINING A SWALE OVER AND ACROSS THAT PORTION OF THE ADJACENT PROPERTY, AS MORE PARTICULARLY SET FORTH IN THAT CERTAIN RECIPROCAL DECLARATION OF EASEMENT RECORDED IN OFFICIAL RECORDS BOOK 21722, PAGE 546, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

PARCEL 8:

NON-EXCLUSIVE EASEMENT RIGHTS TO A 5 FOOT EASEMENT OVER THE PROPERTY TO PROVIDE FOR THE CONSTRUCTION OF THE SWALE IN THE EASEMENT AREA, AND TO ALLOCATE RESPONSIBILITY FOR THE CONSTRUCTION, GRADING, AND SUBSEQUENT RESTORATION AND MAINTENANCE OF THE SWALE, AS MORE PARTICULARLY DESCRIBED IN THAT CERTAIN RECIPROCAL EASEMENT AGREEMENT RECORDED IN OFFICIAL RECORDS BOOK 19028, PAGE 733, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

PARCEL 9:

NON-EXCLUSIVE EASEMENT RIGHTS TO A 5 FOOT EASEMENT OVER THE PROPERTY TO PROVIDE FOR THE CONSTRUCTION OF THE SWALE IN THE EASEMENT AREA, AND TO ALLOCATE RESPONSIBILITY FOR THE CONSTRUCTION, GRADING, AND SUBSEQUENT RESTORATION AND MAINTENANCE OF THE SWALE, AS MORE PARTICULARLY SET FORTH IN THAT CERTAIN RECIPROCAL EASEMENT AGREEMENT RECORDED IN OFFICIAL RECORDS BOOK 20052, PAGE 807, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

PARCEL 10:

NON-EXCLUSIVE EASEMENT RIGHTS FOR THE PURPOSE OF DIRECTING THE SURFACE WATER DRAINAGE FROM BOTH THE GOLF COURSE AND THE ADJACENT PROPERTY INTO THAT CERTAIN MASTER DRAINAGE SYSTEM, AND FOR THE PURPOSE OF CONSTRUCTING, REPAIRING AND MAINTAINING A SWALE OVER AND ACROSS THAT PORTION OF THE ADJACENT PROPERTY, AS MORE PARTICULARLY DESCRIBED IN THAT CERTAIN RECIPROCAL DECLARATION OF EASEMENT RECORDED IN OFFICIAL RECORDS BOOK 22394, PAGE 54, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

PARCEL 11:

NON-EXCLUSIVE EASEMENT RIGHTS FOR THE PURPOSE OF CONSTRUCTING, REPAIRING AND MAINTAINING A SWALE OVER AND ACROSS THAT PORTION OF THE ADJACENT PROPERTY, AS MORE PARTICULARLY DESCRIBED IN THAT CERTAIN RECIPROCAL DECLARATION OF EASEMENT RECORDED IN OFFICIAL RECORDS BOOK 22882, PAGE 620, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

PARCEL 12:

NON-EXCLUSIVE EASEMENT RIGHTS TO A CROSS-ACCESS EASEMENT FOR PEDESTRIAN AND VEHICULAR ACCESS, INGRESS AND EGRESS OVER, UNDER AND ACROSS THE EASEMENT AREA, TOGETHER WITH THE RIGHT TO INSTALL, MAINTAIN, REPAIR, AND REPLACE UTILITIES THEREUNDER, AS MORE PARTICULARLY DESCRIBED IN THAT CERTAIN ACCESS EASEMENT AND JOINT USE AND MAINTENANCE AGREEMENT AS RECORDED IN OFFICIAL RECORDS BOOK 31600, PAGE 110, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

**Carolina Club
City of Margate**



**Rezoning
Submitted February 25, 2019**

Urban Planning and Design
Landscape Architecture
Communication Graphics

Request Summary

On behalf of the applicant, Florida Real Estate Value Fund III, LP, please accept this application for a Rezoning of approximately 142.007 gross acres ("amendment sites") from its current zoning designation of S-2 (Open Space) to a zoning designation Planned Residential Community (PRC).

The amendment sites are located within the Carolina Golf Club, within the municipal limits of the City of Margate ("City"), and are generally located on the south side of West Sample Road, west of Rock Island Road, and east and north of Holiday Springs Boulevard. An aerial location map of the Carolina Club with the amendment sites identified is attached as Exhibit A. Sketches and legal descriptions for the amendment sites are attached as Exhibit B. A map illustrating the existing and proposed zoning designation for the amendment sites and the existing zoning designations of the surrounding properties is attached as Exhibit C.

The request will allow for the conversion of the amendment sites from golf course use to residential use, and allow for the continued use of the Carolina Club clubhouse. The applicant's conceptual site plan (Exhibit D) depicts development Pods A through E with a total of 330 homesites comprised of 128 detached single family homes and 204 townhomes.

The applicant is concurrently requesting a Large Scale Land Use Map Amendment of the amendment sites to change the land use designation from a City designation of Commercial Recreation within a 7.0 Dashed-Line Area (142.007 acres), to a City land use designation of Residential (4) within a 7.0 Dashed-Line Area (52.407 acres) and Residential (3) within a 7.0 Dashed-Line Area (89.6 acres). It is the applicant's intent to restrict the amendment sites to development of no more than 330 detached single family and townhome units during the Land Use Map Amendment process through a recorded declaration.

The approval of these requests will allow for the development of new quality neighborhoods and will protect the existing Carolina Club community from future decline. Additionally, the redevelopment of the golf course will allow the applicant to make improvements to the

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LCC000035

Carolina community including upgrading the Clubhouse and associated grounds, providing approximately 100 acres of maintained open space with pocket parks and a 2+ mile multi-purpose trail, providing improved physical infrastructure with over 40 acres of new lakes, and providing transportation improvements. The proposal will also provide an increased tax base and new housing stock to accommodate the anticipated growth in population. As such, the proposal will benefit the entire Carolina Club community as well as the City of Margate and Broward County.

Necessary Change

The rezoning request is a result of the changing conditions in the golf course industry. The current zoning designation of the amendment sites was established when golf course operation was flourishing in South Florida and nationwide. The economic landscape for golf course operation has changed significantly since that time.

The Carolina Golf Club began operation in 1991 as a semi-private golf club with a clubhouse, an 18-hole golf course and associated amenities. Nineteen residential subdivisions with over 3,000 units, including single family detached, villas, condominium and apartments units, were built surrounding the golf course. The Club was originally called Holiday Springs, but in 1998 was renamed Carolina Golf Club after it was purchased by Franklin Golf Properties. It was sold in 2002 to J&D Golf Properties, the current owner. After years of operation, the Golf Club started experiencing a decline in golf play coupled with an uptick in operating costs and competition from new golf course communities, making it increasingly difficult to keep the operation economically viable. For years, J&D Golf Properties attempted to revitalize the Golf Club by making capital investments, none of which proved successful. J&D Golf Properties and the applicant strongly believe it is only a matter of time before the Carolina Golf Club will have to close due to financial pressures affecting most golf course owners today.

As evidenced by frequent course closures throughout Florida, and over 200 course closures across the country in 2017, the experience at the Carolina Golf Club is not unique. This trend is occurring across South Florida and the United States as golf courses have become too numerous and golf play continues to decline.

Rezoning Details

Existing Zoning Category

Per the City of Margate's Zoning Map updated through 12/2/2017, the amendment sites have a current zoning designation of S-2 – Open Space. Article XXVII of the City's Code of Ordinances provides land development regulations the Open Space (S-2) Zoning District, which states, "No building or structure or part thereof shall be erected, altered or used, or land or water used, in

whole or in part, for other than one (1) or more of the following specified uses, subject to the procedure specified in Section 28.4 following:

1. Boat ramp.
2. Bridle, foot or bicycle path.
3. Open land areas or commons.
4. Open water areas.
5. Picnic area.
6. Accessory uses or structures to uses permitted in this section.

The Amendment Areas currently contain an 18-hole golf course, a golf services building with a pool and snack bar, and a clubhouse building with a pro-shop, lockers and meeting rooms, as well as McDivots restaurant and substantial banquet facilities, both of which are open to the public. Accordingly, the existing uses are non-conforming to the S-2 Open Space zoning district.

Proposed Zoning Category

The applicant is requesting approval of a rezoning of the amendment sites to the Planned Residential Community (PRC) zoning district. A chart summarizing the applicant's rezoning request is provided below:

"Amendment Sites"			
Parcel	Acreage	Existing Zoning	Proposed Zoning
Pod A /B	52.407	S-2 – Open Space	PRC – Planned Residential Community
Pod C	41.744	S-2 – Open Space	PRC – Planned Residential Community
Pod D	29.280	S-2 – Open Space	PRC – Planned Residential Community
Pod E	18.576	S-2 – Open Space	PRC – Planned Residential Community
TOTAL	142.007 acres		

The applicant is proposing to discontinue the golf course operation, raze the existing golf services building, and to update the existing clubhouse and associated grounds. Under the proposal, the former golf course would be developed with 330 homesites, the existing clubhouse would be updated, the pro-shop and locker facilities discontinued, and a new fitness center and resort-style pool constructed. McDivot's restaurant and the banquet facilities would continue to operate and be open to the public. The applicant is also proposing to create a new passive pocket park to the east of the clubhouse and a 2+ mile multi-use trail that meanders throughout approximately 100 acres of maintained open space on portions of the former golf course land.

The PRC district allows for one-family detached dwellings, multiple-family dwellings (subject to the R-3 district requirements) and recreational facilities, only if constructed as an accessory use to the surrounding residential area. The applicant's intended development of

the amendment sites with single-family detached dwellings, townhomes and open space including a multi-use trail, and a clubhouse including a fitness center and resort style pool, is consistent with the district's intended use. The proposed PRC district is also consistent with the PRC and R-3A designations of the surrounding Carolina community.

Intent of PRC District

The City's Code of Ordinances states that the intent of the requested PRC district is to "result in the reduction of land development costs, energy consumption, and maintenance demands per dwelling unit without compromising individual unit privacy or property value. It encourages the creation of common recreation areas and amenities".

The applicant's proposal to develop 330 residential units on select portions of the existing golf course will allow for an infill development on land that would otherwise be underutilized once the golf course closes. The proposed development has access to existing infrastructure such as water, sewer, drainage and power lines thereby reducing land development costs. As required by the PRC district development regulations, the proposed single family lots in Pods C and D are designed to reduce maintenance costs while maximizing the square footage inside the home. Specifically, the PRC district requires a minimum single family lot area of 4,500 square feet and allows for a minimum of 10 feet between single family homes, 15-20 foot front yards and 10-15 foot rear yards. To maintain the minimum side yard the applicant is proposing to center the home on the lot and provide a minimum 5 foot side yards, as opposed to placing the home on a side lot line (aka, on the zero lot line). The proposed modified zero lot line homes allow for the maximization of luxury features and square footage inside the home while significantly reducing or eliminating yard work and property maintenance. Privacy will be maintained by providing windows only on one side of the dwelling unit, as required in the PRC district. The absence of individual yards within the proposed townhome communities in Pods A/B and E will also greatly reduce maintenance demands. In accord with the intent of the PRC district, the applicant is proposing to create common recreation areas and amenities. As previously stated, the applicant intends to provide approximately 100 acres of maintained open space, including pocket parks and a 2+ mile multi-use trail, for the use of the existing and new residential communities within the Carolina Club. The applicant is also proposing to update the clubhouse and construct a fitness facility and resort-style pool available to members of the club.

Standards for Reviewing Proposed Amendments to the Official Margate Zoning Map

1. Whether or not the proposed amendment is consistent with goals, objectives and policies of the City's Comprehensive Plan.

The applicant is concurrently requesting a Land Use Plan Map Amendment to amend the property from a City land use designation of Commercial Recreation within a 7.0 Dashed-Line Area (142.007 acres), to a City land use designation of Residential (4) within a 7.0

Dashed-Line Area (52.407 acres) and Residential (3) within a 7.0 Dashed-Line Area (89.6 acres). The proposed rezoning is consistent with the Comprehensive Plan subject to the approval of a Large Scale Land Use Map Amendment. Please see the Land Use Plan Map Amendment application regarding consistency with the Margate Comprehensive Plan.

2. Whether or not the proposed zoning district is compatible with the surrounding area's zoning designation(s) and existing uses.

The applicant is requesting to rezone the property from S-1 to PRC to allow for the development of single family homes, townhomes and the continued use of the Carolina Club clubhouse. The proposed use of the property and the proposed PRC district is consistent with the PRC and R-3A designations of the surrounding Carolina community.

3. Whether or not the subject property is physically suitable for the uses permitted in the proposed district.

The amendment sites are suitable for residential development and the continued use of the clubhouse. There are no unique physical features that would prevent the amendment sites from being developed with residential and clubhouse uses.

4. Whether or not there are sites available in other areas currently zoned for such use.

Per the Land Use Element (2010) of the City's Comprehensive Plan, the City is 95% built out, and only 66 acres consisting of relatively small residential, commercial, and industrial parcels suitable for infill development or for acquisition and inclusion in larger redevelopment projects involving adjacent properties remain within the City. The Future Land Use Element (2010) also notes that approximately 6,125 dwelling units are required to accommodate the city's projected build-out population. This rezoning is needed to provide additional residential land for the anticipated population growth.

5. If applicable, whether or not the proposed change will contribute to redevelopment of an area in accordance with an approved development plan.

The amendment sites are not located within the boundaries of an approved redevelopment plan.

6. Whether or not the proposed change would adversely affect traffic pattern or congestion.

The applicant's proposal for the development of the amendment sites with 126 single family units and 204 townhomes is expected to generate in excess of 500 trips per day. Accordingly, a traffic impact statement prepared by a professional engineer is provided as Exhibit E.

7. Whether or not the proposed changed would adversely impact population density such that the demand for water, sewers, streets, recreational areas and facilities and other public facilities and services would be adversely affected.

a. Potable Water

The Carolina Golf Club is serviced by the City of Margate Water Treatment Plant located at 980 NW 66th Avenue in the City of Margate. The plant is a lime softening plant and uses chlorine generated at the plant for disinfection. The current plant capacity is 13.5 million gallons per day (MGD). The plant has a current and committed demand of approximately 7.0 MGD. As such, the plant has 6.5 MGD of excess capacity. There is currently no plan for capacity expansion of the plant.

A letter from Richard M. Uber, Water Plant Manager, City of Margate, dated January 31, 2019 confirming the current capacity and current demand of the water treatment plant is attached as Exhibit F.

The current water demand for the existing development is 700 gallons per day (GPD), which is attributable to the existing clubhouse buildings and grounds. The water demand for the proposed residential homesites is 298,850.33 GPD. Since the current demand will remain, the net impact on potable water demand is equal to the difference in the total and current water demand which is 298,850.33 GPD (or approximately 0.30 MGD).

Water Flow Demand 1 ERC Water = 335 GPD				
Current Average Water Demand				
Type of Use	Unit Amount	Rate (GPD/Unit Type)	Design Flow (GPD)	ERCs
Clubhouse	350 seats	2.0	700	2.09
Total Water Demand			700	2.09 = 3.0
Proposed Total Average Water Demand				
Type of Use	Unit Amount	Rate (GPD/Unit Type)	Design Flow (GPD)	ERCs
Single Family	126	335	42,210	126
Multi-Family	204	221	45,104.40	134.64
Irrigation	2,375,372 sf	0.0891*	211,535.93	631.45
Total Proposed Water Demand			298,850.33	892.09=893
Total Average Water Demand			299,550.00	896

**A rate of 1-inch of water per week over the square footage was used to obtain the rate on GPD/unit type.*

As demonstrated above, the water treatment plant has sufficient capacity to provide the potable water needs of the proposed development.

b. Sanitary Sewer

The City of Margate Utilities provides sanitary sewer service to the amendment sites. The water facility is made up of two treatment plants, the East Plant and the West Plant, and currently capacity of 10.1 MGD with plans for expansion to 13.9 MGD. The current influent flow based on the three month average flow is 6.519 MGD. As such, the plants have an excess capacity of 3.5 MGD.

A letter from Wendell O. Wheeler, Wastewater Plan Manager, City of Margate, dated January 31, 2019 confirming the current capacity and current demand of the City's wastewater plant is attached as Exhibit G.

The current wastewater demand for the existing development is 700 GPD, which is attributable to the existing clubhouse buildings and grounds. The proposed wastewater demand for the proposed portion of the development is 87,314.40 GPD. Since the current demand will remain, the net impact on wastewater demand is equal to the difference in the total and current wastewater demand which is 87,314.40 GPD (or approximately 0.088 MGD).

Wastewater Flow Demand 1 ERC Water = 335 GPD				
Current Average Water Demand				
Type of Use	Unit Amount	Rate (GPD/Unit Type)	Design Flow (GPD)	ERCs
Clubhouse	350 seats	2.0	700	2.09
Total Water Demand			700	2.09 = 3.0
Proposed Total Average Water Demand				
Type of Use	Unit Amount	Rate (GPD/Unit Type)	Design Flow (GPD)	ERCs
Single Family	126	335	42,210	126
Multi-Family	204	221	45,104.40	134.64
Total Proposed Wastewater Demand			87,314.40	260.64=261
Total Average Wastewater Demand			88,014.00	264

**A rate of 1-inch of water per week over the square footage was used to obtain the rate on GPD/unit type.*

As demonstrated above, the wastewater treatment plan has sufficient capacity to provide the wastewater needs of the proposed development.

c. Solid Waste

The City of Margate has an exclusive Franchise Agreement with Waste Management for the collection solid waste for residential dwellings and commercial establishment with the exception of owner-occupied multi-family communities (Condos).

All of the waste generated in the City of Margate is disposed of at the Wheelabrator South Broward Waste-to-Energy facility located at 4400 South State Road 7 in the city of Fort Lauderdale. The plant has a current capacity of approximately 840,000 tons per year.

A letter from Roberty Hely, Market Place Manager at the Wheelabrator South Broward Waste to Energy Plan, dated January 17, 2019 and attached as Exhibit H indicates that the plant has ample capacity to process any solid waste to be generated by any future development project in the City.

The current waste management demand is 567.74 pounds per day. The proposed development results in an increase of 2,937.0 pounds per day in waste management demand resulting in a total demand of 3,504.74 pounds per day.

Current Land Use Plan Designation:			
Facility Type	# of Units	LOS	Total Demand (lbs./day)
Clubhouse	28,387 SF	2 lbs./100 SF/day	567.74
Proposed Land Use Plan Designation:			
Facility Type	# of Units	LOS	Total Demand (lbs./day)
Residential	330 units	8.9 lbs./unit/day	2,937.0
Total Demand:			3,504.74 lbs./day

d. Parks and Open Space

The proposed development will not impact any public open space or the public park system. The impact involves the conversion of a private golf course to residential and open space uses. The loss of the open space associated with the private golf course will be mitigated by the creation of a new passive pocket park to the east of the clubhouse, and the preservation and maintenance of approximately 100 acres as open space with benches, pocket parks and a 2+ mile multi-use trail that meanders throughout the Carolina Club community.

Per Policy City's Comprehensive Plan, the City adopted level of service standard for Local Park (i.e. Community Parks) level of service is 3.00 acres per 1,000 residents. The proposed amendment creates a net impact of 2.45 acres of Community Park, as calculated using the 2.47 persons per household rate for Margate provided by the 2010 Census and the "Municipal Certified Land Use Plans, Dwelling Units, Population and Parks Acreage" chart provided to the Applicant by the Planning Council in November 2018.

	Community Level Parks Broward County Calculations		
	Residents	Generation Rate	Demand
Current: Commercial Recreation	Residential not a permitted use	3 acres/1,000 residents	n/a
Proposed: 330 Dwelling Units	330 DU x 2.47 persons per dwelling unit = 816 residents	3 acres/1,000 residents	2.45 acres of Community Park
	Net Impact: + 2.45 acres		

The City's inventory of the municipal community parks was last recertified by the County on January 27, 2011 and is attached as Exhibit I. This inventory reports that at the time of recertification the City had a surplus of 109.72 acres of Community Level Parks, and projected that with population forecasts through 2025 the City will have a surplus of 85.268 acres. The inventory will be required to be updated to remove the 142.007 acre Carolina Club LUPA amendment sites from the current golf course area for the City, and then be submitted to the Planning Council at the time of LUPA application submittal. Removing such areas will have no impact on the City's surplus acreage as golf courses can only account for 15%, or 27.515 acres, of the inventory and the remaining golf course area within the City will remain above 27.8 acres.

The City of Margate Community Parks Inventory has a planning horizon of 2025, and states that the required acreage at LOS in 2025 is anticipated to be 183.438 acres and that there will be a surplus of 85.268 acres. As such, the Community Park LOS will continue to be met even with the proposed land use amendment at the local government's planning horizon of 2025.

e. Public Schools

According to the 2018-2019 Boundary Maps provided by the Broward County School Board, the Amendment Sites are served by Margate Elementary School, Margate Middle School and Coral Springs High School. The existing enrollment and the Permanent Capacity of the schools are as follows:

School	Benchmark Enrollment (20 th Day Report, 2018)	Level of Service Capacity	Over/(under) FISH Capacity
Margate Elementary	1,024	1,436	(412)
Margate Middle	1,211	1,439	(228)
Coral Spring High	2,816	3,244	(428)

Assuming the average student generation rates for single family 4+ BR units and townhome 3+ BR units, as provided by the Facility Planning and Real Estate Department Growth Management Section, the amendment sites will generate the follow student demand:

Student Demand		
	Generation Rate	Students (rounded)
Elementary	126 SF units x 0.232	30
	204 TH units x 0.177	37 total 67 elementary
Middle	126 SF units x 0.111	14
	204 TH units x 0.076	16 total 30 middle
High	126 SF units x 0.122	16
	204 TH units x 0.110	23 total 39 high
	TOTAL	136 students

The schools serving the amendment sites have capacity to accommodate the students generated by the requested Rezoning.

8. Whether the proposed change would have an adverse environmental impact.

The proposed development has been designed in such a manner as to minimize the impact on natural resources on the site through the preservation of a majority of the existing lake system. There are no documented wetlands or aquifer recharge areas within the amendment sites. Additionally, the proposed redevelopment will positively impact the existing land through the mitigation of pollutants associated with over 25 years of golf course fertilization.

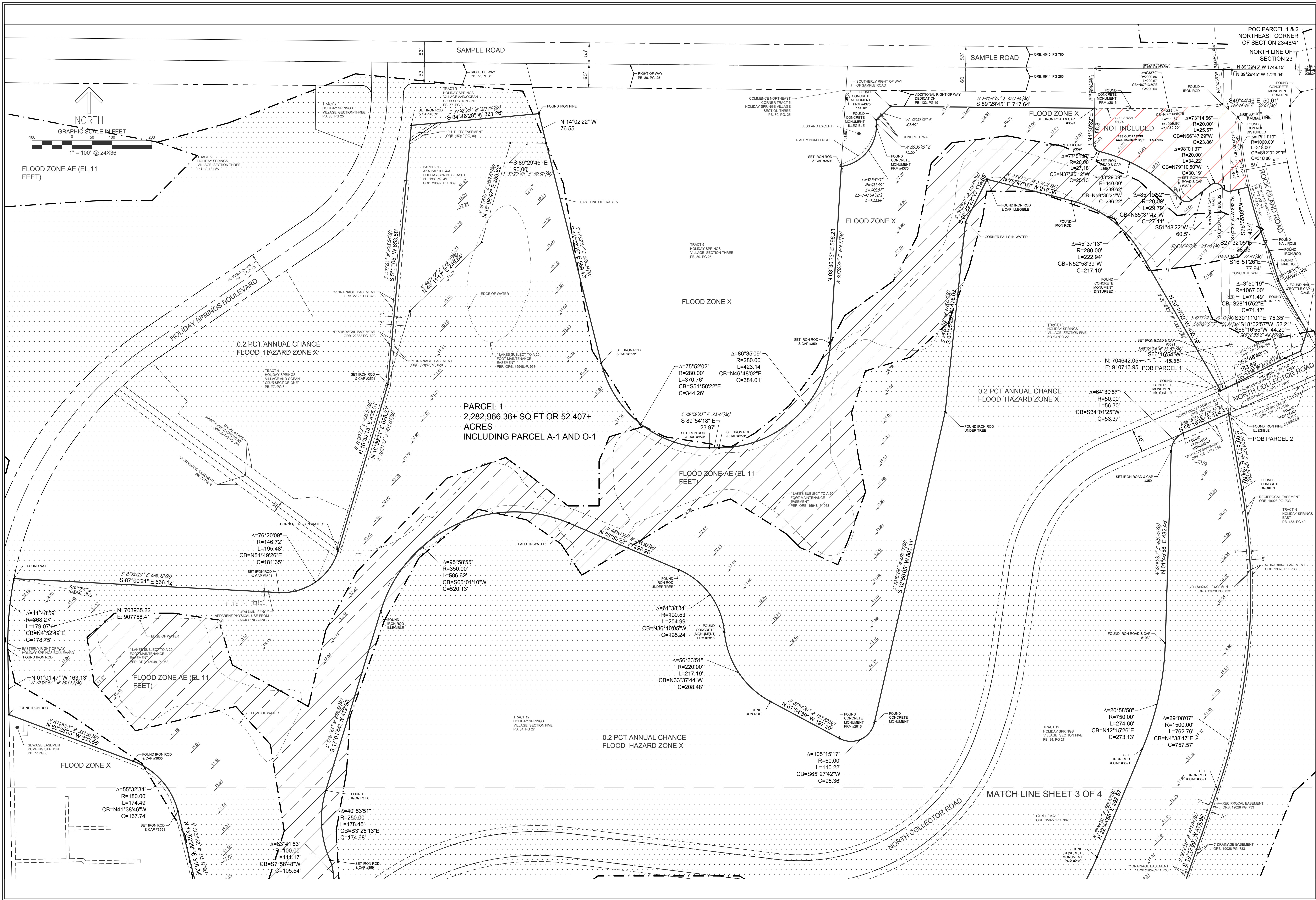
9. Whether or not the proposed change would adversely affect the health, safety, and welfare of the neighborhood of the City as a whole

The proposed rezoning will not adversely affect the health, safety and welfare of the neighborhood of the City as a whole. The applicant's proposal to rezone the property to allow for up to 330 new residential units on select portions of the existing golf course, while protecting and maintaining approximately 100 acres as open space, will allow for an infill development which will assist the City in meeting its future housing needs. The proposed infill development is an efficient use of land that would otherwise be underutilized once the golf courses close. The proposal protects the existing Carolina residential community against future decline, will allow for improvements to the existing infrastructure and community amenities, and will create new desirable neighborhoods in which to live. The resulting residential development will be consistent and compatible with the residential unit types and densities that currently exist in the area.



CAROLINA CLUB

LOCATION MAP



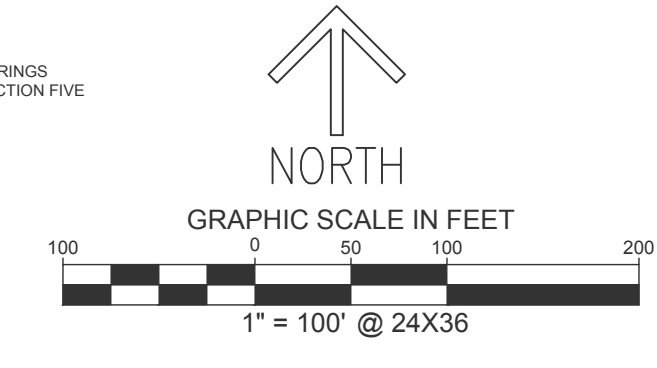
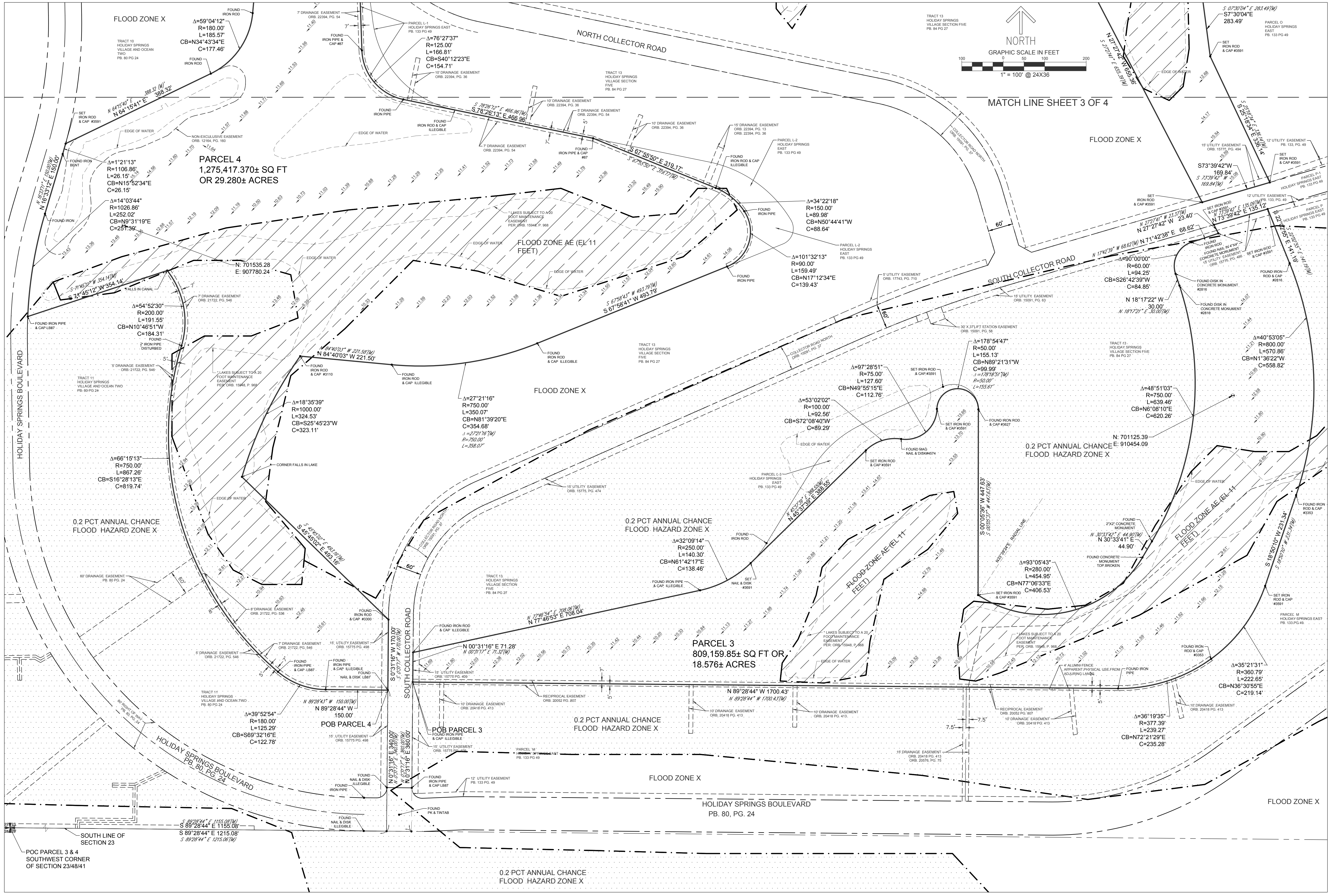
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CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING - LAND PLANNING
ANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33433
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BOUNDARY SURVEY
CAROLINA CLUB WEDDING AND BANQUETS
3011 N ROCK ISLAND ROAD
MARGATE, FL 33063

DATE	12/21/17
DRAWN BY	AMS
F.B./ PG.	ELEC
SCALE	SHOWN

JOB #	8047
SHT.NO.	2
OF 4 SHEETS	



REVISIONS	DATE	BY

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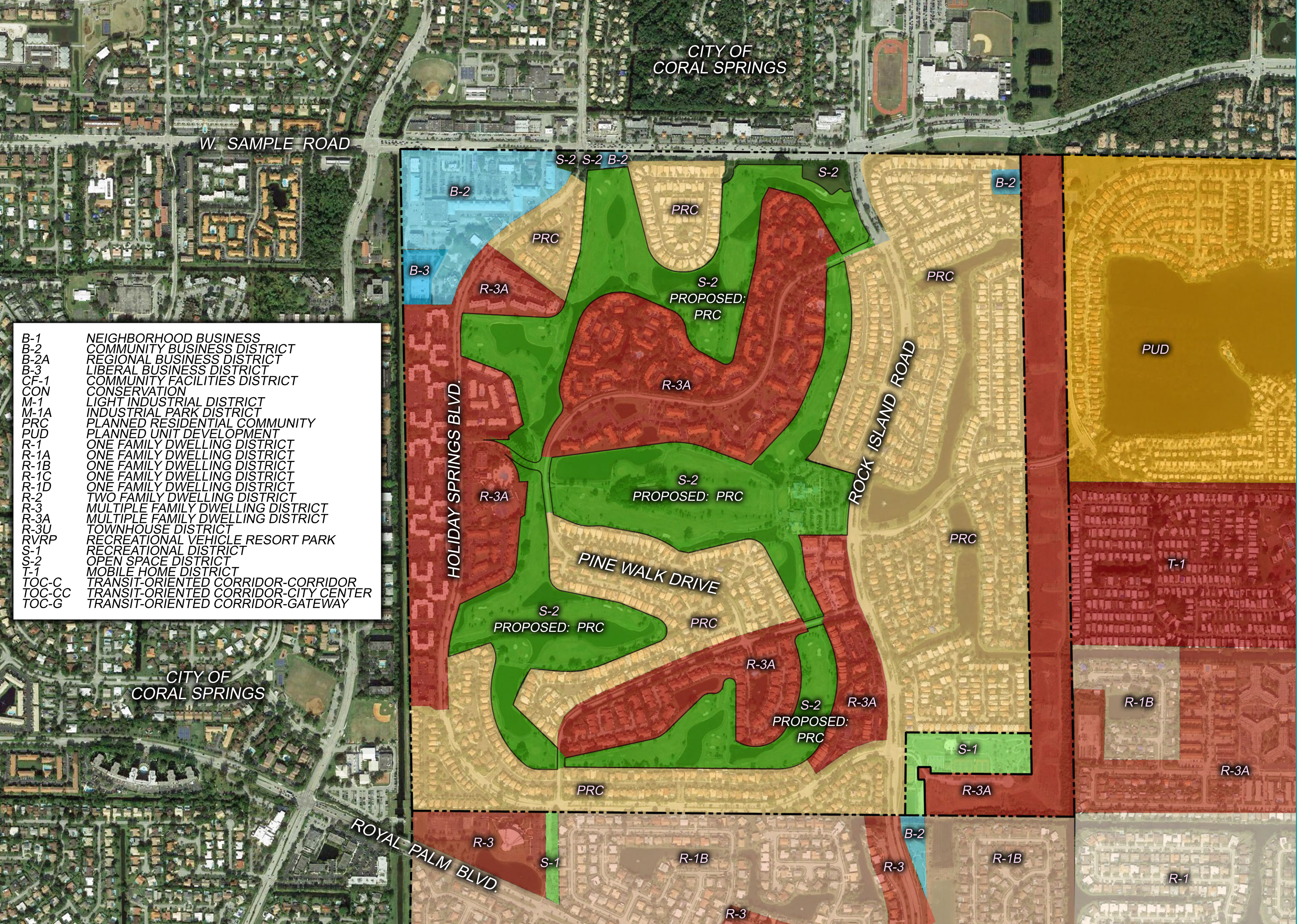
JOB #	8047
SHT.NO.	4
OF 4 SHEETS	

CAROLINA CLUB

ZONING MAP



NORTH



CAROLINA CLUB

CONCEPTUAL SITE PLAN



NORTH

W. SAMPLE ROAD

RIVERSIDE DRIVE

ROYAL PALM BLVD.

HOLIDAY SPRINGS BLVD.

ROCK ISLAND ROAD

PINE WALK DRIVE

POD A

POD B

POD C

POD D

POD E

LAKE 7.5 ac

LAKE 1.0 ac

LAKE 3.2 ac

Ex. LAKE

LAKE 1.5 ac

LAKE 4.5 ac

Ex. LAKE

LAKE 2.2 ac

LAKE 6.1 ac

LAKE 10.2 ac

Ex. LAKE

LAKE 6.4 ac

EXISTING CLUBHOUSE

PARCEL	LAND AREA	PROPOSED TYPE	PROPOSED DWELLING UNITS	PROPOSED DENSITY (DU/AC)
POD A/B	52.007 AC	TOWNHOMES	176	
POD C	41.744 AC	SINGLE FAMILY	79	
POD D	29.280 AC	SINGLE FAMILY	47	
POD E	18.576 AC	TOWNHOMES	28	
TOTAL	142.007 AC		330 DWELLING UNITS (126 SF, 204 TH)	2.4 DU/AC

TRAFFIC IMPACT ANALYSIS

CAROLINA CLUB MARGATE, FL

PREPARED FOR:
13 FH GOLF CLUB, LP

Kimley»Horn

January 31, 2019
Kimley-Horn Project #140248006
Kimley-Horn and Associates, Inc.
1920 Wekiva Way
West Palm Beach, Florida 33411
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TRAFFIC IMPACT ANALYSIS

CAROLINA CLUB

MARGATE, FL

Prepared by:
Kimley-Horn and Associates, Inc.
West Palm Beach, Florida



January 31, 2019
Kimley-Horn Project #140248006
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Adam B. Kerr, P.E.
Florida Registration Number 64733

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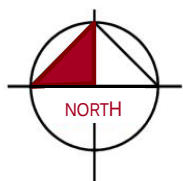
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INTRODUCTION

The Carolina Club site is located at the existing Carolina Club in Margate, Florida. The site currently contains a golf course. The proposed plan of redevelopment includes replacing the existing golf course with 126 single family detached residential units and 204 townhome units. *Figure 1* illustrates the location of the proposed developments and the folio number is 484123000020.

Kimley-Horn and Associates, Inc was retained to prepare a traffic impact analysis for the proposed developments. The study quantifies the project's impact on the adjacent transportation network. This report summarizes the project trip generation, distribution and intersection analyses.

A proposed site plan is included in *Appendix A*.



LEGEND

 Site

FIGURE 1
SITE LOCATION
CAROLINA CLUB
140248006

Kimley»Horn

INVENTORY AND PLANNING DATA

AM peak hour (7:00 AM to 9:00 AM) and PM peak hour (4:00 PM to 6:00 PM) turning movement counts were collected at the following intersections:

January 30, 2018

- Sample Road & Rock Island Road

January 31, 2018

- Royal Palm Boulevard & Rock Island Road

January 15, 2019

- Sample Road & Holiday Spring Boulevard/Woodside Drive

January 16, 2019

- Rock Island Road & Holiday Springs Boulevard
- Rock Island Road & Pinewalk Drive South

The turning movement counts are included in *Appendix B*.

PROJECT TRAFFIC

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the project, and the distribution and assignment of that traffic over the study roadway network.

Existing and Proposed Land Uses

The existing site includes a golf course. The project is a proposed redevelopment that includes 126 single family detached homes and 204 townhomes.

Trip Generation

The trip generation potential of this facility has been calculated using rates and equations published for Land Use 210 (Single Family Detached) and Land Use 230 (Residential Condominium/Townhouse) by the Institute of Transportation Engineers (ITE) in the *Trip Generation Handbook, Ninth Edition*.

Table 1 provides a summary of this calculation. As indicated in Table 1, the proposed residential development has the potential to generate 2,385 net new external daily trips, 185 net new external AM peak hour trips (39 in, 146 out), and 232 net new external PM peak hour trips (150 in, 82 out).

Table 1: Trip Generation

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Proposed								
Single Family Detached	126 DU	1,200	95	24	71	126	79	47
Residential Condominium/Townhouse	204 DU	1,185	90	15	75	106	71	35
<i>Subtotal</i>		2,385	185	39	146	232	150	82
<i>Driveway Volumes</i>		2,385	185	39	146	232	150	82
<i>Net New External Trips</i>		2,385	185	39	146	232	150	82
Trip generation was calculated using the following data:								
Daily Trip Generation								
Single Family Detached	[ITE 210]	=	T = 9.52 trips/DU					
Residential Condominium/Townhouse	[ITE 230]	=	T = 5.81 trips/DU					
AM Peak Hour Trip Generation								
Single Family Detached	[ITE 210]	=	T = 0.75 trip/DU (25% in, 75% out)					
Residential Condominium/Townhouse	[ITE 230]	=	T = 0.44 trip/DU (17% in, 83% out)					
PM Peak Hour Trip Generation								
Single Family Detached	[ITE 210]	=	T = 1 trip/DU (63% in, 37% out)					
Residential Condominium/Townhouse	[ITE 230]	=	T = 0.52 trip/DU (67% in, 33% out)					

K:\WPB_TPTO\1402\140248006 - Carolina Club\Carolina Club Tripgen.xlsx\Tripgen

VOLUME DEVELOPMENT

To conduct an evaluation of the level of service (LOS) on major intersection adjacent to the site, the proposed new trips to and from the project were distributed on the surrounding roadway network based upon the characteristics and proximity of complementary land uses. *Figure 2* illustrates the project traffic assignment to the surrounding roadway network. An areawide growth rate of -0.1% has been calculated using historical AADT volumes provided by FDOT. To provide a conservative analysis, a 1% annual growth rate was utilized to determine the 2022 intersection volumes. Intersection analyses were then performed for existing, background, and future total conditions.



LEGEND



Site

XX% Project Traffic Assignment

FIGURE 2
PROJECT TRAFFIC ASSIGNMENT
CAROLINA CLUB

140248006

Kimley»Horn

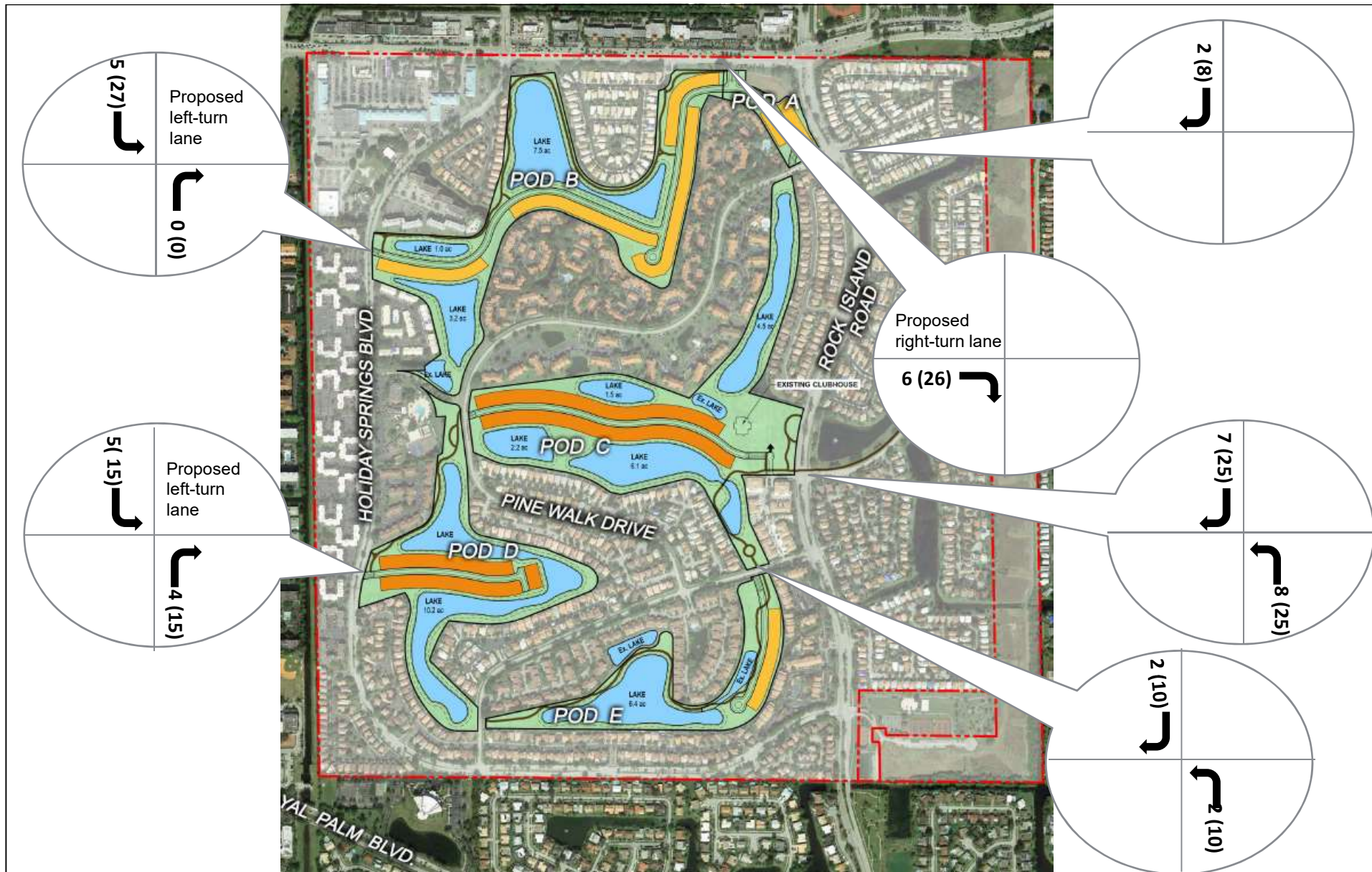
ACCESS REVIEW AND POTENTIAL TURN LANE MODIFICATIONS

During the review and approval process for the proposed project, access review will be conducted by the Florida Department of Transportation (FDOT), Broward County, and the City of Margate. Per the attached site plan, a right-in, right-out driveway is proposed on Sample Road approximately 450 feet west of Rock Island Road and 450 feet east of Belmonte Boulevard. Sample Road is under the jurisdiction of FDOT. FDOT specifies a minimum spacing distance of 440 feet between driveways for Access Class 3 driveways. Therefore, the proposed driveway location is expected to meet FDOT spacing standards. Approval for the proposed driveway will need to be administratively approved by FDOT. A right-turn lane will likely be required at this location.

The northernmost proposed driveway on Holiday Springs Boulevard will provide access to Pod B. A southbound left-turn lane will likely be required at this location. Signalization is not anticipated to be warranted.

The southernmost proposed driveway on Holiday Springs boulevard will provide access to Pod D. A southbound left-turn lane will likely be required at this location. Signalization is not anticipated to be warranted.

Figure 3 illustrates the anticipated peak hour turning volumes at the site driveways.



LEGEND

- XX Inbound AM Driveway Volume
- (XX) Inbound PM Driveway Volume

FIGURE 3
INBOUND DRIVEWAY VOLUMES
CAROLINA CLUB
140248006

Kimley»Horn

INTERSECTION ANALYSIS

The operating conditions for the existing, future background and future total scenarios were analyzed at the following intersections during the AM and PM peak hours:

- Sample Road & Rock Island Road
- Royal Palm Boulevard & Rock Island Road
- Sample Road & Holiday Springs Boulevard
- Rock Island Road & Holiday Springs Boulevard
- Pinewalk Drive & Rock Island Road

To determine traffic conditions at the intersections, intersection turning movement counts were performed at the intersections during the peak periods of 7:00-9:00 AM and 4:00-6:00 PM. The traffic counts were collected during peak season conditions. Future background traffic volumes were calculated as the sum of the existing peak season traffic volumes plus an additional amount of traffic to account for future growth in the study area. Future growth was calculated using a nominal 1% growth rate. Total future traffic volumes considered in the analysis for this project are the sum of the 2022 background traffic volumes plus future project traffic volumes at site buildout.

The results of the intersection analyses are indicated in *Table 2*.

Table 2: Intersection Analysis – Delay and Level of Service

Intersection	Existing (2018)	Future Background (2022)	Future Total (2022)	Future Total with Proposed Geometry
AM Peak Hour				
Sample Road & Rock Island Road	65.0/E	68.8/E	74.6/E	
Royal Palm Blvd & Rock Island Road	75.5/E	80.0/E	83.1/F	*68.7/E
Holiday Springs Blvd & Sample Road	30.6/C	31.5/C	32.0/C	
Rock Island Road & Holiday Springs Blvd	10 s	13 s	14.2 s	
Rock Island Road & Pinewalk Drive	12.6/B	13.1/B	13.9/B	
PM Peak Hour				
Sample Road & Rock Island Road	44.7/D	46.5/D	49.5/D	47.6/D
Royal Palm Blvd & Rock Island Road	75.6/E	85.6/F	87.9/F	*66.7/E
Holiday Springs Blvd & Sample Road	54.3/D	60.5/E	61.8/E	
Rock Island Road & Holiday Springs Blvd	1.8 s	2.1 s	2.3 s	
Rock Island Road & Pinewalk Drive	8.7/A	8.9/A	9.1/A	

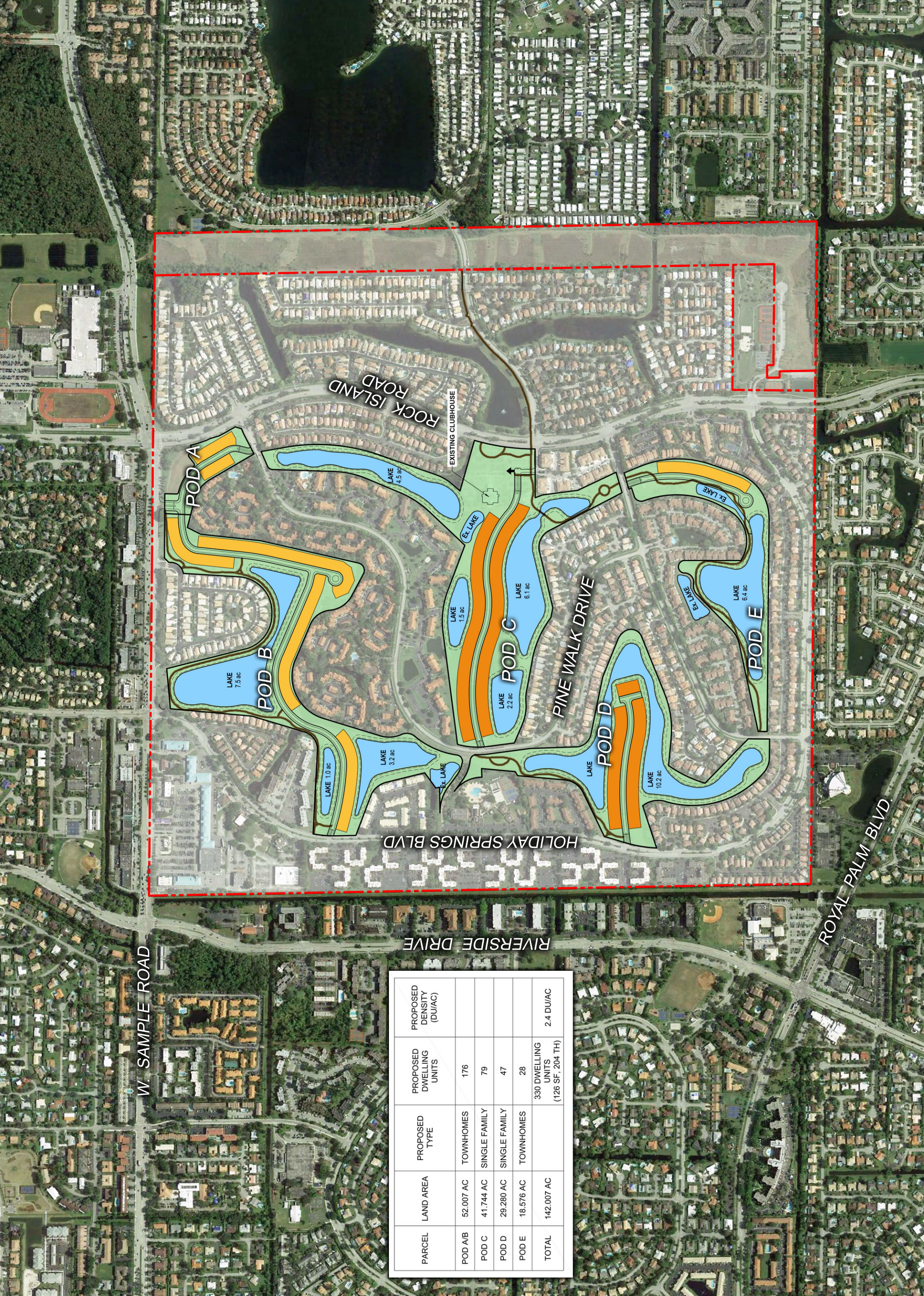
*Includes dual eastbound left and westbound left-turn lanes

As shown in *Table 3*, the intersection of Sample Road & Rock Island Road is projected to operate at LOS E during the AM peak hour and LOS D during the PM peak hour. The intersection of Royal Palm Boulevard & Rock Island Road is projected to operate at LOS F during the AM and PM peak hours. However, signal optimization in the AM and PM peak hours will offset the impact of the proposed development. Furthermore, to provide a Level of Service of E at the intersection of Royal Palm Boulevard & Rock Island Road, it is proposed to add a second eastbound left-turn lane and a second westbound left-turn lane. The intersection of Holiday Springs Boulevard & Sample Road is projected to operate at LOS C during the AM peak hour and LOS E during the PM peak hour. The intersection of Rock Island Road & Holiday Springs Boulevard is projected to operate at LOS B or better for the AM and PM peak hour.

CONCLUSION

The Carolina Club site is located at the existing Carolina Club in Margate, Florida. The site currently contains a golf course. The proposed plan of redevelopment includes replacing the existing golf course with 126 single family detached residential units and 204 townhome units. Based on the analysis of traffic impacts generated by the site, the major intersections adjacent to the site will operate at level of service E or better. A second eastbound left-turn and a second westbound left-turn lane are proposed to be constructed at Royal Palm Boulevard and Rock Island Road; however, it should be noted that the impacts of the proposed project can be mitigated by signal timing optimization.

APPENDIX A: SITE INFORMATION



W SAMPLE ROAD

RIVERSIDE DRIVE

HOLIDAY SPRINGS BLVD

PINE WALK DRIVE

ROYAL PALM BLVD

PARCEL	LAND AREA	PROPOSED TYPE	PROPOSED DWELLING UNITS	PROPOSED DENSITY (DU/AC)
POD A/B	52.007 AC	TOWNHOMES	176	
POD C	41.744 AC	SINGLE FAMILY	79	
POD D	29.280 AC	SINGLE FAMILY	47	
POD E	18.576 AC	TOWNHOMES	28	
TOTAL	142.007 AC		330 DWELLING UNITS (126 SF, 204 TH)	2.4 DU/AC



MARTY KIAR
BROWARD
COUNTY
PROPERTY APPRAISER

Site Address	3011 N ROCK ISLAND ROAD MARGATE, 33063	ID#	484123000020
Property Owner	J & D GOLF PROPERTIES LLC	Millage	1212
Mailing Address	3011 N ROCK ISLAND ROAD MARGATE, FL 33063-7822	Use	38 - Golf courses, driving ranges

Abbreviated Legal Description	23-48-41 THAT PORTION K/A CAROLINA GOLF COURSE
-------------------------------	--

The just values displayed below were set in compliance with Sec. 193.011, Fla. Stat., and include a reduction for costs of sale and other adjustments required by Sec. 193.011(8).

Property Assessment Values						
Year	Land	Building	Agriculture Savings	Just / Market Value	Assessed / SOH Value	Tax
2019	\$2,156,280	\$228,670	0	\$2,384,950	\$2,384,950	
2018	\$2,156,280	\$228,670	0	\$2,384,950	\$2,384,950	\$50,156.69
2017	\$2,156,120	\$228,670	0	\$2,384,790	\$2,384,790	\$50,906.20

2019 Exemptions and Taxable Values by Taxing Authority				
	County	School Board	Municipal	Independent
Just Value	\$2,384,950	\$2,384,950	\$2,384,950	\$2,384,950
Portability	0	0	0	0
Assessed / SOH	\$2,384,950	\$2,384,950	\$2,384,950	\$2,384,950
Homestead	0	0	0	0
Add. Homestead	0	0	0	0
Wid/Vet/Dis	0	0	0	0
Senior	0	0	0	0
Exemption Type	0	0	0	0
Taxable	\$2,384,950	\$2,384,950	\$2,384,950	\$2,384,950

Sales History				Land Calculations /		
				Price	Factor	Type
				\$15,682	137.50 Acre	Acreage
11/20/2002	Multi Special Warranty Deed	\$5,320,000	34163 / 1212			
09/23/1999	Multi Special Warranty Deed	\$7,200,000	29897 / 808			
11/01/1988	Warranty Deed		15948 / 990			
				Adj. Bldg. S.F.:	8421	
				Effective Year:	1974	
				Actual Year:	1973	
				Units/Beds/Baths:	0 / /	

[illegible]

CAROLINA CLUB AREAWIDE GROWTH RATE CALCULATION					
ROADWAY	FROM	TO	CALCULATED TREND ANNUAL HISTORIC GROWTH RATE	FDOT 2016 AADT 2-WAY VOLUME	DAILY GROWTH
Sample Road	East of Riverside Drive	Rock Island Road	-0.30%	47500	-143
Riverside Drive	North of Royal Palm Boulevard	Sample Road	-0.66%	22000	-145
Royal Palm Boulevard	East of Riverside Drive	Rock Island Road	0.33%	34500	114
Rock Island Road	Royal Palm Boulevard	Holiday Springs Boulevard	0.44%	22000	97
Total Daily Volume:				126000	-77
Areawide Growth Rate: Total Daily Volume Total Growth = -0.1%					

APPENDIX B: East / West Roadways Capacity and Level of Service Analysis 2013 & 2035

ID	E/W Roadway	Segment	2013					2013					2035					2035						
			Design Code	Daily Conditions				Peak Hour Conditions				Code	Daily Conditions				Peak Hour Conditions							
				AADT	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS		Volume	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS				
324	Royal Palm Blvd	S of SR 84	422	16200	37810	r	0.43	C	1539	3401	r	0.45	C	422	17463	37810	r	0.46	C	1659	3401	r	0.49	C
326	Royal Palm Blvd	S of Saddle Club Rd	422	12600	37810	r	0.33	C	1197	3401	r	0.35	C	422	16580	37810	r	0.44	C	1575	3401	r	0.46	C
328	Royal Palm Blvd	E of Bonaventure B	422	32500	37810	r	0.86	C	3088	3401	r	0.91	C	422	39795	37810	r	1.05	F	3781	3401	r	1.11	F
330	Royal Palm Blvd	E of Weston Rd	622	64000	56905	r	1.12	F	6080	5121	r	1.19	F	622	67087	56905	r	1.18	F	6373	5121	r	1.24	F
752	Riverside Dr	S of Atlantic Blvd	222	5700	16815	r	0.34	C	542	1520	r	0.36	C	222	6688	16815	r	0.40	C	635	1520	r	0.42	C
754	Riverside Dr	E of Coral Sprgs Dr	222	10500	16815	r	0.62	C	998	1520	r	0.66	C	222	10785	16815	r	0.64	C	1025	1520	r	0.67	C
756	Riverside Dr	E of University Dr	422	15500	37810	r	0.41	C	1473	3401	r	0.43	C	422	15550	37810	r	0.41	C	1477	3401	r	0.43	C
758	Riverside Dr	N of Atlantic Blvd	422	20500	37810	r	0.54	C	1948	3401	r	0.57	C	422	27553	37810	r	0.73	C	2618	3401	r	0.77	C
760	Riverside Dr	N of Ramblewood I	422	26500	37810	r	0.70	C	2518	3401	r	0.74	C	422	28938	37810	r	0.77	C	2749	3401	r	0.81	C
762	Riverside Dr	N of Royal Palm Blv	422	19700	37810	r	0.52	C	1872	3401	r	0.55	C	422	24021	37810	r	0.64	C	2282	3401	r	0.67	C
764	Riverside Dr	N of Sample Rd	422	23500	37810	r	0.62	C	2233	3401	r	0.66	C	422	25558	37810	r	0.68	C	2428	3401	r	0.71	C
766	Riverside Dr	N of Wiles Rd	422	13000	37810	r	0.34	C	1235	3401	r	0.36	C	422	22485	37810	r	0.59	C	2136	3401	r	0.63	C
768	Riverside Dr	N of Sawgrass Xway	464	6800	29160	0.23	C	646	2628	0.25	C	464	13484	29160	0.46	D	1281	2628	0.49	D				
830	Royal Palm Blvd	E of NW 123 Ave	474	8500	35820	0.24	C	808	3222	0.25	C	474	11403	35820	0.32	C	1083	3222	0.34	C				
832	Royal Palm Blvd	E of Coral Ridge Dr	422	17000	37810	r	0.45	C	1615	3401	r	0.47	C	422	21486	37810	r	0.57	C	2041	3401	r	0.60	C
834	Royal Palm Blvd	E of Coral Sprgs Dr	422	25500	37810	r	0.67	C	2423	3401	r	0.71	C	422	29504	37810	r	0.78	C	2803	3401	r	0.82	C
836	Royal Palm Blvd	E of University Dr	422	23500	37810	r	0.62	C	2233	3401	r	0.66	C	422	36292	37810	r	0.96	D	3448	3401	r	1.01	F
838	Royal Palm Blvd	E of Riverside Dr	422	35000	37810	r	0.93	C	3325	3401	r	0.98	D	422	37632	37810	r	1.00	D	3575	3401	r	1.05	F
840	Royal Palm Blvd	E of Rock Island Rd	422	21000	37810	r	0.56	C	1995	3401	r	0.59	C	422	34128	37810	r	0.90	C	3242	3401	r	0.95	C
856	Sample Rd	E of Sawgrass Xway	622	19000	59900	0.32	C	1805	5390	0.33	C	622	30608	59900	0.51	C	2908	5390	0.54	C				
858	Sample Rd	E of Coral Ridge Dr	622	36000	59900	0.60	C	3420	5390	0.63	C	622	44892	59900	0.75	C	4265	5390	0.79	C				
860	Sample Rd	E of Coral Sprgs Dr	622	37500	59900	0.63	C	3563	5390	0.66	C	622	48592	59900	0.81	C	4616	5390	0.86	C				
862	Sample Rd	E of University Dr	622	34000	59900	0.57	C	3230	5390	0.60	C	622	42129	56100	0.75	C	4002	5390	0.74	C				
864	Sample Rd	E of Riverside Dr	622	45500	59900	0.76	C	4323	5390	0.80	C	622	53681	56100	0.96	C	5100	5390	0.95	C				
866	Sample Rd	E of Rock Island Rd	622	43000	59900	0.72	C	4085	5390	0.76	C	622	48150	56100	0.86	C	4574	5390	0.85	C				
868	Sample Rd	E of SR 7	622	60500	59900	1.01	F	5748	5390	1.07	F	622	64729	53500	1.21	F	6149	5390	1.14	F				
870	Sample Rd	E of Lyons Rd	622	53500	59900	0.89	C	5083	5390	0.94	C	622	61726	53500	1.15	F	5864	5390	1.09	F				
872	Sample Rd	E of Fla Turnpike	622	54000	59900	0.90	C	5130	5390	0.95	C	622	72316	53500	1.35	F	6870	5390	1.27	F				
874	Sample Rd	E of Powerline Rd	622	44141	59900	0.74	C	4193	5390	0.78	C	622	61363	59900	1.02	F	5829	5390	1.08	F				
876	Sample Rd	E of Military Trail	622	58000	59900	0.97	C	5510	5390	1.02	F	622	71175	59900	1.19	F	6762	5390	1.25	F				
878	Sample Rd	E of I-95	622	50000	59900	0.83	C	4750	5390	0.88	C	622	57607	59900	0.96	C	5473	5390	1.02	F				
880	Sample Rd	E of Dixie Hwy	622	26500	59900	0.44	C	2518	5390	0.47	C	622	39879	59900	0.67	C	3789	5390	0.70	C				
882	Sample Rd	E of US 1	474	13000	35820	0.36	C	1235	3222	0.38	C	474	16356	35820	0.46	C	1554	3222	0.48	C				

e - Estimated
N/A- Not Available

APPENDIX C: North / South Roadways Capacity and Level of Service Analysis 2013 & 2035

			2013								2013								2035					2035				
			Design	Daily Conditions				Peak Hour Conditions				Design	Daily Conditions				Peak Hour Conditions											
ID	N/S Roadway	Segment	Code	AADT	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS	Code	Volume	Capacity	V/C	LOS	Volume	Capacity	V/C	LOS								
401	SW 81 Ave	N of McNab Rd	474	18500	35820	0.52	C	1758	3222	0.55	C	474	26583	35820	0.74	C	2525	3222	0.78	C								
1073	Holiday Springs Blvd	N of Royal Palm Blvd	464	5000 e	29160	0.17	C	475	2628	0.18	C	464	4319	29160	0.15	C	410	2628	0.16	C								
407	Rock Island Rd	N of Oakland Pk Blvd	422	22500	37810	r	0.60	C	2138	3401	r	0.63	C	422	28854	37810	r	0.76	C	2741	3401	r	0.81	C				
409	Rock Island Rd	N of NW 44 St	422	30500	37810	r	0.81	C	2898	3401	r	0.85	C	422	36786	37810	r	0.97	D	3495	3401	r	1.03	F				
411	Rock Island Rd	N of Commercial Blvd	422	38000	37810	r	1.00	F	3610	3401	r	1.06	F	422	44328	37810	r	1.17	F	4211	3401	r	1.24	F				
413	Rock Island Rd	N of McNab Rd	422	33000	37810	r	0.87	C	3135	3401	r	0.92	C	422	35672	37810	r	0.94	C	3389	3401	r	1.00	D				
415	Rock Island Rd	N of Southgate Blvd	422	36000	37810	r	0.95	C	3420	3401	r	1.01	F	422	39971	37810	r	1.06	F	3797	3401	r	1.12	F				
417	Rock Island Rd	N of Atlantic Blvd	422	28000	37810	r	0.74	C	2660	3401	r	0.78	C	422	32317	37810	r	0.85	C	3070	3401	r	0.90	C				
419	Rock Island Rd	N of Royal Palm Blvd	422	21500	37810	r	0.57	C	2043	3401	r	0.60	C	422	25942	37810	r	0.69	C	2464	3401	r	0.72	C				
421	Rock Island Rd	N of Sample Rd	422	10000	37810	r	0.26	C	950	3401	r	0.28	C	422	15934	37810	r	0.42	C	1514	3401	r	0.44	C				

E Estimated
NA- Not Available

APPENDIX B: TURNING MOVEMENT COUNTS

SAMPLE ROAD & ROCK ISLAND ROAD
 CORAL SPRINGS, FLORIDA
 COUNTED BY: A. JOHNSON & W. DE LUNA
 VARGAS, SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00180013
 Start Date: 01/30/18
 File I.D. : SAMPROCK
 Page : 1

ALL VEHICLES

ROCK ISLAND ROAD From North					SAMPLE ROAD From East				ROCK ISLAND ROAD From South				SAMPLE ROAD From West				
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 01/30/18																	
07:00	0	63	59	32	0	39	182	32	1	73	142	157	1	58	347	39	1225
07:15	0	69	123	37	0	61	198	29	0	60	188	205	0	66	285	24	1345
07:30	3	84	107	46	2	55	229	32	0	65	107	204	0	29	317	31	1311
07:45	0	65	49	21	0	67	292	39	0	41	68	280	0	19	397	47	1385
Hr Total	3	281	338	136	2	222	901	132	1	239	505	846	1	172	1346	141	5266
08:00	0	29	41	21	0	71	257	17	0	51	95	167	0	17	351	61	1178
08:15	0	28	57	16	0	56	285	16	0	57	61	145	0	10	406	53	1190
08:30	0	33	37	21	0	57	262	16	0	49	58	158	0	8	408	71	1178
08:45	1	34	41	21	0	76	319	27	0	58	77	182	0	11	317	65	1229
Hr Total	1	124	176	79	0	260	1123	76	0	215	291	652	0	46	1482	250	4775
* BREAK *																	
16:00	0	37	66	14	0	134	320	28	0	60	73	96	0	22	282	55	1187
16:15	0	20	86	18	0	113	378	20	0	48	49	98	1	24	351	71	1277
16:30	0	28	76	10	1	126	438	13	1	41	41	95	0	23	266	55	1214
16:45	0	25	86	17	0	125	366	10	0	77	58	86	0	21	321	63	1255
Hr Total	0	110	314	59	1	498	1502	71	1	226	221	375	1	90	1220	244	4933
17:00	0	31	67	25	0	97	391	11	0	62	47	90	0	16	330	66	1233
17:15	0	24	76	13	0	126	331	14	0	51	54	103	0	21	321	55	1189
17:30	0	24	70	15	0	83	297	2	0	74	61	88	0	25	341	86	1166
17:45	0	37	74	22	0	151	448	18	0	52	50	81	1	27	347	80	1388
Hr Total	0	116	287	75	0	457	1467	45	0	239	212	362	1	89	1339	287	4976
TOTAL	4	631	1115	349	3	1437	4993	324	2	919	1229	2235	3	397	5387	922	19950

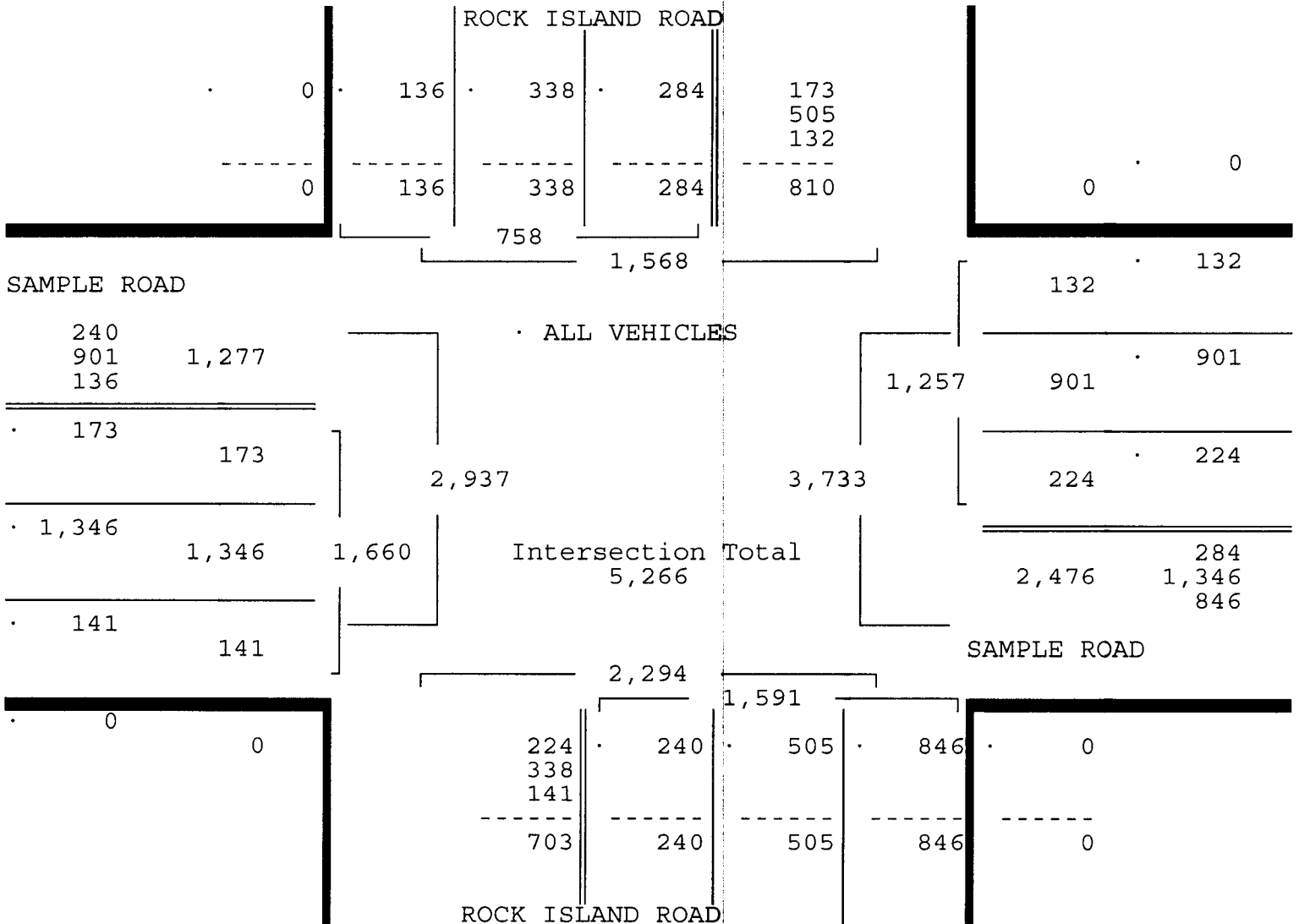
SAMPLE ROAD & ROCK ISLAND ROAD
 CORAL SPRINGS, FLORIDA
 COUNTED BY: A. JOHNSON & W. DE LUNA
 VARGAS, SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00180013
 Start Date: 01/30/18
 File I.D. : SAMPROCK
 Page : 2

ALL VEHICLES

ROCK ISLAND ROAD					SAMPLE ROAD				ROCK ISLAND ROAD				SAMPLE ROAD				Total
From North					From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right		
Date 01/30/18																	
Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 01/30/18																	
Peak start 07:00					07:00				07:00				07:00				
Volume	3	281	338	136	2	222	901	132	1	239	505	846	1	172	1346	141	
Percent	0%	37%	45%	18%	0%	18%	72%	11%	0%	15%	32%	53%	0%	10%	81%	8%	
Pk total	758				1257				1591				1660				
Highest	07:30				07:45				07:15				07:45				
Volume	3	84	107	46	0	67	292	39	0	60	188	205	0	19	397	47	
Hi total	240				398				453				463				
PHF	.79				.79				.88				.90				



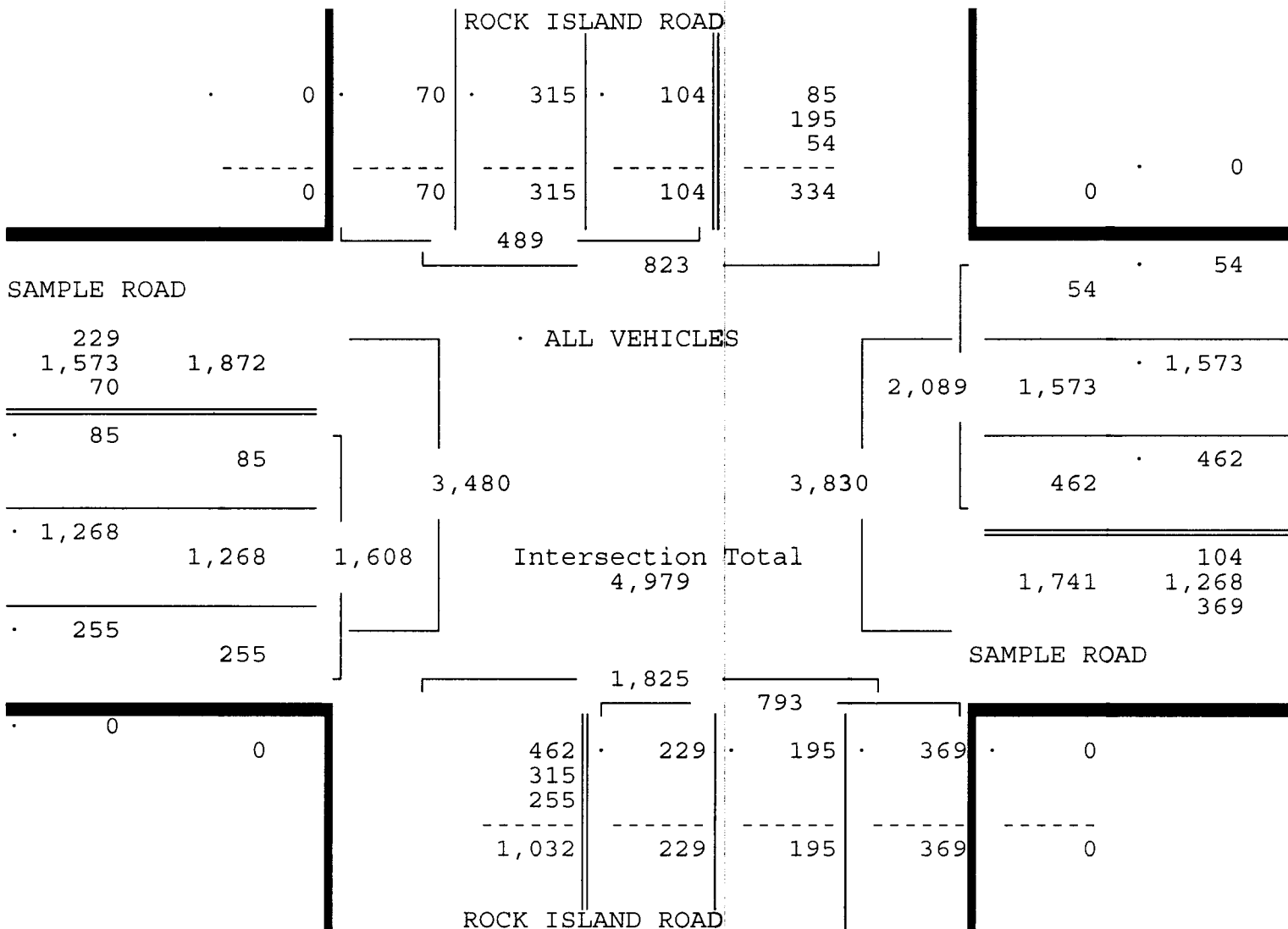
SAMPLE ROAD & ROCK ISLAND ROAD
 CORAL SPRINGS, FLORIDA
 COUNTED BY: A. JOHNSON & W. DE LUNA
 VARGAS, SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00180013
 Start Date: 01/30/18
 File I.D. : SAMPROCK
 Page : 3

ALL VEHICLES

ROCK ISLAND ROAD					SAMPLE ROAD				ROCK ISLAND ROAD				SAMPLE ROAD				Total
From North					From East				From South				From West				
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
Date 01/30/18																	
Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 01/30/18																	
Peak start 16:15					16:15				16:15				16:15				
Volume	0	104	315	70	1	461	1573	54	1	228	195	369	1	84	1268	255	
Percent	0%	21%	64%	14%	0%	22%	75%	3%	0%	29%	25%	47%	0%	5%	79%	16%	
Pk total	489				2089				793				1608				
Highest	16:45				16:30				16:45				16:15				
Volume	0	25	86	17	1	126	438	13	0	77	58	86	1	24	351	71	
Hi total	128				578				221				447				
PHF	.96				.90				.90				.90				



SAMPLE ROAD & ROCK ISLAND ROAD
CORAL SPRINGS, FLORIDA
COUNTED BY: A. JOHNSON & W. DE LUNA
VARGAS, SIGNALIZED

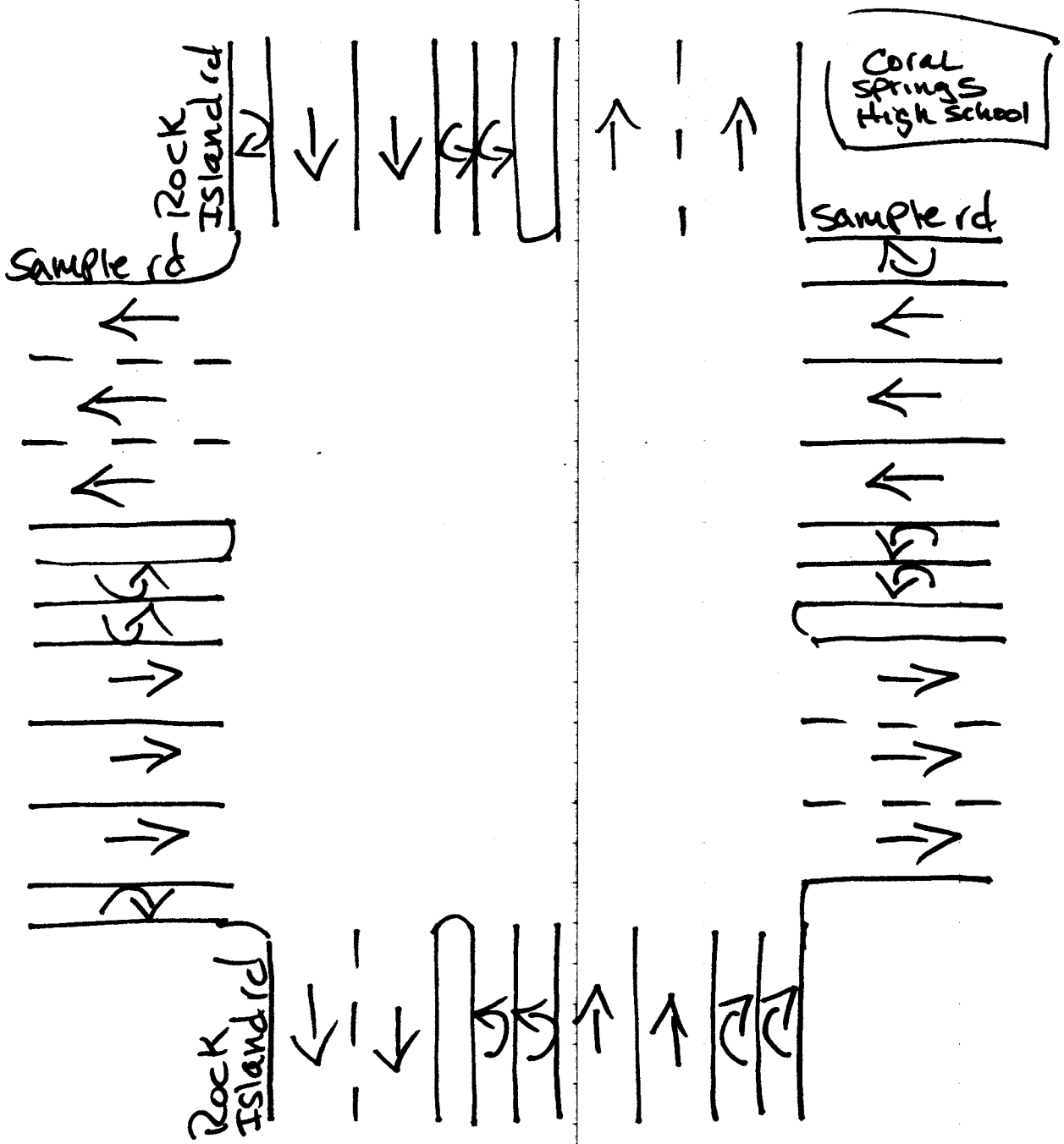
TRAFFIC SURVEY SPECIALISTS, INC.
85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

Site Code : 00180013
Start Date: 01/30/18
File I.D. : SAMPROCK
Page : 1

PEDESTRIANS & BIKES

	ROCK ISLAND ROAD From North				SAMPLE ROAD From East				ROCK ISLAND ROAD From South				SAMPLE ROAD From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
Date 01/30/18																	
07:00	0	0	0	37	0	0	0	0	0	1	0	6	0	1	0	1	46
07:15	0	0	0	40	0	0	0	13	0	4	0	21	0	6	0	17	101
07:30	0	0	0	33	0	0	0	0	0	0	0	14	0	2	0	11	60
07:45	0	0	0	19	0	0	0	0	0	1	0	6	0	2	0	2	30
Hr Total	0	0	0	129	0	0	0	13	0	6	0	47	0	11	0	31	237
08:00	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0	5
08:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	3
08:30	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	5
08:45	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	15
Hr Total	0	0	0	15	0	0	0	0	0	2	0	4	0	5	0	2	28
* BREAK *																	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	1	5
16:30	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	4
16:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	4
Hr Total	0	0	0	2	0	0	0	0	0	4	0	3	0	0	0	4	13
17:00	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
17:15	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
17:30	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Hr Total	0	0	0	0	0	0	0	0	0	2	0	4	0	2	0	2	10
TOTAL	0	0	0	146	0	0	0	13	0	14	0	58	0	18	0	39	288

North



Coral Springs, Florida
February 01, 2018
drawn by: Luis Palomero
Signalized

TRAFFIC SURVEY SPECIALISTS, INC.

ROYAL PALM BOULEVARD & ROCK ISLAND ROAD
CORAL SPRINGS, FLORIDA
COUNTED BY: WILLIAN DE LUNA VARGAS
SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

Site Code : 00180013
Start Date: 01/31/18
File I.D. : ROYAROCK
Page : 1

ALL VEHICLES

ROCK ISLAND ROAD From North					ROYAL PALM BOULEVARD From East				ROCK ISLAND ROAD From South				ROYAL PALM BOULEVARD From West							
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		Total
Date 01/31/18																				
07:00	0	30	145	33	0	36	183	39	2	64	204	65	0	34	251	87				1173
07:15	0	43	151	52	0	28	188	62	1	52	229	57	0	35	283	72				1253
07:30	0	61	138	40	1	50	244	37	0	61	137	68	0	31	281	73				1222
07:45	0	75	178	49	0	56	174	28	1	60	173	81	0	31	215	71				1192
Hr Total	0	209	612	174	1	170	789	166	4	237	743	271	0	131	1030	303				4840
08:00	0	95	157	41	1	44	203	45	0	76	125	44	0	15	252	61				1159
08:15	0	38	208	82	0	58	214	39	1	53	165	66	0	24	225	55				1228
08:30	0	49	163	46	0	37	181	28	1	53	147	51	0	22	197	65				1040
08:45	0	65	131	43	0	43	196	27	0	71	119	53	0	41	271	59				1119
Hr Total	0	247	659	212	1	182	794	139	2	253	556	214	0	102	945	240				4546
* BREAK *																				
16:00	0	35	128	32	0	56	271	39	2	87	129	51	0	43	201	70				1144
16:15	0	31	157	38	0	48	249	44	1	65	132	57	0	55	240	49				1166
16:30	0	41	177	51	0	61	222	38	1	67	144	51	1	52	202	72				1180
16:45	0	37	161	49	0	57	287	47	1	67	138	46	0	31	209	57				1187
Hr Total	0	144	623	170	0	222	1029	168	5	286	543	205	1	181	852	248				4677
17:00	0	31	144	42	0	40	248	57	4	67	163	47	1	50	207	57				1158
17:15	0	33	183	38	0	66	236	51	3	68	196	58	0	41	246	67				1286
17:30	0	35	167	55	0	43	289	44	2	68	160	41	1	60	253	61				1279
17:45	0	54	169	43	0	56	263	41	1	50	179	41	0	49	236	51				1233
Hr Total	0	153	663	178	0	205	1036	193	10	253	698	187	2	200	942	236				4956
TOTAL	0	753	2557	734	2	779	3648	666	21	1029	2540	877	3	614	3769	1027				19019

ROYAL PALM BOULEVARD & ROCK ISLAND ROAD
CORAL SPRINGS, FLORIDA
COUNTED BY: WILLIAM DE LUNA VARGAS
SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

Site Code : 00180013
Start Date: 01/31/18
File I.D. : ROYAROCK
Page : 2

ALL VEHICLES

ROCK ISLAND ROAD From North					ROYAL PALM BOULEVARD From East				ROCK ISLAND ROAD From South				ROYAL PALM BOULEVARD From West				Total
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	
Date 01/31/18																	
Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 01/31/18																	
Peak start 07:00					07:00				07:00				07:00				
Volume	0	209	612	174	1	170	789	166	4	237	743	271	0	131	1030	303	
Percent	0%	21%	62%	17%	0%	15%	70%	15%	0%	19%	59%	22%	0%	9%	70%	21%	
Pk total	995				1126				1255				1464				
Highest	07:45				07:30				07:15				07:15				
Volume	0	75	178	49	1	50	244	37	1	52	229	57	0	35	283	72	
Hi total	302				332				339				390				
PHF	.82				.85				.93				.94				

ROCK ISLAND ROAD

0	174	612	209	131	743	166	0	0
0	174	612	209	1,040			0	0
995				2,035	166			

ROYAL PALM BOULEVARD

241	789	1,204	131	131	1,030	303	2,668	2,636	1,510	1,030	271	2,341	1,255
174													
171	612	303	1,086	241	743	271	0						
171	612	303	1,086	241	743	271	0						
2,668				2,636	1,510				2,341				1,255
2,668				2,636	1,510				2,341				1,255
2,668				2,636	1,510				2,341				1,255

Intersection Total
4,840

ROYAL PALM BOULEVARD

ROCK ISLAND ROAD

TRAFFIC SURVEY SPECIALISTS, INC.

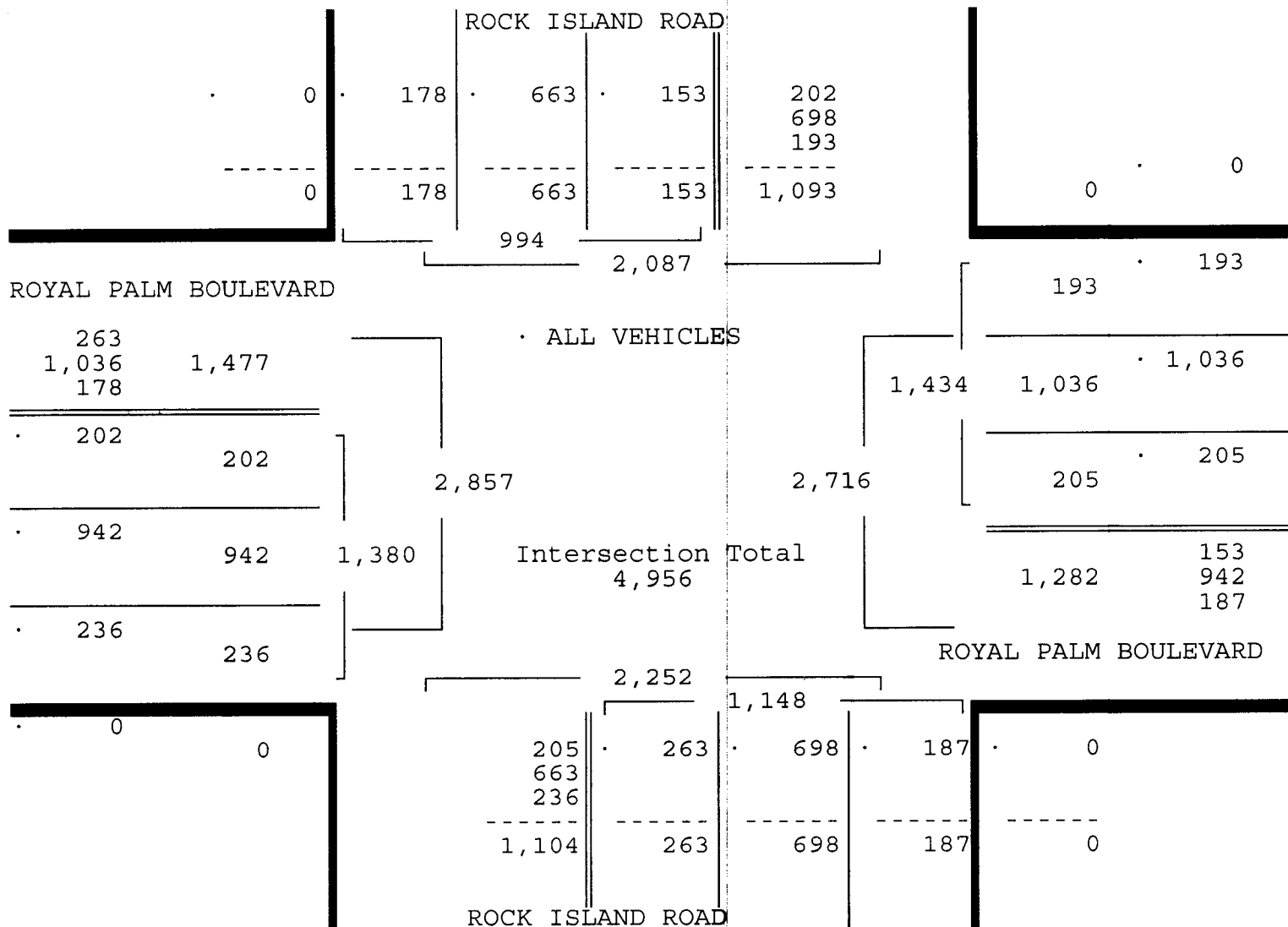
ROYAL PALM BOULEVARD & ROCK ISLAND ROAD
 CORAL SPRINGS, FLORIDA
 COUNTED BY: WILLIAN DE LUNA VARGAS
 SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00180013
 Start Date: 01/31/18
 File I.D. : ROYAROCK
 Page : 3

ALL VEHICLES

ROCK ISLAND ROAD				ROYAL PALM BOULEVARD				ROCK ISLAND ROAD				ROYAL PALM BOULEVARD				
From North				From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 01/31/18																
Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 01/31/18																
Peak start 17:00				17:00				17:00				17:00				
Volume	0	153	663	178	0	205	1036	193	10	253	698	187	2	200	942	236
Percent	0%	15%	67%	18%	0%	14%	72%	13%	1%	22%	61%	16%	0%	14%	68%	17%
Pk total	994				1434				1148				1380			
Highest	17:45				17:30				17:15				17:30			
Volume	0	54	169	43	0	43	289	44	3	68	196	58	1	60	253	61
Hi total	266				376				325				375			
PHF	.93				.95				.88				.92			



ROYAL PALM BOULEVARD & ROCK ISLAND ROAD
 CORAL SPRINGS, FLORIDA
 COUNTED BY: WILLIAN DE LUNA VARGAS
 SIGNALIZED

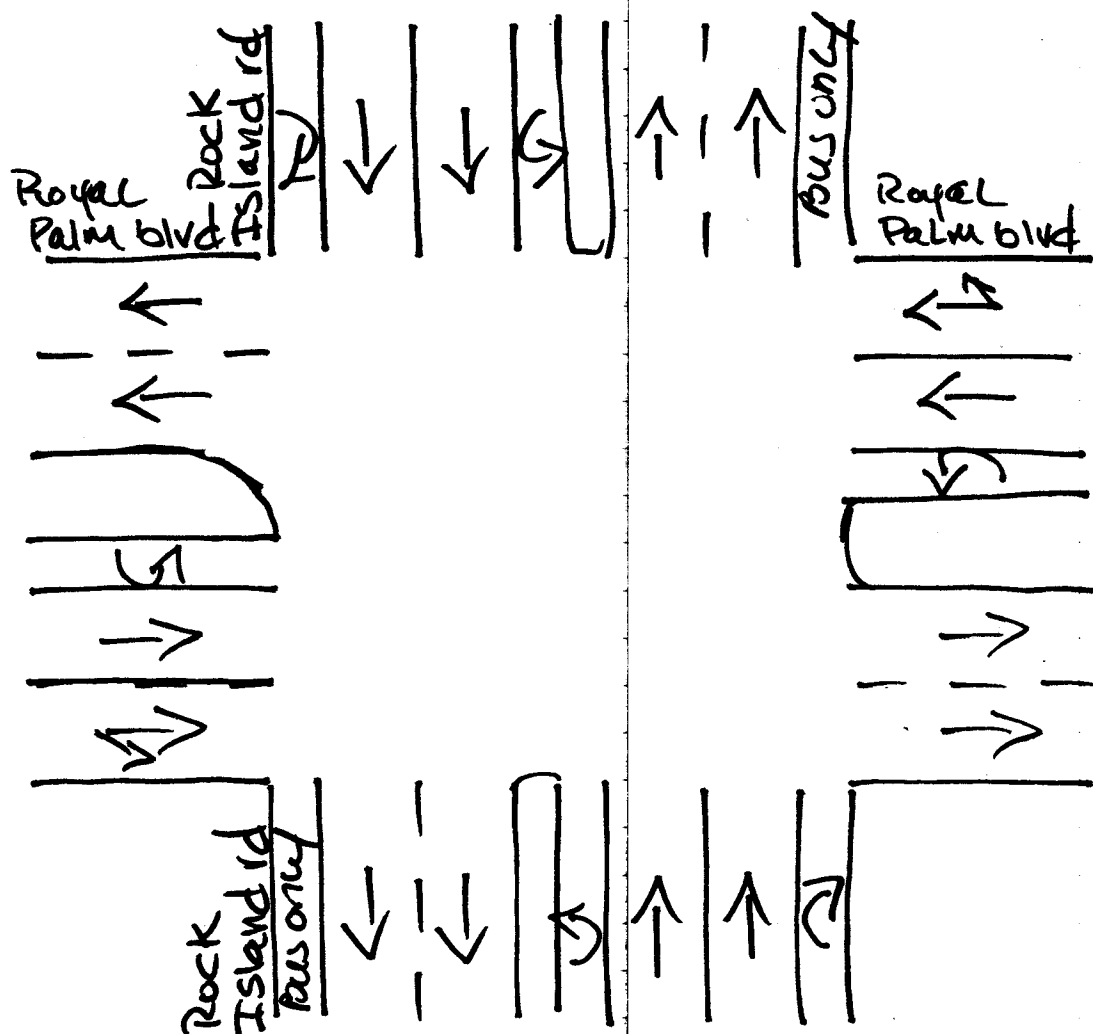
TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00180013
 Start Date: 01/31/18
 File I.D. : ROYAROCK
 Page : 1

PEDESTRIANS & BIKES

	ROCK ISLAND ROAD From North				ROYAL PALM BOULEVARD From East				ROCK ISLAND ROAD From South				ROYAL PALM BOULEVARD From West				Total
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	
Date 01/31/18																	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	1	0	2	0	0	0	0	0	0	0	2	0	0	5
07:30	0	0	0	0	0	1	0	5	0	1	0	0	0	1	0	0	8
07:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hr Total	0	0	0	2	0	3	0	5	0	1	0	0	0	3	0	0	14
08:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	0	4
* BREAK *																	
16:00	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	5
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Hr Total	0	0	0	1	0	5	0	0	0	0	0	0	0	2	0	2	10
17:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3
TOTAL	0	0	0	4	0	12	0	7	0	1	0	0	0	5	0	2	31

↑
North



Coral Springs, Florida
February 01, 2018
drawn by: Luis Palomino
Signalized

TMCs performed on January 15,2019

AM PEAK HOUR SAMPLE & HOLIDAY SPRINGS - SIGNALIZED INTERSECTION

TIME		NBR	NBT	NBL	EBR	EBT	EBL	SBR	SBT	SBL	WBR	WBT	WBL	Total
7:00	7:15	16	6	15	5	336	28	13	11	66	17	199	8	720
7:15	7:30	10	10	17	7	415	37	22	9	58	42	321	15	963
7:30	7:45	17	10	19	8	300	30	36	24	57	41	354	14	910
7:45	8:00	13	5	27	10	302	22	41	20	63	34	297	13	847
8:00	8:15	10	5	27	18	353	20	24	7	65	25	308	13	875
8:15	8:30	11	8	17	8	364	29	19	4	56	31	291	7	845
8:30	8:45	18	9	27	8	334	20	24	6	57	33	294	13	843
8:45	9:00	14	4	9	6	360	24	21	3	48	43	307	15	854

Peak hour 8:00-9:00 AM

TIME		NBR	NBT	NBL	EBR	EBT	EBL	SBR	SBT	SBL	WBR	WBT	WBL	Total
7:15	8:15	50	30	90	43	1370	109	123	60	243	142	1280	55	3595

PM PEAK HOUR SAMPLE & HOLIDAY SPRINGS - SIGNALIZED INTERSECTION

TIME		NBR	NBT	NBL	EBR	EBT	EBL	SBR	SBT	SBL	WBR	WBT	WBL	Total
4:00	4:15	8	6	16	7	291	29	24	14	42	56	328	24	845
4:15	4:30	9	8	32	23	266	117	18	12	39	58	443	26	1051
4:30	4:45	17	6	25	10	332	34	26	10	32	47	349	34	922
4:45	5:00	15	10	24	39	269	45	34	10	47	48	414	12	967
5:00	5:15	13	5	21	24	322	80	23	13	42	45	416	15	1019
5:15	5:30	25	16	26	49	325	57	35	18	50	58	398	34	1091
5:30	5:45	31	13	26	34	367	55	22	13	59	58	453	39	1170
5:45	6:00	27	11	25	16	374	40	32	14	57	60	437	26	1119

Peak hour 5:00-6:00 PM

TIME		NBR	NBT	NBL	EBR	EBT	EBL	SBR	SBT	SBL	WBR	WBT	WBL	Total
5:00	6:00	96	45	98	123	1388	232	112	58	208	221	1704	114	4399

Turn Count Summary

Location: Holiday Springs Blvd at W Sample Red, Margate, FL
GPS Coordinates:
Date: 2019-01-15
Day of week: Tuesday
Weather: Clear
Analyst: KHA

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	66	11	13	8	199	17	1	0	1	12	19	6	353
07:15	58	9	22	15	321	42	0	0	0	0	0	0	467
07:30	57	24	36	14	354	41	0	0	0	0	0	0	526
07:45	63	20	41	13	297	34	0	0	0	0	0	0	468
08:00	65	7	24	13	308	25	0	0	0	0	0	0	442
08:15	56	4	19	7	291	31	0	0	0	0	0	0	408
08:30	57	6	24	13	294	33	0	0	0	0	0	0	427
08:45	48	3	21	15	307	43	0	0	0	0	0	0	437
09:00	0	0	0	0	1	0	0	0	0	0	0	0	1

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	66	11	13	8	199	17	1	0	1	12	19	6	353
07:15	58	9	22	15	321	42	0	0	0	0	0	0	467
07:30	57	24	36	14	354	41	0	0	0	0	0	0	526
07:45	63	20	41	13	297	34	0	0	0	0	0	0	468
08:00	65	7	24	13	308	25	0	0	0	0	0	0	442
08:15	56	4	19	7	291	31	0	0	0	0	0	0	408
08:30	57	6	24	13	294	33	0	0	0	0	0	0	427
08:45	48	3	21	15	307	43	0	0	0	0	0	0	437
09:00	0	0	0	0	1	0	0	0	0	0	0	0	1

Pedestrian volumes

[illegible]

Intersection Peak Hour

07:15 - 08:15

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	243	60	123	55	1280	142	0	0	0	0	0	0	1903
Factor	0.93	0.62	0.75	0.92	0.90	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.90
Approach Factor	0.86			0.90			0.00			0.00			

Peak Hour Vehicle Summary

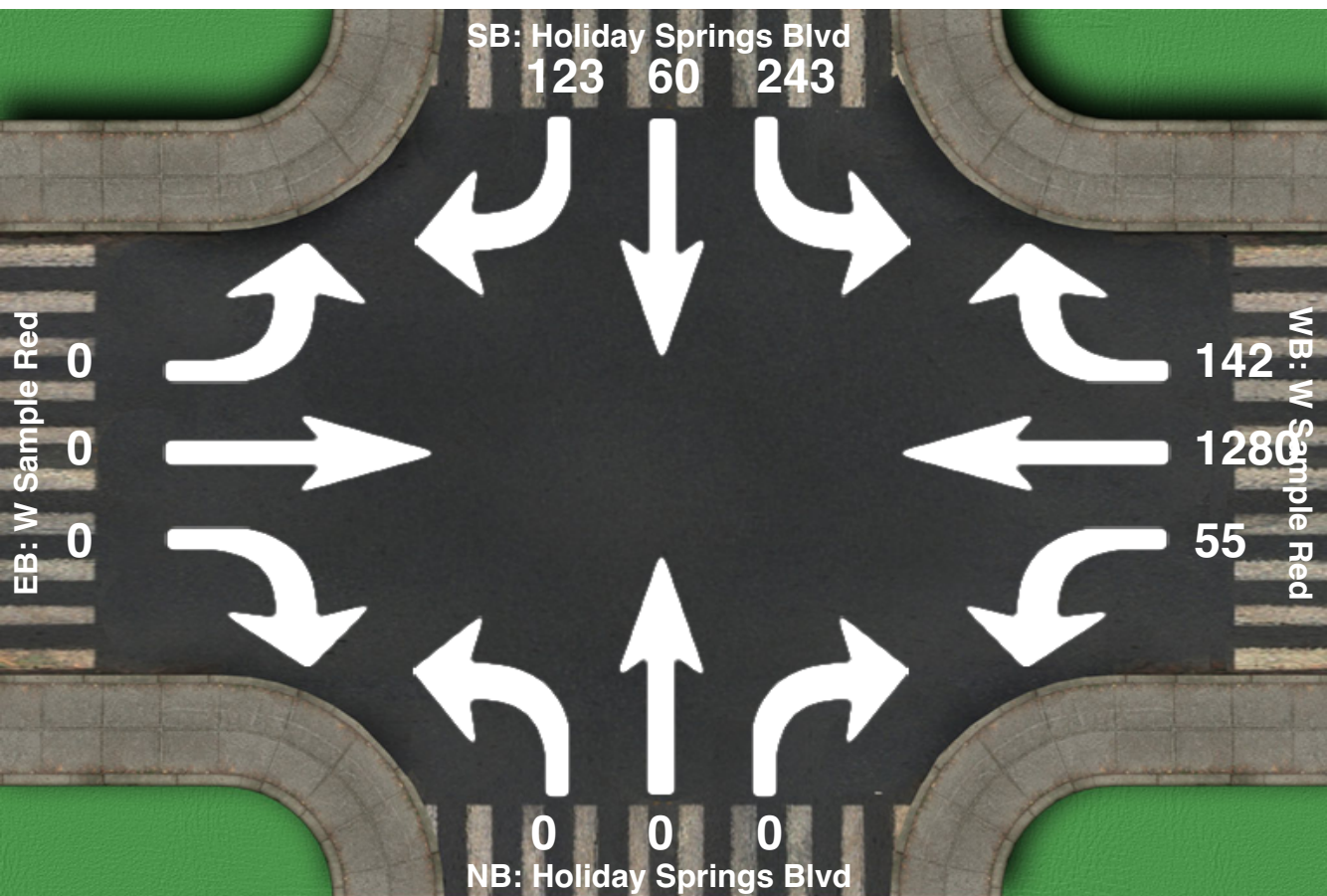
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	243	60	123	55	1280	142	0	0	0	0	0	0	1903

Peak Hour Pedestrians

[illegible]

Intersection Peak Hour

Location: Holiday Springs Blvd at W Sample Red, Margate, Fl
GPS Coordinates:
Date: 2019-01-15
Day of week: Tuesday
Weather: Clear
Analyst: KHA



Intersection Peak Hour

07:15 - 08:15

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	243	60	123	55	1280	142	0	0	0	0	0	0	1903
Factor	0.93	0.62	0.75	0.92	0.90	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.90
Approach Factor	0.86			0.90			0.00			0.00			

Turn Count Summary

Location: Holiday Springs Blvd at W Sample Red, Margate, FL

GPS Coordinates:

Date: 2019-01-15

Day of week: Tuesday

Weather: Clear

Analyst: KHA

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15:59	0	0	0	0	0	0	0	0	0	0	28	1	29
16:00	0	0	0	0	0	0	16	6	8	29	291	7	357
16:15	0	0	0	0	0	0	32	8	9	117	266	23	455
16:30	0	0	0	0	0	0	25	6	17	34	332	10	424
16:45	0	0	0	0	0	0	24	10	15	45	269	39	402
17:00	0	0	0	0	0	0	21	5	13	80	322	24	465
17:15	0	0	0	0	0	0	26	16	25	57	325	49	498
17:30	0	0	0	0	0	0	26	13	31	55	367	34	526
17:45	0	0	0	0	0	0	25	11	27	40	374	16	493

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15:59	0	0	0	0	0	0	0	0	0	0	28	1	29
16:00	0	0	0	0	0	0	16	6	8	29	291	7	357
16:15	0	0	0	0	0	0	32	8	9	117	266	23	455
16:30	0	0	0	0	0	0	25	6	17	34	332	10	424
16:45	0	0	0	0	0	0	24	10	15	45	269	39	402
17:00	0	0	0	0	0	0	21	5	13	80	322	24	465
17:15	0	0	0	0	0	0	26	16	25	57	325	49	498
17:30	0	0	0	0	0	0	26	13	31	55	367	34	526
17:45	0	0	0	0	0	0	25	11	27	40	374	16	493

Pedestrian volumes

[illegible]

Intersection Peak Hour

17:00 - 18:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	0	0	0	98	45	96	232	1388	123	1982
Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.70	0.77	0.72	0.93	0.63	0.94
Approach Factor	0.00			0.00			0.85			0.96			

Peak Hour Vehicle Summary

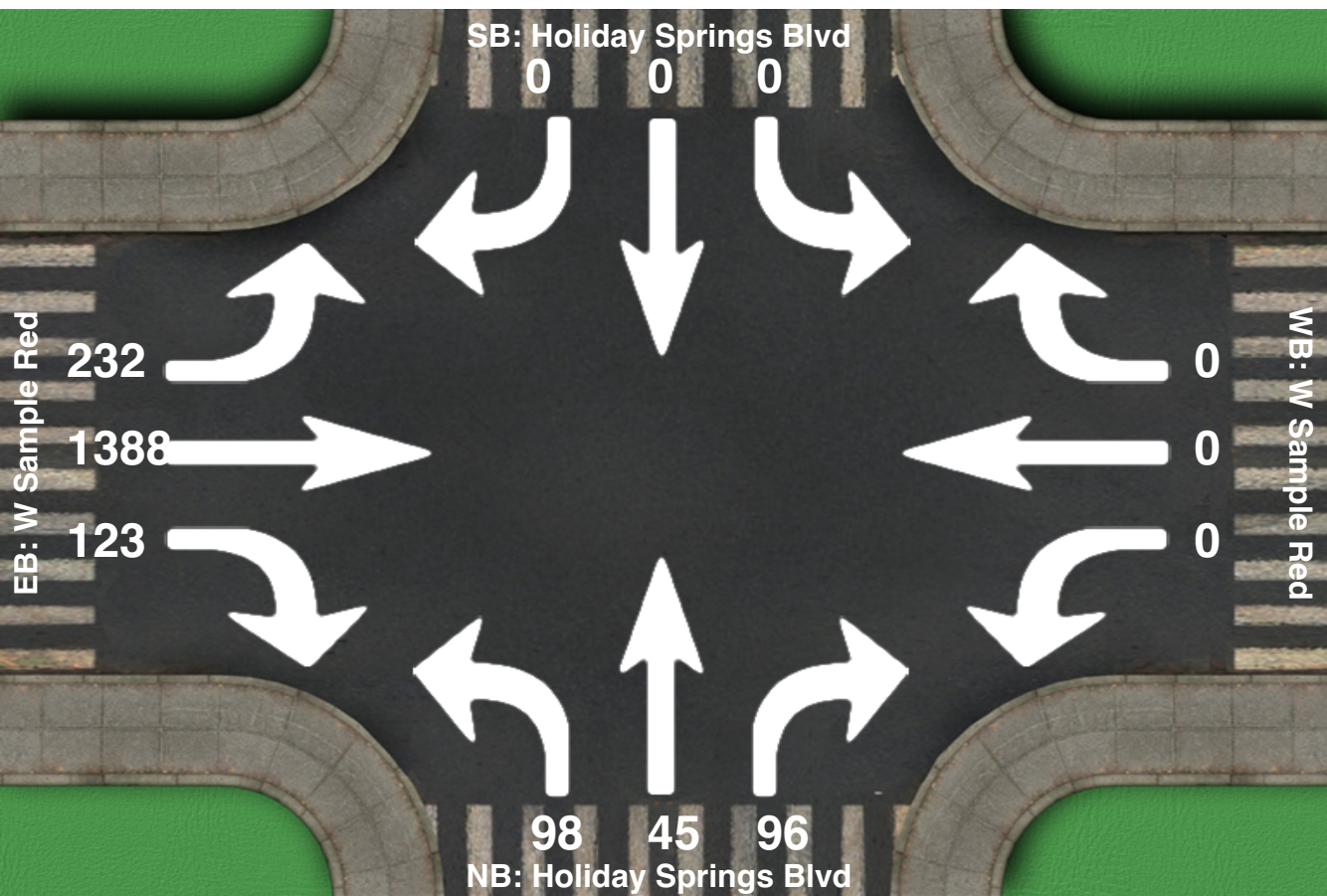
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	0	0	0	0	0	98	45	96	232	1388	123	1982

Peak Hour Pedestrians

[illegible]

Intersection Peak Hour

Location: Holiday Springs Blvd at W Sample Red, Margate, Fl
GPS Coordinates:
Date: 2019-01-15
Day of week: Tuesday
Weather: Clear
Analyst: KHA



Intersection Peak Hour

17:00 - 18:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	0	0	0	98	45	96	232	1388	123	1982
Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.70	0.77	0.72	0.93	0.63	0.94
Approach Factor	0.00			0.00			0.85			0.96			

Turn Count Summary

Location: N Rock Island Road at Pinewalk Drive,

GPS Coordinates: Lat=26.261158, Lon=-80.222610

Date: 2019-01-16

Day of week: **Wednesday**

Weather:**Analyst:**

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
06:59	0	0	0	1	0	0	0	0	0	0	0	0	1
07:00	0	204	3	5	0	6	5	279	1	27	0	27	557
07:15	1	220	4	7	0	5	4	280	1	22	0	28	572
07:30	2	221	9	2	0	4	7	251	1	20	0	34	551
07:45	3	181	5	6	0	3	5	224	0	15	0	21	463
08:00	1	191	3	2	0	1	9	194	15	21	0	28	465
08:15	0	174	7	6	0	1	10	224	9	17	0	20	468
08:30	1	168	4	0	0	2	11	190	2	8	0	20	406
08:45	2	182	3	2	0	3	6	184	2	17	0	24	425
09:00	0	3	0	0	0	0	1	0	0	0	0	0	4

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
06:59	0	0	0	1	0	0	0	0	0	0	0	0	1
07:00	0	204	3	5	0	6	5	277	1	27	0	27	555
07:15	1	218	4	7	0	5	4	280	1	22	0	28	570
07:30	2	221	9	2	0	4	7	249	1	20	0	34	549
07:45	3	181	5	6	0	3	5	223	0	15	0	21	462
08:00	1	191	3	2	0	1	9	194	15	21	0	28	465
08:15	0	174	7	6	0	1	10	224	9	17	0	20	468
08:30	1	168	4	0	0	2	11	190	2	8	0	20	406
08:45	2	182	3	2	0	3	6	184	2	17	0	24	425
09:00	0	3	0	0	0	0	1	0	0	0	0	0	4

Truck traffic

[illegible]

Pedestrian volumes

[illegible]

Intersection Peak Hour

07:00 - 08:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	6	826	21	20	0	18	21	1034	3	84	0	110	2143
Factor	0.50	0.93	0.58	0.71	0.00	0.75	0.75	0.92	0.75	0.78	0.00	0.81	0.94
Approach Factor	0.92			0.79			0.93			0.90			

Peak Hour Vehicle Summary

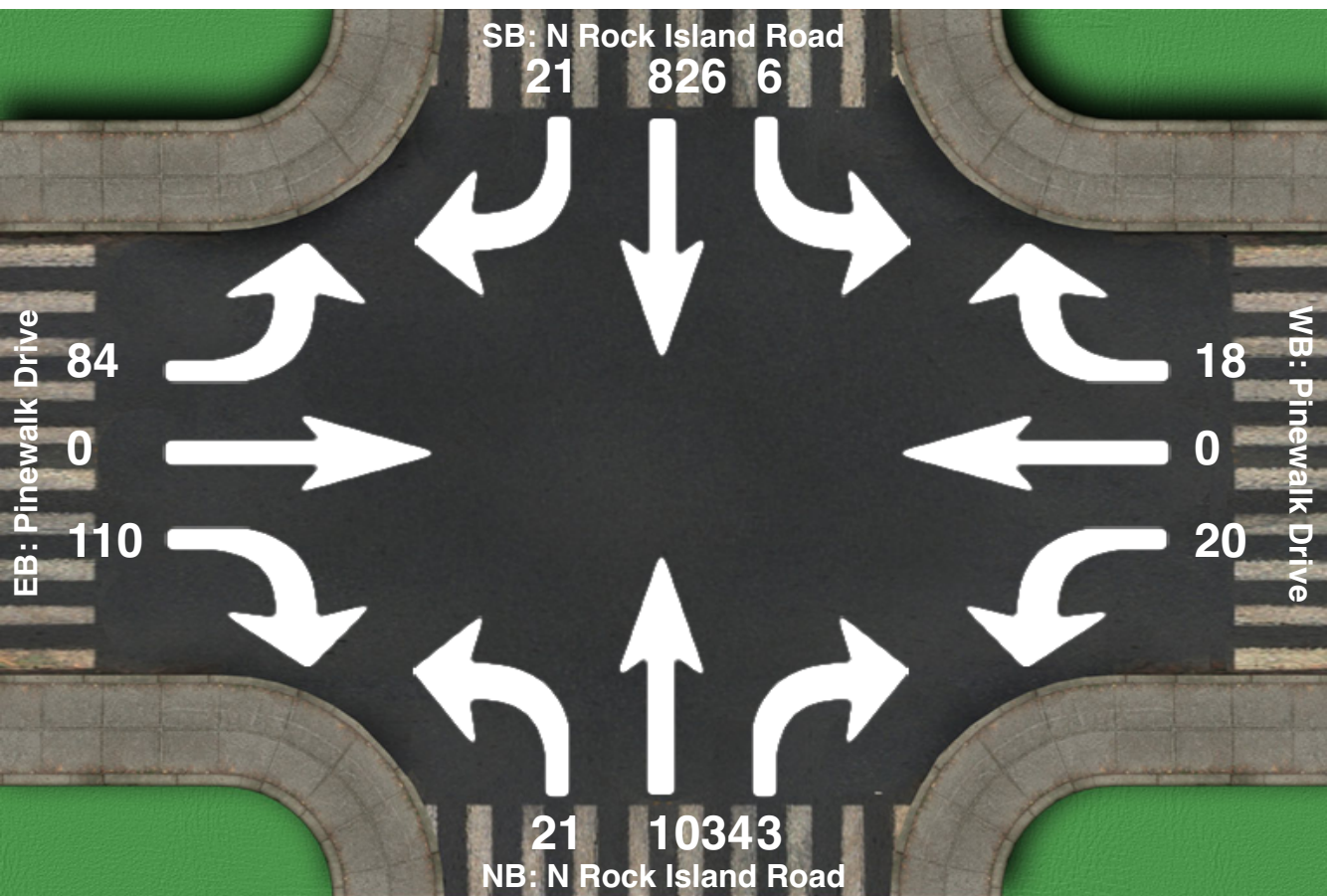
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	6	824	21	20	0	18	21	1029	3	84	0	110	2136
Truck	0	2	0	0	0	0	0	5	0	0	0	0	7

Peak Hour Pedestrians

[illegible]

Intersection Peak Hour

Location: N Rock Island Road at Pinewalk Drive,
GPS Coordinates: Lat=26.261158, Lon=-80.222610
Date: 2019-01-16
Day of week: Wednesday
Weather:
Analyst:



Intersection Peak Hour

07:00 - 08:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	6	826	21	20	0	18	21	1034	3	84	0	110	2143
Factor	0.50	0.93	0.58	0.71	0.00	0.75	0.75	0.92	0.75	0.78	0.00	0.81	0.94
Approach Factor	0.92			0.79			0.93			0.90			

Turn Count Summary

Location: N Rock Island Road at Pinewalk Drive,

GPS Coordinates: Lat=26.261158, Lon=-80.222610

Date: 2019-01-16

Day of week: Wednesday

Weather:**Analyst:**

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	183	19	2	0	4	14	197	0	9	0	7	435
16:15	6	214	21	3	0	3	14	167	4	7	0	11	450
16:30	2	200	13	2	0	1	14	188	3	7	0	10	440
16:45	2	192	13	1	0	4	19	164	8	8	0	6	417
17:00	2	225	15	1	0	0	12	188	2	5	0	2	452
17:15	1	219	10	3	0	0	13	187	4	9	0	8	454
17:30	1	227	17	2	0	0	11	211	6	7	0	6	488
17:45	4	232	23	1	0	1	22	204	8	6	0	11	512

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	181	19	2	0	4	14	197	0	9	0	7	433
16:15	6	211	21	3	0	3	14	165	4	7	0	11	445
16:30	2	196	13	2	0	1	14	187	3	7	0	10	435
16:45	2	192	13	1	0	4	19	163	8	8	0	6	416
17:00	2	224	15	1	0	0	12	187	2	5	0	2	450
17:15	1	218	10	3	0	0	12	186	4	9	0	8	451
17:30	1	226	17	2	0	0	11	211	6	7	0	6	487
17:45	4	232	22	1	0	1	22	204	8	6	0	11	511

Truck traffic

[illegible]

Pedestrian volumes

[illegible]

Intersection Peak Hour

17:00 - 18:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	8	903	65	7	0	1	58	790	20	27	0	27	1906
Factor	0.50	0.97	0.71	0.58	0.00	0.25	0.66	0.94	0.62	0.75	0.00	0.61	0.93
Approach Factor	0.94			0.67			0.93			0.79			

Peak Hour Vehicle Summary

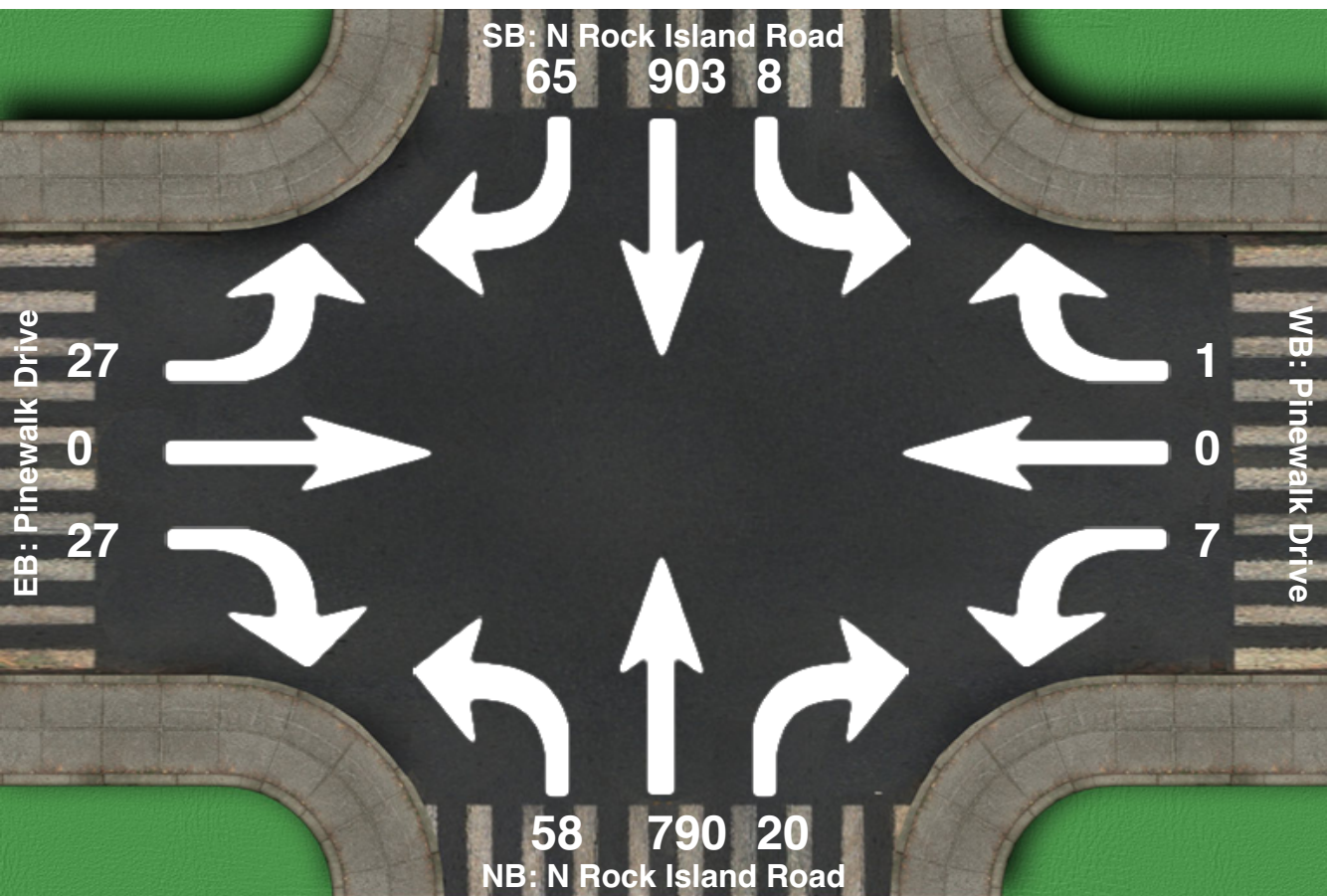
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	8	900	64	7	0	1	57	788	20	27	0	27	1899
Truck	0	3	1	0	0	0	1	2	0	0	0	0	7

Peak Hour Pedestrians

[illegible]

Intersection Peak Hour

Location: N Rock Island Road at Pinewalk Drive,
GPS Coordinates: Lat=26.261158, Lon=-80.222610
Date: 2019-01-16
Day of week: Wednesday
Weather:
Analyst:



Intersection Peak Hour

17:00 - 18:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	8	903	65	7	0	1	58	790	20	27	0	27	1906
Factor	0.50	0.97	0.71	0.58	0.00	0.25	0.66	0.94	0.62	0.75	0.00	0.61	0.93
Approach Factor	0.94			0.67			0.93			0.79			

Turn Count Summary

Location: Holiday Springs Blvd at W Sample Red, Margate, FL

GPS Coordinates:

Date: 2019-01-16

Day of week: Wednesday

Weather: Clear

Analyst: KHA

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:03	1	188	4	0	0	0	3	189	1	3	0	40	429
07:15	2	281	2	0	1	1	12	261	1	10	0	46	617
07:30	3	324	4	0	0	0	10	279	1	5	4	78	708
07:45	0	218	8	0	0	0	22	226	2	5	0	35	516
08:00	4	153	1	0	0	0	11	143	1	6	3	25	347
08:15	0	221	3	2	0	1	16	244	5	9	0	28	529
08:30	4	187	3	1	0	4	13	190	2	7	0	54	465
08:45	1	216	1	8	0	3	9	188	3	2	0	28	459
09:00	0	96	0	0	0	1	2	101	0	2	0	19	221

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:03	1	188	4	0	0	0	3	189	1	3	0	40	429
07:15	2	281	2	0	1	1	12	261	1	10	0	46	617
07:30	3	324	4	0	0	0	10	279	1	5	4	78	708
07:45	0	218	8	0	0	0	22	226	2	5	0	35	516
08:00	4	153	1	0	0	0	11	143	1	6	3	25	347
08:15	0	221	3	2	0	1	16	244	5	9	0	28	529
08:30	4	187	3	1	0	4	13	190	2	7	0	54	465
08:45	1	216	1	8	0	3	9	188	3	2	0	28	459
09:00	0	96	0	0	0	1	2	101	0	2	0	19	221

Pedestrian volumes

[illegible]

Intersection Peak Hour

07:00 - 08:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	6	1011	18	0	1	1	47	955	5	23	4	199	2270
Factor	0.50	0.78	0.56	0.00	0.25	0.25	0.53	0.86	0.62	0.57	0.25	0.64	0.80
Approach Factor	0.78			0.25			0.87			0.65			

Peak Hour Vehicle Summary

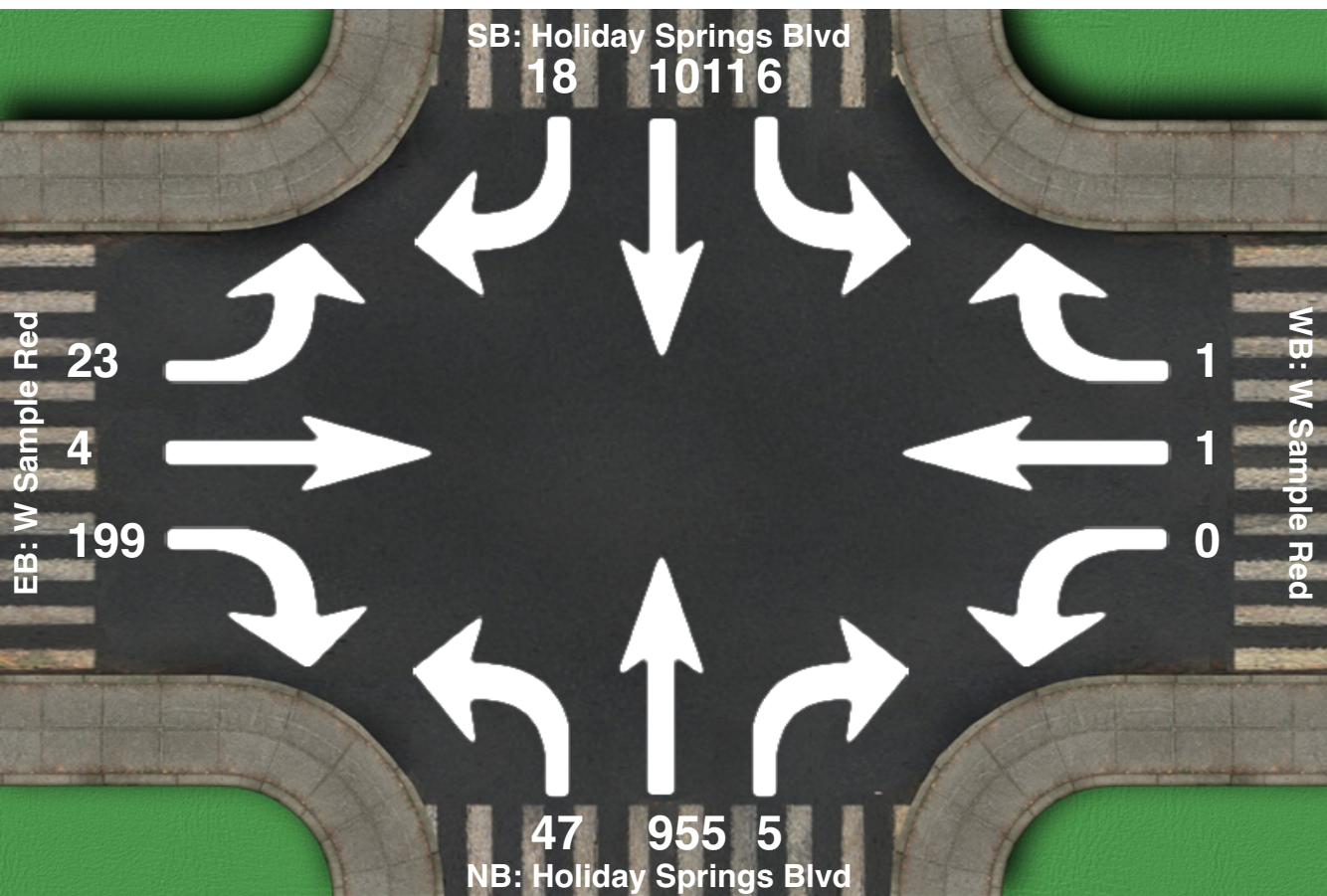
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	6	1011	18	0	1	1	47	955	5	23	4	199	2270

Peak Hour Pedestrians

[illegible]

Intersection Peak Hour

Location: Holiday Springs Blvd at W Sample Red, Margate, Fl
GPS Coordinates:
Date: 2019-01-16
Day of week: Wednesday
Weather: Clear
Analyst: KHA



Intersection Peak Hour

07:00 - 08:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	6	1011	18	0	1	1	47	955	5	23	4	199	2270
Factor	0.50	0.78	0.56	0.00	0.25	0.25	0.53	0.86	0.62	0.57	0.25	0.64	0.80
Approach Factor	0.78			0.25			0.87			0.65			

Turn Count Summary

Location: Holiday Springs Boulevard at Rock Island Road, Margate, FL
GPS Coordinates:
Date: 2019-01-16
Day of week: Wednesday
Weather: Clear
Analyst: KHA

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	8	183	7	2	0	1	20	207	4	3	1	16	452
16:15	8	207	16	0	0	2	28	183	3	5	0	21	473
16:30	2	197	22	1	0	3	27	230	9	6	3	36	536
16:45	4	207	13	1	0	1	29	184	20	5	1	24	489
17:00	4	230	13	3	0	0	23	213	5	8	1	27	527
17:15	3	252	19	4	1	4	33	253	18	2	0	20	609
17:30	4	243	16	2	0	3	38	245	8	4	0	30	593
17:45	6	249	15	5	0	5	33	266	9	3	1	29	621
18:00	3	14	1	1	0	0	0	5	1	0	0	2	27

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	8	183	7	2	0	1	20	207	4	3	1	16	452
16:15	8	207	16	0	0	2	28	183	3	5	0	21	473
16:30	2	197	22	1	0	3	27	230	9	6	3	36	536
16:45	4	207	13	1	0	1	29	184	20	5	1	24	489
17:00	4	230	13	3	0	0	23	213	5	8	1	27	527
17:15	3	252	19	4	1	4	33	253	18	2	0	20	609
17:30	4	243	16	2	0	3	38	245	8	4	0	30	593
17:45	6	249	15	5	0	5	33	266	9	3	1	29	621
18:00	3	14	1	1	0	0	0	5	1	0	0	2	27

Pedestrian volumes

[illegible]

Intersection Peak Hour

17:00 - 18:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	17	974	63	14	1	12	127	977	40	17	2	106	2350
Factor	0.71	0.97	0.83	0.70	0.25	0.60	0.84	0.92	0.56	0.53	0.50	0.88	0.95
Approach Factor	0.96			0.68			0.93			0.87			

Peak Hour Vehicle Summary

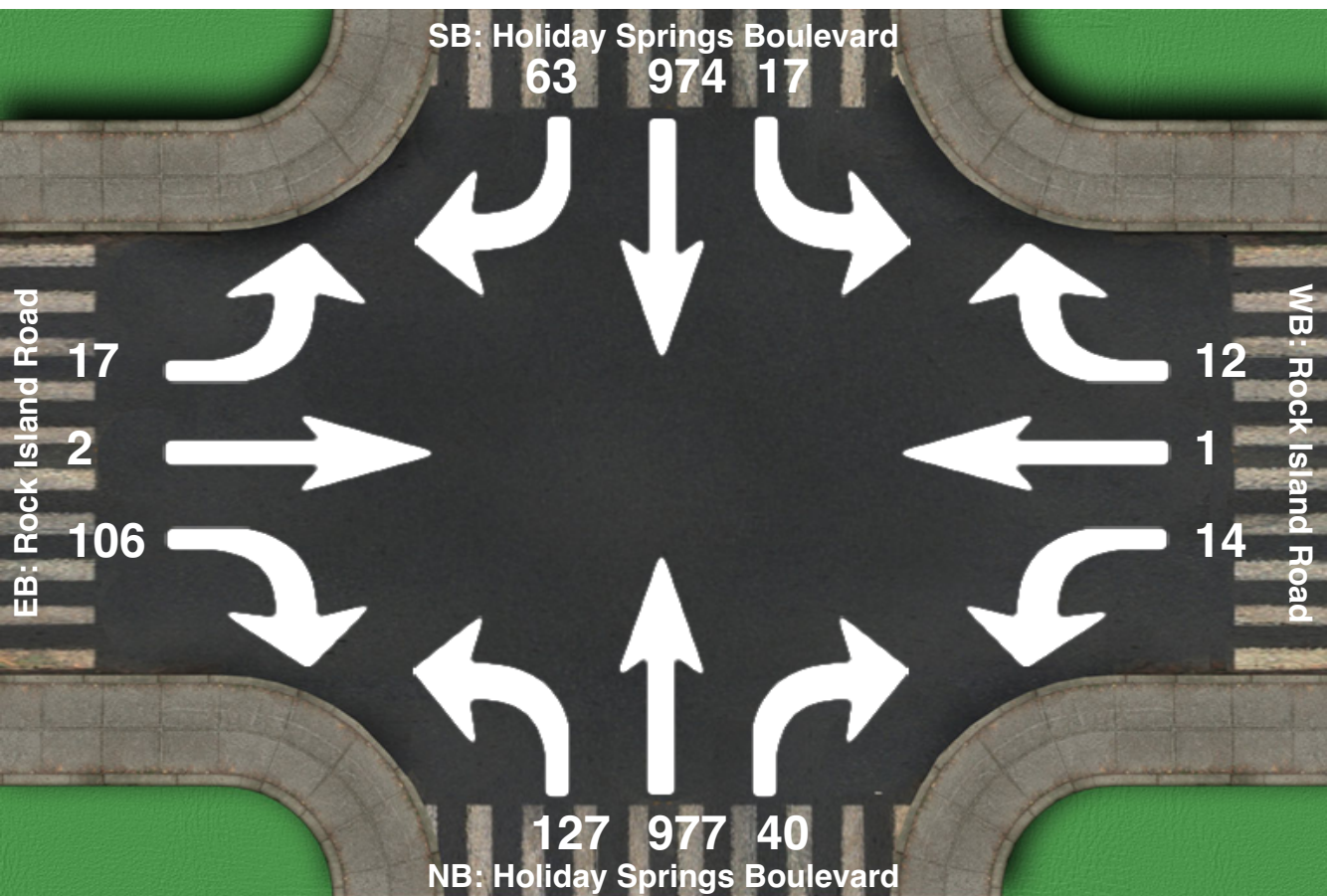
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	17	974	63	14	1	12	127	977	40	17	2	106	2350

Peak Hour Pedestrians

[illegible]

Intersection Peak Hour

Location: Holiday Springs Boulevard at Rock Island Road, Margate, FL
GPS Coordinates:
Date: 2019-01-16
Day of week: Wednesday
Weather: Clear
Analyst: KHA



Intersection Peak Hour

17:00 - 18:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	17	974	63	14	1	12	127	977	40	17	2	106	2350
Factor	0.71	0.97	0.83	0.70	0.25	0.60	0.84	0.92	0.56	0.53	0.50	0.88	0.95
Approach Factor	0.96			0.68			0.93			0.87			

APPENDIX C: SIGNAL TIMING

Laukaitis, Benjamin

From: Kraemer, Addie <Addie.Kraemer@kimley-horn.com>
Sent: Thursday, February 08, 2018 4:49 PM
To: Laukaitis, Benjamin
Subject: FW: Request for Signal Timing Information in Margate

Hi Ben!

Sorry to bother you again, but do you have any update on the signal timing for the intersection below?

Thanks!

From: Kraemer, Addie
Sent: Wednesday, February 7, 2018 4:17 PM
To: 'Laukaitis, Benjamin' <BLAUKAITIS@broward.org>
Subject: Request for Signal Timing Information in Margate

Good Afternoon Ben,

I'm currently working on a project in Margate, Florida. Do you have the signal timing for the intersections of **Sample Road & Rock Island Road** and **Royal Palm Boulevard & Rock Island Road**?

1200 1297 / CONSTRUCTION UNTIL MAY
Thank you so much!

Kimley»Horn

Addie Kraemer, E.I.
Kimley-Horn | 1920 Wekiva Way, Suite 200, West Palm Beach, FL 33411
Direct: 561 459 8980 | Mobile: 561 319 4759

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BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	1200	Initial Operation Date	8/24/79
Controller Type	2070	System Number	1200
Modification Number	19	Modification Date	03/26/2015
Drawing/Project No	413838-1-52-01	FPL Grid Number	87191100704
Intersection	SAMPLE ROAD (SR 834) and ROCK ISLAND ROAD		
Municipality	CORAL SPRINGS		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1,8R	2	3,2R	4,4R	5,4R	6	7,6R	8
Direction	EBL	WB	SBL	NB	WBL	EB	NBL	SB
Initial Green(MIN)	5	10	5	6	5	10	5	6
Vehicle Ext.(GAP)	1.5	3.0	1.5	2.0	1.5	3.0	1.5	2.0
Maximum Green I	12	50	18	30	20	50	18	30
Maximum Green II								
Yellow Clearance	5.0	5.0	4.5	4.5	5.0	5.0	4.5	4.5
All Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Phase Recall	OFF	MIN	OFF	OFF	OFF	MIN	OFF	OFF
Detector Delay								
Walk		7		7		7		7
Pedestrian Clearance		33		35		33		35
Permissive	DUAL		DUAL		DUAL		DUAL	
Flash Operation	RED	RED	RED	RED	RED	RED	RED	RED

Attachment

NOTES:

1. DUAL ENTRY HARDWIRED NORTH/SOUTH.
2. 8R (SBR) HARDWIRED TO PH.1 (EBL).
4R (NBR) OVERLAPPED WITH PH'S 4 (NB) & 5 (WBL).
2R (WBR) HARDWIRED TO PH.3 (SBL).
6R (EBR) HARDWIRED TO PH.7 (NBL).
3. NBRT OVERLAP OMIT DURING PHASE 4 PED.
4. MOD 19 UPDATES YELLOW CLEARANCE ON PHASES 1,2,4,5,6 & 7 AND ALL RED CLEARANCE VALUES ON PHASES 1,2,3,5,6 & 7 PER FDOT STANDARDS.

Submitted By _____ Approved By _____

Station : 1200 - Sample Rd & Rock Island Rd (Standard File)

Phase	1 (SR)	2 (WT)	3 (WR)	4 (NT)	5 (WL)	6 (ET)	7 (NL)	8 (ST)	9	10	11	12	13	14	15	16
Walk		7		7		7		7								
Ped Clearance		33		35		33		35								
Min Green	5	10	5	6	5	10	5	6								
Gap Ext	1.5	3	1.5	2	1.5	3	1.5	2								
Max1	12	50	18	30	20	50	18	30								
Max2																
Yellow Clr	5	5	4.5	4.5	5	5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	2	2	2	2	2	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call	ON		ON		ON		ON		ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable									ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Cal																
Concurrent Ps	1	1	1	1	2	2	2	2								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash						
Override Higher Preempt						
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green	6	6	6	6	6	6
Min Walk						
Ped Clear						
Track Green						
Min Dwell	8	8	8	8	8	8
Max Presence	180	180	180	180	180	180
Track Veh 1						
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1	4	2	3	2	4	1
Dwell Cyc Veh 2	8	6	8	5	7	6
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1	1	3	4	2	4	2
Exit 2	5	7	8	6	8	6
Exit 3						
Exit 4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Coordination

[illegible]

[illegible][illegible]

User Comments:



BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	1297	Initial Operation Date	9/15/84
Controller Type	2070 LN	System Number	
Modification Number	18	Modification Date	01/11/2018
Drawing/Project No	GRP 4	FPL Grid Number	87189166701
Intersection	ROYAL PALM BOULEVARD and ROCK ISLAND ROAD		
Municipality	MARGATE		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3	4	5	6	7	8
Direction	EBL	WB	SBL	NB	WBL	EB	NBL	SB
Initial Green(MIN)	5	10	4	6	5	10	4	6
Vehicle Ext.(GAP)	1.5	3.0	1.5	2.0	1.5	3.0	1.5	2.0
Maximum Green I	25	50	20	30	25	50	20	30
Maximum Green II								
Yellow Clearance	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Phase Recall	OFF	MIN	OFF	OFF	OFF	MIN	OFF	OFF
Detector Delay				20-RT				
Walk	7			7		7		
Pedestrian Clearance	30			30		30		
Permissive	NO		5 SECT		NO		5 SECT	
Flash Operation	RED	YELLOW		RED	RED	YELLOW		RED

Attachment

NOTES:

1. DUAL ENTRY HARDWIRED NORTH/SOUTH.
2. MOD. 18 UPDATES ALL RED ON PHASES 2 & 6, WALK VALUES ON PHASES 4 & 8 PER CURRENT STANDARDS.

Submitted By _____ Approved By _____

Station : 1297 - Royal Palm Blvd & Rock Island Rd (Standard File)

Phase	1 (EL)	2 (WT)	3 (SL)	4 (NT)	5 (WL)	6 (ET)	7 (NL)	8 (ST)	9	10	11	12	13	14	15	16
Walk		7		7		7		7								
Ped Clearance		30		30		30		30								
Min Green	5	10	4	6	5	10	4	6								
Gap Ext	1.5	3	1.5	2	1.5	3	1.5	2								
Max1	25	50	20	30	25	50	20	30								
Max2																
Yellow Clr	4	4	4	4	4	4	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	2	2	2	2	2	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call	ON				ON				ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable									ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																
Concurrent Ps	1	1	1	1	2	2	2	2								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash						
Override Higher Preempt						
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green	6	6	6	6	6	6
Min Walk						
Ped Clear						
Track Green			1		1	
Min Dwell	8	8	8	8	8	8
Max Presence	180	180	180	180	180	180
Track Veh 1			9		9	
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1	4	2	3	2	4	1
Dwell Cyc Veh 2	8	6	8	5	7	6
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1	1	3	4	2	4	2
Exit 2	5	7	8	6	8	6
Exit 3						
Exit 4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Coordination

[illegible]

[illegible][illegible]

User Comments:

Laukaitis, Benjamin

From: Gormley, Mary <Mary.Gormley@kimley-horn.com>
Sent: Monday, January 14, 2019 3:59 PM
To: Laukaitis, Benjamin
Subject: Signal Timing

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Hi Ben,

Could you please send the signal timing for ^{① 1045} Sample Road & Holiday Springs Boulevard/Woodside Drive and Holiday Springs Boulevard & Rock Island Road?

Thanks! ^{② 1548}

Mary Gormley

Kimley-Horn | 1920 Wekiva Way, Suite 200, West Palm Beach, FL 33411

Direct: 561 840 0260 | Mobile: 720 878 4654

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BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	1045	Initial Operation Date	2/12/76
Controller Type	2070 LN	System Number	1045
Modification Number	9	Modification Date	07/14/2016
Drawing/Project No	DSN. GRP. 3	FPL Grid Number	87091640808
Intersection	SAMPLE ROAD (SR 834) and WOODSIDE DR/HOLIDAY SPRINGS BLVD		
Municipality	CORAL SPRINGS		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3	4	5	6	7	8
Direction	EBL	WB	SBL	NB	WBL	EB	NBL	SB
Initial Green(MIN)	5	7	4	6	5	7	4	6
Vehicle Ext.(GAP)	2.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
Maximum Green I	18	50	15	25	18	50	15	25
Maximum Green II								
Yellow Clearance	5.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0
All Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Phase Recall	OFF	MIN	OFF	OFF	OFF	MIN	OFF	OFF
Detector Delay								
Walk		7		7		7		7
Pedestrian Clearance		20		29		20		27
Permissive	NO		5 SECT		NO		5 SECT	
Flash Operation	RED	YELLOW		RED	RED	YELLOW		RED

Attachment

NOTES:

1. DUAL ENTRY HARDWIRED NORTH/SOUTH.
2. MOD. 9 CHANGE WBL TO PROTECTED ONLY PER FDOT REQUEST.

Submitted By _____ Approved By _____

Station : 1045 - Sample Rd & Woodside Dr/Holiday Springs Blvd (Standard File)

Phase	1 (EL)	2 (WT)	3 (SL)	4 (NT)	5 (WL)	6 (ET)	7 (NL)	8 (ST)	9	10	11	12	13	14	15	16
Walk		7		7		7		7								
Ped Clearance		20		29		20		27								
Min Green	5	7	4	6	5	7	4	6								
Gap Ext	2	3	2	2	2	3	2	2								
Max1	18	50	15	25	18	50	15	25								
Max2																
Yellow Clr	5	5	4	4	5	5	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	2	2	2	2	2	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call	ON				ON											
Min Recall		ON				ON										
Max Recall		ON				ON										
Ped Recall						ON										
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable																
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																
Concurrent Ps	1	1	1	1	2	2	2	2								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash						
Override Higher Preempt						
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green	6	6	6	6	6	6
Min Walk						
Ped Clear						
Track Green				1		
Min Dwell	8	8	8	8	8	8
Max Presence	180	180	180	180	180	180
Track Veh 1				9		
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1	4	2	3	2	4	1
Dwell Cyc Veh 2	8	6	8	5	7	6
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1	1	3	4	2	4	2
Exit 2	5	7	8	6	8	6
Exit 3						
Exit 4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Coordination

[illegible]

[illegible][illegible]

User Comments:

TRAFFIC ENGINEERING DIVISION

SIGNALIZED INTERSECTION

LOCATION SAMPLE RD AND WOODSIDE DR/HOLIDAY SPRINGS DR

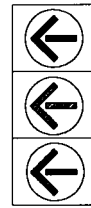
ORDER NO. _____ ISSUE DATE _____ REVISION NO. _____ COMPLETION DATE _____

DWG. NO. _____ FILE NO. A-45 CITY CORAL SPRINGS SCALE: 1" = 50'

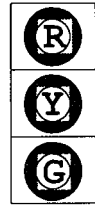
DWN BY: _____

1 5

2 4 6 8



3-SECT
1-WAY
2-REQ'D



3-SECT
1-WAY
6-REQ'D

NORTH

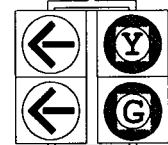


WOODSIDE DR

SAMPLE ROAD

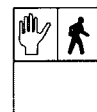
3 8

7 4



5-SECT
1-WAY
2-REQ'D

P-2 P-4 P-6 P-8



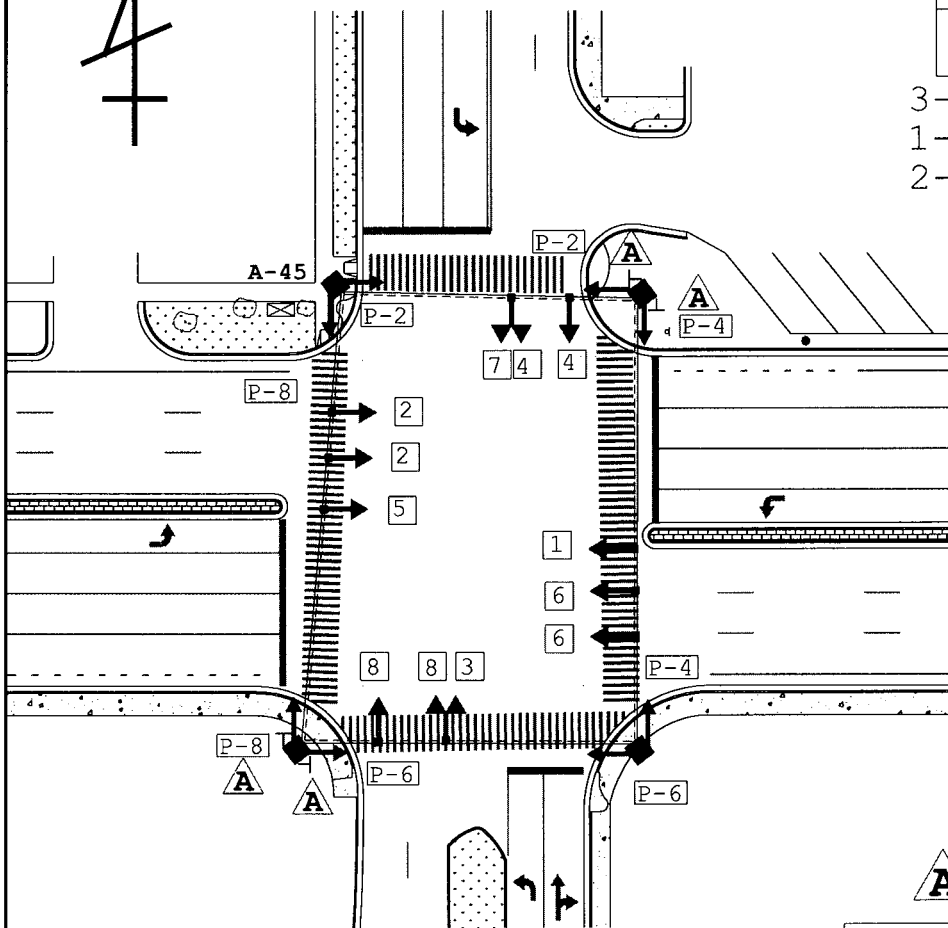
2-SECT
1-WAY
8-REQ'D



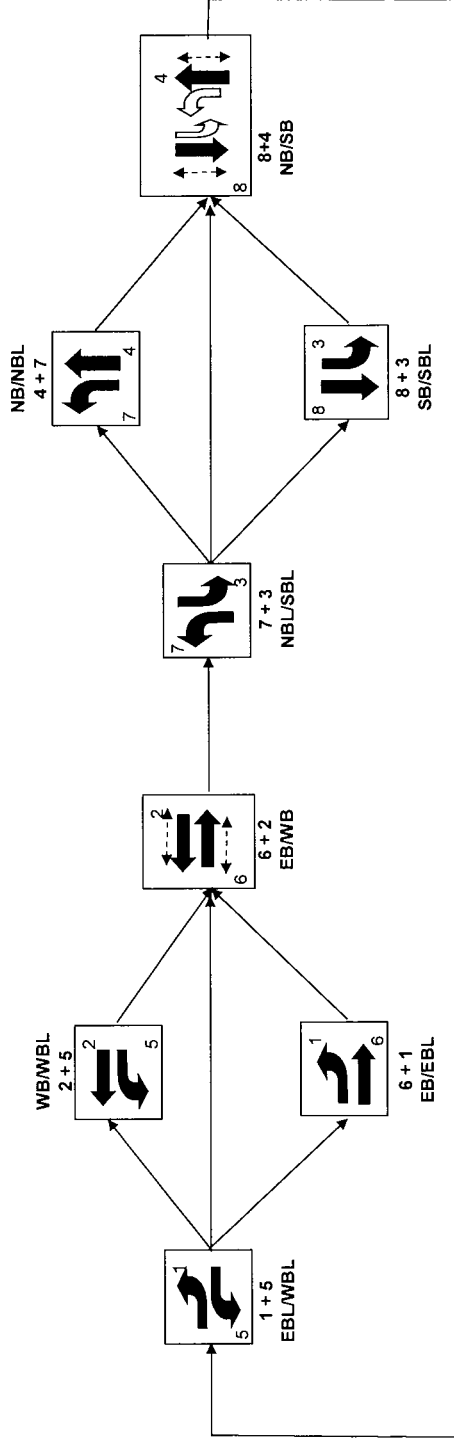
Illuminated
Street name

4-REQ'D

HOLIDAY SPRINGS DR



Sequence of Operation for (1045), Sample Rd (SR 834) And Woodside DR/Holiday Springs Coral Springs





BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	1548	Initial Operation Date	2/15/99
Controller Type	2070 LN	System Number	
Modification Number	6	Modification Date	04/01/2015
Drawing/Project No	98-03-03-01	FPL Grid Number	87190141008
Intersection	ROCK ISLAND ROAD and HOLIDAY SPRINGS BOULEVARD		
Municipality	MARGATE		

Controller Phase	1	2	3	4	5	6	7	8
Face Number		2		4	5	6		8
Direction		NB		EB	NBL	SB		WB
Initial Green(MIN)		12		10	4	12		10
Vehicle Ext.(GAP)		3.0		2.0	1.5	3.0		2.0
Maximum Green I		50		25	12	50		25
Maximum Green II								
Yellow Clearance		4.5		4.0	4.0	4.5		4.0
All Red Clearance		2.0		2.5	2.0	2.0		2.5
Phase Recall		MIN		OFF	OFF	MIN		OFF
Detector Delay				20-RT				20-RT
Walk		7		5		7		5
Pedestrian Clearance		19		26		19		29
Permissive					5 SECT			
Flash Operation		YELLOW		RED		YELLOW		RED

Attachment _____

NOTES:

1. ANTI-BACKDOWN NORTHBOUND: PHASES 2+6 ON--->OMIT PHASES 1+5.
2. DUAL ENTRY HARDWIRED EAST/WEST.
3. FLASH OPERATION: 2200-0600, 7 DAYS.
4. MOD. 6 DEPLOYS SIGNAL ONTO ATMS.NOW.

Submitted By _____ Approved By _____

Station : 1548 - Rock Island Rd & Holiday Springs Blvd (Standard File)

Phase	1	2 (NT)	3	4 (ET)	5 (NL)	6 (ST)	7	8 (WT)	9	10	11	12	13	14	15	16
Walk		7		5		7		5								
Ped Clearance		19		26		19		29								
Min Green		12		10	4	12		10								
Gap Ext		3		2	1.5	3		2								
Max1		50		25	12	50		25								
Max2																
Yellow Clr	4	4.5	4	4	4	4.5	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr		2		2.5	2	2		2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable		ON		ON	ON	ON		ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call									ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable									ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																
Concurrent Ps	1	1	1	1	2	2	2	2								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash			ON	ON		ON
Override Higher Preempt			ON	ON		ON
Flash in Dwell			ON	ON		ON
Link to Preempt						
Delay						
Min Duration						
Min Green		6			6	
Min Walk						
Ped Clear						
Track Green					1	
Min Dwell		8			8	
Max Presence	180	180			180	
Track Veh 1					9	
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1	2				2	
Dwell Cyc Veh 2	6				5	
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1	4				2	
Exit 2	8				6	
Exit 3						
Exit 4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Station : 1548 - Rock Island Rd & Holiday Springs Blvd (Standard File)

Coordination

[illegible]

[illegible][illegible]

User Comments:

BROWARD COUNTY TRAFFIC ENGINEERING DIVISION

TRAFFIC SIGNAL INSTALLATION ORDER

LOCATION **ROCK ISLAND ROAD & HOLIDAY SPRINGS BLVD**

ORDER NO 52 ISSUE DATE 8/26/98 REV NO. 0 COMPLETION DATE 2/15/99

DWG. NO. 00-03-10-01 FILE NO. A-548 CITY MARGATE SCALE: 1' = 50'

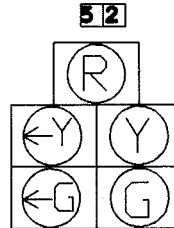
DWN BY: LARRY

P-2 P-4 P-6 P-8

P-2 P-4 P-6 P-8

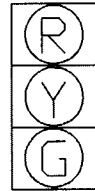


1-SECT
1-WAY
8-REQ'D



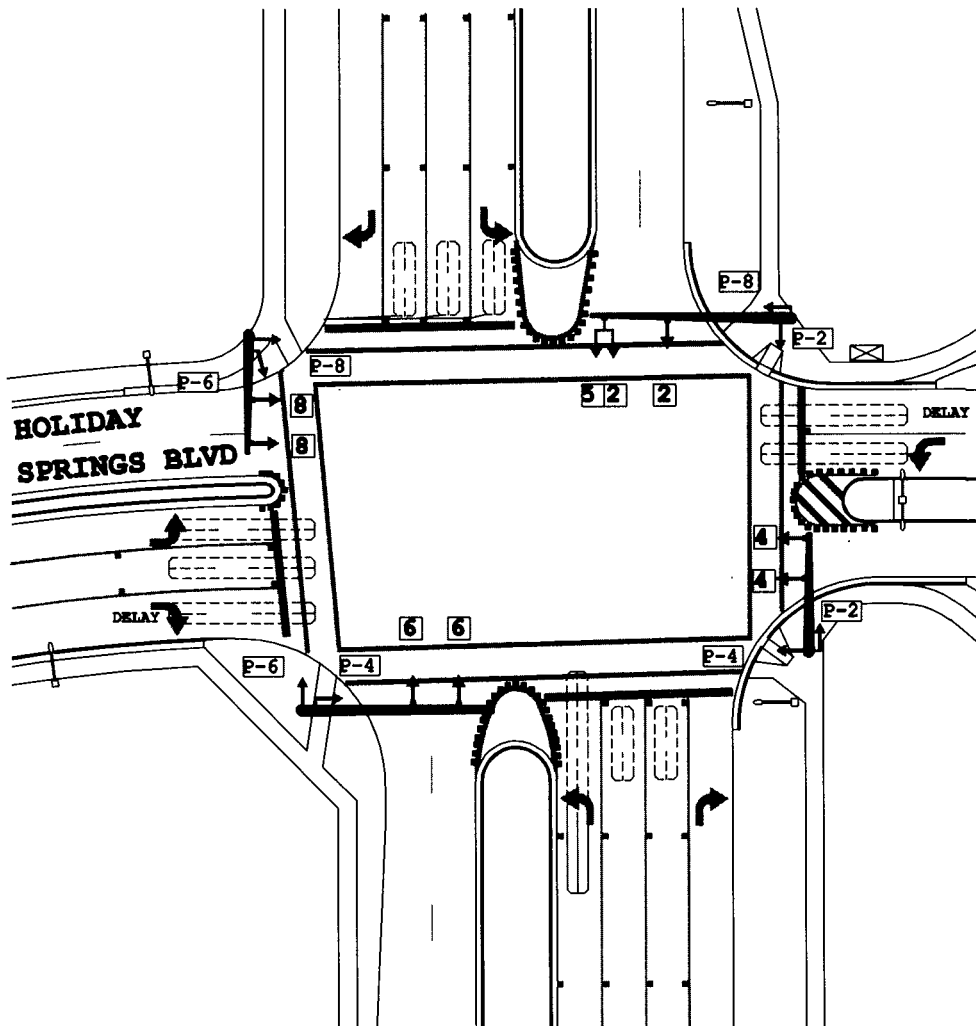
5-SECT
1-WAY
1-REQ'D

4 6 8
2 4 6 8



3-SECT
1-WAY
7-REQ'D

NORTH



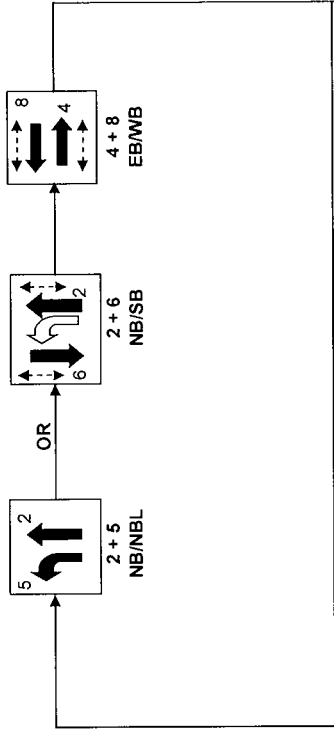
FIREFIGHTERS PARK ENTRANCE

REMARKS

ROCK ISLAND ROAD

Sequence of Operation for Rock Island Road and Holiday Springs Blvd (1548)
Margate

Modification #0



APPENDIX D: VOLUME DEVELOPMENT WORKSHEETS

VOLUME DEVELOPMENT SHEET
Sample Road & Rock Island Road

Growth Rate = 1.00%
Peak Season = 1 1
Buildout Year = 2022 2022
Years = 4 4

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/30/2018	240	505	846	284	338	136	173	1,346	141	224	901	132
Peak Season Volume	240	505	846	284	338	136	173	1,346	141	224	901	132
Traffic Volume Growth	10	21	34	12	14	6	7	55	6	9	37	5
Background Traffic	250	526	880	296	352	142	180	1,401	147	233	938	137
Project Traffic												
Inbound Traffic Assignment					5.0%					20.0%	20.0%	
Inbound Traffic Volumes					2					8	8	
Outbound Traffic Assignment		5.0%	35.0%									
Outbound Traffic Volumes		7	51									
Project Traffic		7	51		2					8	8	
TOTAL TRAFFIC	250	533	931	296	354	142	180	1,401	147	241	946	137

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/30/2018	229	195	369	104	315	70	85	1,268	255	462	1,573	54
Peak Season Volume	229	195	369	104	315	70	85	1,268	255	462	1,573	54
Traffic Volume Growth	9	8	15	4	13	3	3	51	10	19	64	2
Background Traffic	238	203	384	108	328	73	88	1,319	265	481	1,637	56
Project Traffic												
Inbound Traffic Assignment					5%					20%	20%	
Inbound Traffic Volumes					8					30	30	
Outbound Traffic Assignment		5%	35%									
Outbound Traffic Volumes		4	29									
Project Traffic		4	29		8					30	30	
TOTAL TRAFFIC	238	207	413	108	336	73	88	1,319	265	511	1,667	56

VOLUME DEVELOPMENT SHEET
Royal Palm Boulevard & Rock Island Road

Growth Rate = 1.00%
Peak Season = 1 1
Buildout Year = 2022 2022
Years = 4 4

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/31/2018	241	743	271	209	612	174	131	1,030	303	171	789	166
Peak Season Volume	241	743	271	209	612	174	131	1,030	303	171	789	166
Traffic Volume Growth	10	30	11	8	25	7	5	42	12	7	32	7
Background Traffic	251	773	282	217	637	181	136	1,072	315	178	821	173
Project Traffic												
Inbound Traffic Assignment		7.0%					8.0%					10.0%
Inbound Traffic Volumes		3					3					4
Outbound Traffic Assignment				10.0%	7.0%	8.0%						
Outbound Traffic Volumes				15	10	12						
Project Traffic		3		15	10	12	3					4
TOTAL TRAFFIC	251	776	282	232	647	193	139	1,072	315	178	821	177

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/31/2018	263	698	187	153	663	179	202	942	236	205	1,036	193
Peak Season Volume	263	698	187	153	663	179	202	942	236	205	1,036	193
Traffic Volume Growth	11	28	8	6	27	7	8	38	10	8	42	8
Background Traffic	274	726	195	159	690	186	210	980	246	213	1,078	201
Project Traffic												
Inbound Traffic Assignment		7%					8%					10%
Inbound Traffic Volumes		11					12					15
Outbound Traffic Assignment				10%	7%	8%						
Outbound Traffic Volumes				8	6	7						
Project Traffic		11		8	6	7	12					15
TOTAL TRAFFIC	274	737	195	167	696	193	222	980	246	213	1,078	216

VOLUME DEVELOPMENT SHEET
Sample Road & Holiday Springs Boulevard/Woodside Drive

Growth Rate = 1.00%
Peak Season = 1 1
Buildout Year = 2022 2022
Years = 4 4

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/15/2019	90	30	50	243	60	123	109	1,370	43	55	1,280	142
Peak Season Volume	90	30	50	243	60	123	109	1,370	43	55	1,280	142
Traffic Volume Growth	4	1	2	10	2	5	4	56	2	2	52	6
Background Traffic	94	31	52	253	62	128	113	1,426	45	57	1,332	148
Project Traffic												
Inbound Traffic Assignment								20.0%	10.0%	20.0%		
Inbound Traffic Volumes								8	4	8		
Outbound Traffic Assignment	20.0%		5.0%									
Outbound Traffic Volumes	29		7									
Project Traffic	29		7					8	4	8		
TOTAL TRAFFIC	123	31	59	253	62	128	113	1,434	49	65	1,332	148

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/15/2019	98	45	96	208	58	112	232	1,388	123	114	1,704	221
Peak Season Volume	98	45	96	208	58	112	232	1,388	123	114	1,704	221
Traffic Volume Growth	4	2	4	8	2	5	9	56	5	5	69	9
Background Traffic	102	47	100	216	60	117	241	1,444	128	119	1,773	230
Project Traffic												
Inbound Traffic Assignment								20.0%	10.0%	20.0%		
Inbound Traffic Volumes								30	15	30		
Outbound Traffic Assignment	20.0%		5.0%									
Outbound Traffic Volumes	16		4									
Project Traffic	16		4					30	15	30		
TOTAL TRAFFIC	118	47	104	216	60	117	241	1,474	143	149	1,773	230

VOLUME DEVELOPMENT SHEET
Rock Island Road & Holiday Springs Boulevard

Growth Rate = 1.00%
Peak Season = 1 1
Buildout Year = 2022 2022
Years = 4 4

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/16/2019	47	955	5	6	1,011	18	23	4	199	0	1	1
Peak Season Volume	47	955	5	6	1,011	18	23	4	199	0	1	1
Traffic Volume Growth	2	39	0	0	41	1	1	0	8	0	0	0
Background Traffic	49	994	5	6	1,052	19	24	4	207	0	1	1
Project Traffic												
Inbound Traffic Assignment	9.0%	21.0%										
Inbound Traffic Volumes	4	8										
Outbound Traffic Assignment					21.0%				9.0%			
Outbound Traffic Volumes					31				13			
Project Traffic	4	8			31				13			
TOTAL TRAFFIC	53	1,002	5	6	1,083	19	24	4	220	0	1	1

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/16/2019	127	977	40	17	974	63	17	2	106	14	1	12
Peak Season Volume	127	977	40	17	974	63	17	2	106	14	1	12
Traffic Volume Growth	5	40	2	1	40	3	1	0	4	1	0	0
Background Traffic	132	1,017	42	18	1,014	66	18	2	110	15	1	12
Project Traffic												
Inbound Traffic Assignment	9.0%	21.0%										
Inbound Traffic Volumes	14	32										
Outbound Traffic Assignment					21.0%				9.0%			
Outbound Traffic Volumes					17				7			
Project Traffic	14	32			17				7			
TOTAL TRAFFIC	146	1,049	42	18	1,031	66	18	2	117	15	1	12

VOLUME DEVELOPMENT SHEET
Rock Island Road & Pinewalk Drive

Growth Rate = 1.00%
Peak Season = 1 1
Buildout Year = 2022 2022
Years = 4 4

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/16/2019	21	1,034	3	6	826	21	84	0	110	20	0	18
Peak Season Volume	21	1,034	3	6	826	21	84	0	110	20	0	18
Traffic Volume Growth	1	42	0	0	34	1	3	0	4	1	0	1
Background Traffic	22	1,076	3	6	860	22	87	0	114	21	0	19
Project Traffic												
Inbound Traffic Assignment	5.0%	16.0%										
Inbound Traffic Volumes	2	6										
Outbound Traffic Assignment					16.0%	5.0%						
Outbound Traffic Volumes					23	7						
Project Traffic	2	6			23	7						
TOTAL TRAFFIC	24	1,082	3	6	883	29	87	0	114	21	0	19

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 01/16/2019	58	790	20	8	903	65	27	0	27	7	0	1
Peak Season Volume	58	790	20	8	903	65	27	0	27	7	0	1
Traffic Volume Growth	2	32	1	0	37	3	1	0	1	0	0	0
Background Traffic	60	822	21	8	940	68	28	0	28	7	0	1
Project Traffic												
Inbound Traffic Assignment	5.0%	16.0%										
Inbound Traffic Volumes	8	24										
Outbound Traffic Assignment					16.0%	5.0%						
Outbound Traffic Volumes					13	4						
Project Traffic	8	24			13	4						
TOTAL TRAFFIC	68	846	21	8	953	72	28	0	28	7	0	1

APPENDIX E: SYNCHRO OUTPUT SHEETS

EXISTING

Timings

3: Rock Island Road & Sample Road

AM Existing

01/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	1346	141	224	901	132	240	505	846	284	338	136
Future Volume (vph)	173	1346	141	224	901	132	240	505	846	284	338	136
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6	7	5	2	3	7	4		3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	7	5	2	3	7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	6.0	6.0	5.0	6.0	5.0
Minimum Split (s)	12.0	47.0	12.0	12.0	47.0	11.5	12.0	48.5	48.5	11.5	48.5	12.0
Total Split (s)	30.0	54.0	25.0	30.0	54.0	25.0	25.0	51.0	51.0	25.0	51.0	30.0
Total Split (%)	18.8%	33.8%	15.6%	18.8%	33.8%	15.6%	15.6%	31.9%	31.9%	15.6%	31.9%	18.8%
Yellow Time (s)	5.0	5.0	4.5	5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.5	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5	7.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	13.8	62.2	85.5	16.3	64.6	89.1	16.4	37.1	37.1	17.4	38.2	58.5
Actuated g/C Ratio	0.09	0.39	0.53	0.10	0.40	0.56	0.10	0.23	0.23	0.11	0.24	0.37
v/c Ratio	0.61	0.72	0.16	0.68	0.46	0.15	0.72	0.65	0.86	0.80	0.42	0.23
Control Delay	79.4	45.7	4.1	79.1	37.6	4.5	81.6	58.7	32.8	85.9	52.3	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.4	45.7	4.1	79.1	37.6	4.5	81.6	58.7	32.8	85.9	52.3	16.2
LOS	E	D	A	E	D	A	F	E	C	F	D	B
Approach Delay		45.7			41.5			48.4			58.4	
Approach LOS		D			D			D			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 62 (39%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 47.3

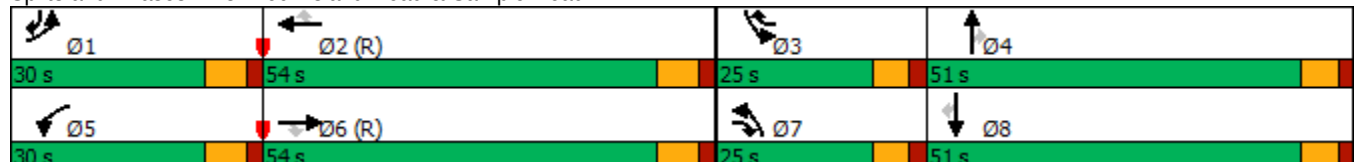
Intersection LOS: D

Intersection Capacity Utilization 80.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Rock Island Road & Sample Road



HCM 2010 Signalized Intersection Summary
3: Rock Island Road & Sample Road

AM Existing
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1346	141	224	901	132	240	505	846	284	338	136
Future Volume (veh/h)	173	1346	141	224	901	132	240	505	846	284	338	136
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	182	1417	148	236	948	139	253	532	891	299	356	143
Adj No. of Lanes	2	3	1	2	3	1	2	2	2	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	1881	724	287	1963	769	300	984	775	344	1029	567
Arrive On Green	0.07	0.37	0.37	0.08	0.39	0.39	0.09	0.28	0.28	0.10	0.29	0.29
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	182	1417	148	236	948	139	253	532	891	299	356	143
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1770	1393	1721	1770	1583
Q Serve(g_s), s	8.3	38.9	9.0	10.8	22.5	7.9	11.6	20.4	44.5	13.7	12.7	10.2
Cycle Q Clear(g_c), s	8.3	38.9	9.0	10.8	22.5	7.9	11.6	20.4	44.5	13.7	12.7	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	1881	724	287	1963	769	300	984	775	344	1029	567
V/C Ratio(X)	0.79	0.75	0.20	0.82	0.48	0.18	0.84	0.54	1.15	0.87	0.35	0.25
Avail Cap(c_a), veh/h	495	1881	724	495	1963	769	398	984	775	398	1029	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.5	44.0	26.0	72.2	37.1	23.2	71.9	49.1	57.7	71.0	44.7	36.2
Incr Delay (d2), s/veh	4.1	2.0	0.4	5.9	0.9	0.5	11.9	0.6	82.0	16.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	18.6	4.0	5.4	10.7	3.6	6.0	10.1	26.0	7.3	6.3	4.5
LnGrp Delay(d),s/veh	77.6	46.0	26.5	78.1	37.9	23.7	83.8	49.7	139.7	87.6	44.9	36.5
LnGrp LOS	E	D	C	E	D	C	F	D	F	F	D	D
Approach Vol, veh/h	1747				1323				1676			
Approach Delay, s/veh	47.7				43.6				102.7			
Approach LOS	D				D				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	68.8	22.5	51.0	20.3	66.2	20.4	53.0				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	23.0	47.0	18.5	44.5	23.0	47.0	18.5	44.5				
Max Q Clear Time (g_c+I1), s	10.3	24.5	15.7	46.5	12.8	40.9	13.6	14.7				
Green Ext Time (p_c), s	0.4	6.8	0.3	0.0	0.5	4.3	0.4	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay	65.0											
HCM 2010 LOS	E											

Timings 6: Rock Island Road & Royal Palm Boulevard

AM Existing
01/17/2019

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	202	942	205	1036	263	698	187	153	663	179
Future Volume (vph)	202	942	205	1036	263	698	187	153	663	179
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6	5	2	7	4		3	8	
Permitted Phases					4		4	8		8
Detector Phase	1	6	5	2	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	11.0	43.0	11.0	43.0	11.0	41.0	41.0	11.0	41.0	41.0
Total Split (s)	26.0	64.0	26.0	64.0	28.0	42.0	42.0	28.0	42.0	42.0
Total Split (%)	16.3%	40.0%	16.3%	40.0%	17.5%	26.3%	26.3%	17.5%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Max	Max	None	Max	Max
Act Effect Green (s)	20.0	58.0	20.0	58.0	62.8	43.5	43.5	50.9	36.4	36.4
Actuated g/C Ratio	0.12	0.36	0.12	0.36	0.39	0.27	0.27	0.32	0.23	0.23
v/c Ratio	0.96	0.99	0.98	1.03	0.97	0.76	0.37	0.68	0.87	0.42
Control Delay	119.9	71.3	123.0	81.0	92.3	60.0	17.6	47.7	71.7	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.9	71.3	123.0	81.0	92.3	60.0	17.6	47.7	71.7	24.9
LOS	F	E	F	F	F	E	B	D	E	C
Approach Delay		78.4		87.0		60.5			59.6	
Approach LOS		E		F		E			E	

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 121 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 73.0
 Intersection Capacity Utilization 98.9%
 Analysis Period (min) 15

Intersection LOS: E

ICU Level of Service F

Splits and Phases: 6: Rock Island Road & Royal Palm Boulevard

			
Ø1	Ø2 (R)	Ø3	Ø4
26 s	64 s	28 s	42 s
			
Ø5	Ø6 (R)	Ø7	Ø8
26 s	64 s	28 s	42 s

HCM 2010 Signalized Intersection Summary
6: Rock Island Road & Royal Palm Boulevard

AM Existing
01/17/2019

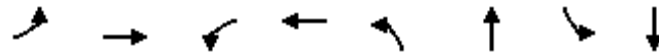
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	942	236	205	1036	193	263	698	187	153	663	179
Future Volume (veh/h)	202	942	236	205	1036	193	263	698	187	153	663	179
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	213	992	248	216	1091	203	277	735	197	161	698	188
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	1040	259	222	1104	205	297	965	432	240	796	356
Arrive On Green	0.13	0.37	0.37	0.13	0.37	0.37	0.13	0.27	0.27	0.08	0.22	0.22
Sat Flow, veh/h	1774	2809	700	1774	2982	553	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	213	624	616	216	646	648	277	735	197	161	698	188
Grp Sat Flow(s),veh/h/ln	1774	1770	1739	1774	1770	1765	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	19.1	54.9	55.3	19.4	57.9	58.5	18.7	30.5	16.5	11.1	30.5	16.7
Cycle Q Clear(g_c), s	19.1	54.9	55.3	19.4	57.9	58.5	18.7	30.5	16.5	11.1	30.5	16.7
Prop In Lane	1.00		0.40	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	655	644	222	655	653	297	965	432	240	796	356
V/C Ratio(X)	0.96	0.95	0.96	0.97	0.99	0.99	0.93	0.76	0.46	0.67	0.88	0.53
Avail Cap(c_a), veh/h	222	655	644	222	655	653	311	965	432	338	796	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	69.6	49.0	49.1	69.7	50.0	50.1	42.2	53.4	48.3	44.5	59.9	54.5
Incr Delay (d2), s/veh	48.8	25.2	26.4	52.7	31.9	33.3	32.5	5.7	3.4	1.1	11.6	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	31.4	31.2	12.8	34.2	34.5	11.8	15.7	7.6	5.4	16.2	7.8
LnGrp Delay(d),s/veh	118.5	74.2	75.5	122.4	81.9	83.4	74.8	59.1	51.8	45.5	71.4	59.3
LnGrp LOS	F	E	E	F	F	F	E	E	D	D	E	E
Approach Vol, veh/h	1453		1510				1209		1047			
Approach Delay, s/veh	81.3		88.3				61.5		65.3			
Approach LOS	F		F				E		E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	65.2	19.1	49.6	26.0	65.2	26.8	42.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	58.0	22.0	36.0	20.0	58.0	22.0	36.0				
Max Q Clear Time (g_c+I1), s	21.1	60.5	13.1	32.5	21.4	57.3	20.7	32.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	1.3	0.0	0.5	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	75.5											
HCM 2010 LOS	E											

Timings

AM Existing

9: Holiday Springs Blvd/Woodside Drive & Sample Road

01/17/2019



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	109	1370	55	1280	90	30	243	60
Future Volume (vph)	109	1370	55	1280	90	30	243	60
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases					4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	12.0	25.0	11.0	24.0	11.0	24.0
Total Split (s)	18.0	50.0	18.0	50.0	15.0	25.0	15.0	25.0
Total Split (%)	16.7%	46.3%	16.7%	46.3%	13.9%	23.1%	13.9%	23.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	None	Max
Act Effect Green (s)	10.3	47.9	8.7	43.7	27.3	19.0	29.3	22.1
Actuated g/C Ratio	0.10	0.44	0.08	0.40	0.25	0.18	0.27	0.20
v/c Ratio	0.68	0.66	0.41	0.73	0.28	0.25	0.69	0.25
Control Delay	68.1	26.4	55.3	29.6	29.4	19.5	42.9	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	26.4	55.3	29.6	29.4	19.5	42.9	14.9
LOS	E	C	E	C	C	B	D	B
Approach Delay		29.4		30.5		24.7		30.9
Approach LOS		C		C		C		C

Intersection Summary

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 29.8

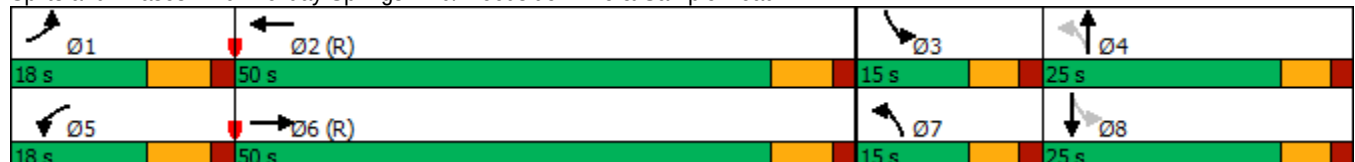
Intersection LOS: C

Intersection Capacity Utilization 73.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Holiday Springs Blvd/Woodside Drive & Sample Road



HCM 2010 Signalized Intersection Summary
 9: Holiday Springs Blvd/Woodside Drive & Sample Road

AM Existing
 01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	1370	43	55	1280	142	90	30	50	243	60	123
Future Volume (veh/h)	109	1370	43	55	1280	142	90	30	50	243	60	123
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	115	1442	45	58	1347	149	95	32	53	256	63	129
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	2319	72	75	1952	216	325	111	184	387	355	318
Arrive On Green	0.08	0.46	0.46	0.04	0.42	0.42	0.06	0.18	0.18	0.08	0.20	0.20
Sat Flow, veh/h	1774	5067	158	1774	4648	514	1774	632	1046	1774	1770	1583
Grp Volume(v), veh/h	115	965	522	58	982	514	95	0	85	256	63	129
Grp Sat Flow(s),veh/h/ln	1774	1695	1835	1774	1695	1772	1774	0	1678	1774	1770	1583
Q Serve(g_s), s	6.9	23.3	23.3	3.5	25.6	25.6	4.7	0.0	4.7	9.0	3.2	7.7
Cycle Q Clear(g_c), s	6.9	23.3	23.3	3.5	25.6	25.6	4.7	0.0	4.7	9.0	3.2	7.7
Prop In Lane	1.00		0.09	1.00		0.29	1.00		0.62	1.00		1.00
Lane Grp Cap(c), veh/h	142	1552	840	75	1424	744	325	0	295	387	355	318
V/C Ratio(X)	0.81	0.62	0.62	0.77	0.69	0.69	0.29	0.00	0.29	0.66	0.18	0.41
Avail Cap(c_a), veh/h	181	1552	840	181	1424	744	368	0	295	387	355	318
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	22.2	22.2	51.2	25.6	25.6	33.6	0.0	38.6	36.5	35.8	37.6
Incr Delay (d2), s/veh	18.9	1.9	3.5	13.6	2.4	4.5	0.5	0.0	2.4	4.2	1.1	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	11.3	12.6	2.0	12.3	13.3	2.3	0.0	2.4	6.6	1.7	3.7
LnGrp Delay(d),s/veh	67.8	24.1	25.6	64.8	28.0	30.1	34.1	0.0	41.1	40.6	36.9	41.4
LnGrp LOS	E	C	C	E	C	C	C		D	D	D	D
Approach Vol, veh/h	1602			1554			180			448		
Approach Delay, s/veh	27.7			30.1			37.4			40.3		
Approach LOS	C			C			D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	52.4	15.0	25.0	11.6	56.4	12.3	27.7				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	11.0	43.0	9.0	19.0	11.0	43.0	9.0	19.0				
Max Q Clear Time (g_c+I1), s	8.9	27.6	11.0	6.7	5.5	25.3	6.7	9.7				
Green Ext Time (p_c), s	0.0	9.1	0.0	0.3	0.0	8.9	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	30.6											
HCM 2010 LOS	C											

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱	↰		↱	↰	↱	↱	↰	↱	↰
Traffic Vol, veh/h	84	0	110	20	0	18	21	1034	3	6	826	21
Future Vol, veh/h	84	0	110	20	0	18	21	1034	3	6	826	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	0	116	21	0	19	22	1088	3	6	869	22

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1469	-	435	1579	-	544	891	0	0	1091	0	0
Stage 1	881	-	-	1132	-	-	-	-	-	-	-	-
Stage 2	588	-	-	447	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.94	7.54	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	3.32	3.52	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	89	0	569	74	0	483	757	-	-	635	-	-
Stage 1	308	0	-	216	0	-	-	-	-	-	-	-
Stage 2	462	0	-	560	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 83	-	569	57	-	483	757	-	-	635	-	-
Mov Cap-2 Maneuver	~ 83	-	-	57	-	-	-	-	-	-	-	-
Stage 1	299	-	-	210	-	-	-	-	-	-	-	-
Stage 2	431	-	-	442	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB
HCM Control Delay, s	97.4		59.4		0.2		0.1
HCM LOS	F		F				

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	757	-	-	83	569	57	483	635	-	-
HCM Lane V/C Ratio	0.029	-	-	1.065	0.203	0.369	0.039	0.01	-	-
HCM Control Delay (s)	9.9	-	-	208	12.9	101.3	12.8	10.7	-	-
HCM Lane LOS	A	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.1	0.8	1.4	0.1	0	-	-

Notes										
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined						*: All major volume in platoon		

Timings
15: Rock Island Road & Holiday Springs Blvd

AM Existing
01/17/2019

										
Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	23	4	199	1	47	955	5	6	1011	18
Future Volume (vph)	23	4	199	1	47	955	5	6	1011	18
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	5	2			6	
Permitted Phases	4		4		2		2	6		6
Detector Phase	4	4	4	8	5	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	25.0	24.5	11.0	24.5	24.5	24.5	24.5	24.5
Total Split (s)	25.0	25.0	25.0	25.0	12.0	62.0	62.0	50.0	50.0	50.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	13.8%	71.3%	71.3%	57.5%	57.5%	57.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	6.0	6.0	6.5	6.5	6.5
Lead/Lag					Lead			Lag	Lag	Lag
Lead-Lag Optimize?					Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	8.4	8.4	8.4	8.4	66.1	66.1	66.1	58.1	58.1	58.1
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.76	0.76	0.76	0.67	0.67	0.67
v/c Ratio	0.18	0.02	0.65	0.01	0.12	0.37	0.00	0.02	0.45	0.02
Control Delay	37.2	33.0	17.5	28.0	3.9	4.3	0.0	8.5	9.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	33.0	17.5	28.0	3.9	4.3	0.0	8.5	9.2	0.1
LOS	D	C	B	C	A	A	A	A	A	A
Approach Delay		19.8		28.0		4.3			9.0	
Approach LOS		B		C		A			A	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 87

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 8.0

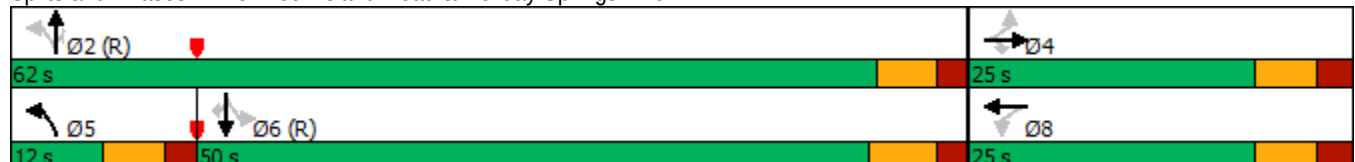
Intersection LOS: A

Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 15: Rock Island Road & Holiday Springs Blvd



HCM 2010 Signalized Intersection Summary
15: Rock Island Road & Holiday Springs Blvd

AM Existing
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	4	199	0	1	1	47	955	5	6	1011	18
Future Volume (veh/h)	23	4	199	0	1	1	47	955	5	6	1011	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	24	4	209	0	1	1	49	1005	5	6	1064	19
Adj No. of Lanes	1	1	1	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	300	289	245	83	133	133	366	2462	1101	402	2076	929
Arrive On Green	0.16	0.16	0.16	0.00	0.16	0.16	0.04	0.70	0.70	0.59	0.59	0.59
Sat Flow, veh/h	1409	1863	1583	1164	856	856	1774	3539	1583	556	3539	1583
Grp Volume(v), veh/h	24	4	209	0	0	2	49	1005	5	6	1064	19
Grp Sat Flow(s),veh/h/ln	1409	1863	1583	1164	0	1712	1774	1770	1583	556	1770	1583
Q Serve(g_s), s	1.3	0.2	11.2	0.0	0.0	0.1	0.9	10.5	0.1	0.4	15.5	0.4
Cycle Q Clear(g_c), s	1.4	0.2	11.2	0.0	0.0	0.1	0.9	10.5	0.1	1.4	15.5	0.4
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	289	245	83	0	265	366	2462	1101	402	2076	929
V/C Ratio(X)	0.08	0.01	0.85	0.00	0.00	0.01	0.13	0.41	0.00	0.01	0.51	0.02
Avail Cap(c_a), veh/h	381	396	337	150	0	364	417	2462	1101	402	2076	929
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	0.48	0.48	0.48	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	31.1	35.8	0.0	0.0	31.1	7.4	5.6	4.0	7.9	10.6	7.5
Incr Delay (d2), s/veh	0.1	0.0	14.1	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	5.8	0.0	0.0	0.0	0.4	5.1	0.0	0.1	7.8	0.2
LnGrp Delay(d),s/veh	31.8	31.1	49.9	0.0	0.0	31.1	7.5	5.9	4.0	8.0	11.5	7.6
LnGrp LOS	C	C	D			C	A	A	A	A	B	A
Approach Vol, veh/h	237				2		1059				1089	
Approach Delay, s/veh	47.7				31.1		5.9				11.4	
Approach LOS	D				C		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	67.0		20.0		9.5	57.5	20.0					
Change Period (Y+Rc), s	* 6.5		6.5		6.0	6.5	6.5					
Max Green Setting (Gmax), s	* 56		18.5		6.0	43.5	18.5					
Max Q Clear Time (g_c+I1), s	12.5		13.2		2.9	17.5	2.1					
Green Ext Time (p_c), s	8.4		0.3		0.0	8.2	0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	12.6											
HCM 2010 LOS	B											
Notes												

Timings

3: Rock Island Road & Sample Road

PM Existing

01/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	1268	255	462	1573	54	229	195	369	104	315	70
Future Volume (vph)	85	1268	255	462	1573	54	229	195	369	104	315	70
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6	7	5	2	3	7	4		3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	7	5	2	3	7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	6.0	6.0	5.0	6.0	5.0
Minimum Split (s)	12.0	47.0	12.0	12.0	47.0	11.5	12.0	48.5	48.5	11.5	48.5	12.0
Total Split (s)	30.0	54.0	25.0	30.0	54.0	25.0	25.0	51.0	51.0	25.0	51.0	30.0
Total Split (%)	18.8%	33.8%	15.6%	18.8%	33.8%	15.6%	15.6%	31.9%	31.9%	15.6%	31.9%	18.8%
Yellow Time (s)	5.0	5.0	4.5	5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.5	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5	7.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	9.5	66.5	89.5	30.1	87.0	104.4	16.0	26.0	26.0	10.4	20.4	36.5
Actuated g/C Ratio	0.06	0.42	0.56	0.19	0.54	0.65	0.10	0.16	0.16	0.06	0.13	0.23
v/c Ratio	0.44	0.63	0.28	0.75	0.60	0.05	0.70	0.36	0.50	0.49	0.73	0.18
Control Delay	78.8	40.0	8.9	69.4	26.9	1.6	80.8	60.6	7.1	79.2	76.9	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.8	40.0	8.9	69.4	26.9	1.6	80.8	60.6	7.1	79.2	76.9	10.4
LOS	E	D	A	E	C	A	F	E	A	E	E	B
Approach Delay		37.1			35.6			41.5			67.9	
Approach LOS		D			D			D			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 62 (39%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 40.2

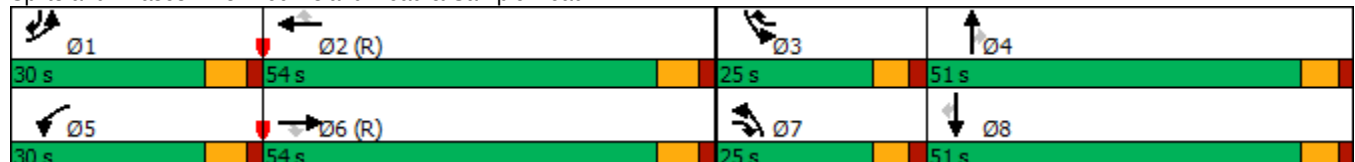
Intersection LOS: D

Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Rock Island Road & Sample Road



HCM 2010 Signalized Intersection Summary
3: Rock Island Road & Sample Road

PM Existing
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (veh/h)	85	1268	255	462	1573	54	229	195	369	104	315	70
Future Volume (veh/h)	85	1268	255	462	1573	54	229	195	369	104	315	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	89	1335	268	486	1656	57	241	205	388	109	332	74
Adj No. of Lanes	2	3	1	2	3	1	2	2	2	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	2432	890	495	2967	995	288	582	459	154	444	260
Arrive On Green	0.04	0.48	0.48	0.14	0.58	0.58	0.08	0.16	0.16	0.04	0.13	0.13
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	89	1335	268	486	1656	57	241	205	388	109	332	74
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1770	1393	1721	1770	1583
Q Serve(g_s), s	4.1	29.7	14.3	22.5	32.2	2.2	11.0	8.2	21.6	5.0	14.5	6.6
Cycle Q Clear(g_c), s	4.1	29.7	14.3	22.5	32.2	2.2	11.0	8.2	21.6	5.0	14.5	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	2432	890	495	2967	995	288	582	459	154	444	260
V/C Ratio(X)	0.67	0.55	0.30	0.98	0.56	0.06	0.84	0.35	0.85	0.71	0.75	0.29
Avail Cap(c_a), veh/h	495	2432	890	495	2967	995	398	984	775	398	984	501
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.9	29.5	18.5	68.3	20.6	11.5	72.2	59.3	64.9	75.4	67.5	58.7
Incr Delay (d2), s/veh	3.3	0.5	0.5	35.8	0.8	0.1	10.6	0.4	4.4	5.9	2.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	14.0	6.4	13.2	15.2	1.0	5.7	4.0	8.6	2.5	7.3	2.9
LnGrp Delay(d),s/veh	79.2	30.0	19.0	104.1	21.3	11.6	82.8	59.6	69.3	81.3	70.1	59.3
LnGrp LOS	E	C	B	F	C	B	F	E	E	F	E	E
Approach Vol, veh/h	1692				2199		834				515	
Approach Delay, s/veh	30.9				39.4		70.8				70.9	
Approach LOS	C				D		E				E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	100.4	13.6	32.8	30.0	83.5	19.9	26.6				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	23.0	47.0	18.5	44.5	23.0	47.0	18.5	44.5				
Max Q Clear Time (g_c+I1), s	6.1	34.2	7.0	23.6	24.5	31.7	13.0	16.5				
Green Ext Time (p_c), s	0.2	8.5	0.2	2.7	0.0	8.5	0.4	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay	44.7											
HCM 2010 LOS	D											

Timings 6: Rock Island Road & Royal Palm Boulevard

PM Existing
01/17/2019

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	202	942	205	1036	263	698	187	153	663	179
Future Volume (vph)	202	942	205	1036	263	698	187	153	663	179
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6	5	2	7	4		3	8	
Permitted Phases					4		4	8		8
Detector Phase	1	6	5	2	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	11.0	43.0	11.0	43.0	11.0	41.0	41.0	11.0	41.0	41.0
Total Split (s)	26.0	64.0	26.0	64.0	28.0	42.0	42.0	28.0	42.0	42.0
Total Split (%)	16.3%	40.0%	16.3%	40.0%	17.5%	26.3%	26.3%	17.5%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Max	Max	None	Max	Max
Act Effect Green (s)	20.0	58.0	20.0	58.0	62.8	43.5	43.5	50.9	36.4	36.4
Actuated g/C Ratio	0.12	0.36	0.12	0.36	0.39	0.27	0.27	0.32	0.23	0.23
v/c Ratio	0.96	0.99	0.98	1.03	0.97	0.76	0.37	0.68	0.87	0.42
Control Delay	119.9	71.3	123.0	81.0	92.3	60.0	17.6	47.7	71.7	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.9	71.3	123.0	81.0	92.3	60.0	17.6	47.7	71.7	24.9
LOS	F	E	F	F	F	E	B	D	E	C
Approach Delay		78.4		87.0		60.5			59.6	
Approach LOS		E		F		E			E	

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 121 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 73.0
Intersection Capacity Utilization 98.9%
Analysis Period (min) 15

Intersection LOS: E

ICU Level of Service F

Splits and Phases: 6: Rock Island Road & Royal Palm Boulevard

			
Ø1	Ø2 (R)	Ø3	Ø4
26 s	64 s	28 s	42 s
			
Ø5	Ø6 (R)	Ø7	Ø8
26 s	64 s	28 s	42 s

HCM 2010 Signalized Intersection Summary
6: Rock Island Road & Royal Palm Boulevard

PM Existing
01/17/2019

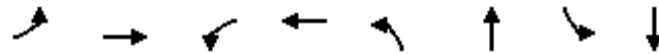
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	942	236	205	1036	193	263	698	187	153	663	179
Future Volume (veh/h)	202	942	236	205	1036	193	263	698	187	153	663	179
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	213	992	248	216	1091	203	277	735	197	161	698	188
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	1040	259	222	1104	205	297	965	432	240	796	356
Arrive On Green	0.13	0.37	0.37	0.13	0.37	0.37	0.13	0.27	0.27	0.08	0.22	0.22
Sat Flow, veh/h	1774	2809	700	1774	2982	553	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	213	624	616	216	646	648	277	735	197	161	698	188
Grp Sat Flow(s),veh/h/ln	1774	1770	1739	1774	1770	1765	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	19.1	54.9	55.3	19.4	57.9	58.5	18.7	30.5	16.5	11.1	30.5	16.7
Cycle Q Clear(g_c), s	19.1	54.9	55.3	19.4	57.9	58.5	18.7	30.5	16.5	11.1	30.5	16.7
Prop In Lane	1.00		0.40	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	655	644	222	655	653	297	965	432	240	796	356
V/C Ratio(X)	0.96	0.95	0.96	0.97	0.99	0.99	0.93	0.76	0.46	0.67	0.88	0.53
Avail Cap(c_a), veh/h	222	655	644	222	655	653	311	965	432	338	796	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	69.6	49.0	49.1	69.7	50.0	50.1	42.2	53.4	48.3	44.5	59.9	54.5
Incr Delay (d2), s/veh	48.8	25.2	26.4	52.7	31.9	33.3	32.5	5.7	3.4	1.1	11.8	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	31.4	31.2	12.8	34.2	34.5	11.8	15.7	7.6	5.4	16.2	7.8
LnGrp Delay(d),s/veh	118.5	74.2	75.5	122.4	81.9	83.4	74.8	59.1	51.8	45.6	71.7	59.5
LnGrp LOS	F	E	E	F	F	F	E	E	D	D	E	E
Approach Vol, veh/h	1453				1510				1209		1047	
Approach Delay, s/veh	81.3				88.3				61.5		65.5	
Approach LOS	F				F				E		E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	65.2	19.1	49.6	26.0	65.2	26.8	42.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	58.0	22.0	36.0	20.0	58.0	22.0	36.0				
Max Q Clear Time (g_c+l1), s	21.1	60.5	13.1	32.5	21.4	57.3	20.7	32.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	1.3	0.0	0.5	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	75.6											
HCM 2010 LOS	E											

Timings

PM Existing

9: Holiday Springs Blvd/Woodside Drive & Sample Road

01/17/2019



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑↑	↰	↑↑↑	↰	↑	↰	↑↑
Traffic Volume (vph)	232	1388	114	1704	98	45	208	58
Future Volume (vph)	232	1388	114	1704	98	45	208	58
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases					4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	12.0	25.0	11.0	24.0	11.0	24.0
Total Split (s)	18.0	50.0	18.0	50.0	15.0	25.0	15.0	25.0
Total Split (%)	16.7%	46.3%	16.7%	46.3%	13.9%	23.1%	13.9%	23.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	None	Max
Act Effect Green (s)	11.0	43.6	10.4	43.0	27.4	19.0	28.6	19.6
Actuated g/C Ratio	0.10	0.40	0.10	0.40	0.25	0.18	0.26	0.18
v/c Ratio	1.36	0.78	0.71	1.01	0.30	0.40	0.64	0.27
Control Delay	230.0	31.2	69.7	55.3	29.7	21.1	40.4	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	230.0	31.2	69.7	55.3	29.7	21.1	40.4	15.6
LOS	F	C	E	E	C	C	D	B
Approach Delay		57.7		56.1		24.6		29.2
Approach LOS		E		E		C		C

Intersection Summary

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.36

Intersection Signal Delay: 52.7

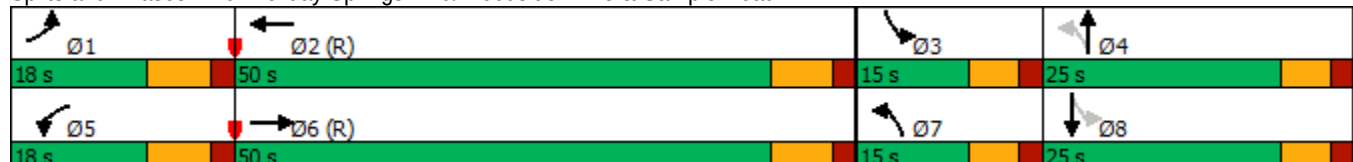
Intersection LOS: D

Intersection Capacity Utilization 92.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 9: Holiday Springs Blvd/Woodside Drive & Sample Road



HCM 2010 Signalized Intersection Summary
 9: Holiday Springs Blvd/Woodside Drive & Sample Road

PM Existing
 01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	232	1388	123	114	1704	221	98	45	96	208	58	112
Future Volume (veh/h)	232	1388	123	114	1704	221	98	45	96	208	58	112
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	244	1461	129	120	1794	233	103	47	101	219	61	118
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1984	175	147	1816	234	336	93	200	332	348	311
Arrive On Green	0.10	0.42	0.42	0.08	0.40	0.40	0.06	0.18	0.18	0.08	0.20	0.20
Sat Flow, veh/h	1774	4759	420	1774	4560	589	1774	528	1135	1774	1770	1583
Grp Volume(v), veh/h	244	1041	549	120	1331	696	103	0	148	219	61	118
Grp Sat Flow(s),veh/h/ln	1774	1695	1789	1774	1695	1759	1774	0	1663	1774	1770	1583
Q Serve(g_s), s	11.0	27.9	27.9	7.2	42.0	42.6	5.1	0.0	8.7	9.0	3.1	7.0
Cycle Q Clear(g_c), s	11.0	27.9	27.9	7.2	42.0	42.6	5.1	0.0	8.7	9.0	3.1	7.0
Prop In Lane	1.00		0.23	1.00		0.33	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	181	1413	746	147	1350	700	336	0	292	332	348	311
V/C Ratio(X)	1.35	0.74	0.74	0.81	0.99	0.99	0.31	0.00	0.51	0.66	0.18	0.38
Avail Cap(c_a), veh/h	181	1413	746	181	1350	700	373	0	292	332	348	311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	26.5	26.5	48.7	32.2	32.4	33.3	0.0	40.3	35.9	36.1	37.7
Incr Delay (d2), s/veh	189.6	3.5	6.4	16.3	18.4	28.5	0.5	0.0	6.1	4.7	1.1	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	13.7	15.1	4.2	23.0	26.1	2.5	0.0	4.5	5.7	1.6	3.4
LnGrp Delay(d),s/veh	238.1	30.0	32.9	65.0	50.6	60.9	33.8	0.0	46.4	40.6	37.2	41.2
LnGrp LOS	F	C	C	E	D	E	C		D	D	D	D
Approach Vol, veh/h	1834						251		398			
Approach Delay, s/veh	58.5						41.2		40.3			
Approach LOS	E						D		D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	50.0	15.0	25.0	16.0	52.0	12.8	27.2				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	11.0	43.0	9.0	19.0	11.0	43.0	9.0	19.0				
Max Q Clear Time (g_c+I1), s	13.0	44.6	11.0	10.7	9.2	29.9	7.1	9.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	7.9	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			54.3									
HCM 2010 LOS			D									

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱	↰		↱	↰	↱	↱	↰	↱	↰
Traffic Vol, veh/h	27	0	27	7	0	1	58	790	20	8	903	65
Future Vol, veh/h	27	0	27	7	0	1	58	790	20	8	903	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	28	7	0	1	61	832	21	8	951	68
Major/Minor	Minor2		Minor1		Major1		Major2		Major2		Major2	
Conflicting Flow All	1505	-	476	1446	-	416	1019	0	0	853	0	0
Stage 1	967	-	-	954	-	-	-	-	-	-	-	-
Stage 2	538	-	-	492	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.94	7.54	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	3.32	3.52	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	84	0	535	92	0	585	677	-	-	782	-	-
Stage 1	273	0	-	278	0	-	-	-	-	-	-	-
Stage 2	495	0	-	527	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	77	-	535	81	-	585	677	-	-	782	-	-
Mov Cap-2 Maneuver	77	-	-	81	-	-	-	-	-	-	-	-
Stage 1	248	-	-	253	-	-	-	-	-	-	-	-
Stage 2	450	-	-	494	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB		SB		SB	
HCM Control Delay, s	44.5		48.5		0.7		0.1		0.1		0.1	
HCM LOS	E		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	677	-	-	77	535	81	585	782	-	-		
HCM Lane V/C Ratio	0.09	-	-	0.369	0.053	0.091	0.002	0.011	-	-		
HCM Control Delay (s)	10.8	-	-	76.9	12.1	53.8	11.2	9.7	-	-		
HCM Lane LOS	B	-	-	F	B	F	B	A	-	-		
HCM 95th %tile Q(veh)	0.3	-	-	1.4	0.2	0.3	0	0	-	-		

Timings
15: Rock Island Road & Holiday Springs Boulevard

PM Existing
01/17/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	17	2	106	14	1	127	977	40	17	974	63
Future Volume (vph)	17	2	106	14	1	127	977	40	17	974	63
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	5	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	25.0	24.5	24.5	11.0	24.5	24.5	24.5	24.5	24.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	12.0	62.0	62.0	50.0	50.0	50.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%	13.8%	71.3%	71.3%	57.5%	57.5%	57.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.0	6.0	6.0	6.5	6.5	6.5
Lead/Lag						Lead			Lag	Lag	Lag
Lead-Lag Optimize?						Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	7.0	7.0	7.0	7.0	7.0	69.9	71.1	71.1	56.3	56.3	56.3
Actuated g/C Ratio	0.08	0.08	0.08	0.08	0.08	0.80	0.82	0.82	0.65	0.65	0.65
v/c Ratio	0.16	0.01	0.47	0.13	0.10	0.31	0.36	0.03	0.05	0.45	0.06
Control Delay	39.4	35.5	13.7	38.6	20.5	4.3	3.3	0.9	8.2	9.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	35.5	13.7	38.6	20.5	4.3	3.3	0.9	8.2	9.5	0.5
LOS	D	D	B	D	C	A	A	A	A	A	A
Approach Delay		17.5			29.8		3.3			8.9	
Approach LOS		B			C		A			A	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 87

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 6.9

Intersection LOS: A

Intersection Capacity Utilization 57.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 15: Rock Island Road & Holiday Springs Boulevard



HCM 2010 Signalized Intersection Summary
15: Rock Island Road & Holiday Springs Boulevard

PM Existing
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	2	106	14	1	12	127	977	40	17	974	63
Future Volume (veh/h)	17	2	106	14	1	12	127	977	40	17	974	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	18	2	112	15	1	13	134	1028	42	18	1025	66
Adj No. of Lanes	1	1	1	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	173	147	200	11	138	430	2681	1200	415	2242	1003
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.06	0.76	0.76	0.63	0.63	0.63
Sat Flow, veh/h	1394	1863	1583	1273	114	1486	1774	3539	1583	525	3539	1583
Grp Volume(v), veh/h	18	2	112	15	0	14	134	1028	42	18	1025	66
Grp Sat Flow(s),veh/h/ln	1394	1863	1583	1273	0	1600	1774	1770	1583	525	1770	1583
Q Serve(g_s), s	1.0	0.1	6.0	0.9	0.0	0.7	2.0	8.6	0.6	1.1	13.0	1.4
Cycle Q Clear(g_c), s	1.7	0.1	6.0	1.0	0.0	0.7	2.0	8.6	0.6	1.1	13.0	1.4
Prop In Lane	1.00		1.00	1.00		0.93	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	201	173	147	200	0	149	430	2681	1200	415	2242	1003
V/C Ratio(X)	0.09	0.01	0.76	0.08	0.00	0.09	0.31	0.38	0.04	0.04	0.46	0.07
Avail Cap(c_a), veh/h	368	396	337	352	0	340	454	2681	1200	415	2242	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	0.48	0.48	0.48	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	35.8	38.5	36.3	0.0	36.1	5.7	3.6	2.6	6.1	8.2	6.1
Incr Delay (d2), s/veh	0.2	0.0	7.8	0.2	0.0	0.3	0.2	0.2	0.0	0.2	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.9	0.3	0.0	0.3	1.0	4.2	0.3	0.2	6.5	0.6
LnGrp Delay(d),s/veh	37.1	35.9	46.4	36.5	0.0	36.4	5.9	3.8	2.7	6.2	8.9	6.2
LnGrp LOS	D	D	D	D		D	A	A	A	A	A	A
Approach Vol, veh/h		132			29			1204			1109	
Approach Delay, s/veh		44.9			36.4			4.0			8.7	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		72.4		14.6	10.8	61.6		14.6				
Change Period (Y+Rc), s		* 6.5		6.5	6.0	6.5		6.5				
Max Green Setting (Gmax), s		* 56		18.5	6.0	43.5		18.5				
Max Q Clear Time (g_c+l1), s		10.6		8.0	4.0	15.0		3.0				
Green Ext Time (p_c), s		8.9		0.2	0.1	8.5		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									
Notes												

BACKGROUND

Timings

3: Rock Island Road & Sample Road

AM Future Background

01/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1401	147	233	938	137	250	526	880	296	352	142
Future Volume (vph)	180	1401	147	233	938	137	250	526	880	296	352	142
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6	7	5	2	3	7	4		3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	7	5	2	3	7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	6.0	6.0	5.0	6.0	5.0
Minimum Split (s)	12.0	47.0	12.0	12.0	47.0	11.5	12.0	48.5	48.5	11.5	48.5	12.0
Total Split (s)	30.0	54.0	25.0	30.0	54.0	25.0	25.0	51.0	51.0	25.0	51.0	30.0
Total Split (%)	18.8%	33.8%	15.6%	18.8%	33.8%	15.6%	15.6%	31.9%	31.9%	15.6%	31.9%	18.8%
Yellow Time (s)	5.0	5.0	4.5	5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.5	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5	7.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	14.1	59.9	83.6	16.7	62.5	87.2	16.6	38.7	38.7	17.7	39.8	60.4
Actuated g/C Ratio	0.09	0.37	0.52	0.10	0.39	0.54	0.10	0.24	0.24	0.11	0.25	0.38
v/c Ratio	0.62	0.77	0.17	0.69	0.50	0.16	0.74	0.65	0.87	0.82	0.42	0.23
Control Delay	79.3	48.8	4.6	79.0	39.5	5.9	82.3	57.7	35.1	87.4	51.3	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.3	48.8	4.6	79.0	39.5	5.9	82.3	57.7	35.1	87.4	51.3	16.5
LOS	E	D	A	E	D	A	F	E	D	F	D	B
Approach Delay		48.2			43.0			49.4			58.6	
Approach LOS		D			D			D			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 62 (39%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 48.8

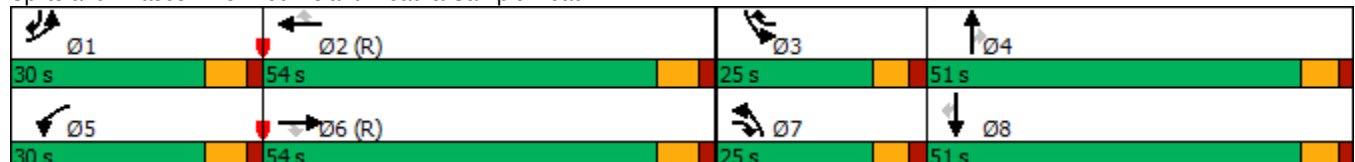
Intersection LOS: D

Intersection Capacity Utilization 83.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Rock Island Road & Sample Road



HCM 2010 Signalized Intersection Summary

3: Rock Island Road & Sample Road

AM Future Background
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	1401	147	233	938	137	250	526	880	296	352	142
Future Volume (veh/h)	180	1401	147	233	938	137	250	526	880	296	352	142
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	189	1475	155	245	987	144	263	554	926	312	371	149
Adj No. of Lanes	2	3	1	2	3	1	2	2	2	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	1850	718	296	1934	766	310	984	775	356	1032	571
Arrive On Green	0.07	0.36	0.36	0.09	0.38	0.38	0.09	0.28	0.28	0.10	0.29	0.29
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	189	1475	155	245	987	144	263	554	926	312	371	149
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1770	1393	1721	1770	1583
Q Serve(g_s), s	8.7	41.6	9.5	11.2	23.9	8.3	12.0	21.4	44.5	14.3	13.3	10.6
Cycle Q Clear(g_c), s	8.7	41.6	9.5	11.2	23.9	8.3	12.0	21.4	44.5	14.3	13.3	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	1850	718	296	1934	766	310	984	775	356	1032	571
V/C Ratio(X)	0.79	0.80	0.22	0.83	0.51	0.19	0.85	0.56	1.19	0.88	0.36	0.26
Avail Cap(c_a), veh/h	495	1850	718	495	1934	766	398	984	775	398	1032	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.66	0.66	0.66	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.3	45.6	26.5	72.0	38.1	23.4	71.7	49.4	57.7	70.7	44.9	36.1
Incr Delay (d2), s/veh	3.9	2.5	0.5	5.9	1.0	0.5	12.9	0.7	100.1	17.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	19.8	4.2	5.6	11.3	3.7	6.3	10.6	27.9	7.7	6.5	4.7
LnGrp Delay(d),s/veh	77.3	48.1	26.9	77.9	39.1	24.0	84.6	50.2	157.9	88.7	45.1	36.3
LnGrp LOS	E	D	C	E	D	C	F	D	F	F	D	D
Approach Vol, veh/h	1819			1376			1743			832		
Approach Delay, s/veh	49.3			44.4			112.6			59.8		
Approach LOS	D			D			F			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.1	67.9	23.0	51.0	20.8	65.2	20.9	53.1				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	23.0	47.0	18.5	44.5	23.0	47.0	18.5	44.5				
Max Q Clear Time (g_c+l1), s	10.7	25.9	16.3	46.5	13.2	43.6	14.0	15.3				
Green Ext Time (p_c), s	0.4	7.0	0.2	0.0	0.5	2.6	0.4	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay	68.8											
HCM 2010 LOS	E											

Timings 6: Rock Island Road & Royal Palm Boulevard

AM Future Background

01/17/2019

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	136	1072	178	821	251	773	282	217	637	181
Future Volume (vph)	136	1072	178	821	251	773	282	217	637	181
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6	5	2	7	4		3	8	
Permitted Phases					4		4	8		8
Detector Phase	1	6	5	2	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	11.0	43.0	11.0	43.0	11.0	41.0	41.0	11.0	41.0	41.0
Total Split (s)	26.0	64.0	26.0	64.0	28.0	42.0	42.0	28.0	42.0	42.0
Total Split (%)	16.3%	40.0%	16.3%	40.0%	17.5%	26.3%	26.3%	17.5%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Max	Max	None	Max	Max
Act Effect Green (s)	16.1	59.2	18.8	61.9	59.6	39.0	39.0	56.4	37.4	37.4
Actuated g/C Ratio	0.10	0.37	0.12	0.39	0.37	0.24	0.24	0.35	0.23	0.23
v/c Ratio	0.80	1.14	0.90	0.78	0.91	0.94	0.56	0.89	0.81	0.42
Control Delay	100.9	116.6	110.0	47.9	75.8	78.6	23.7	77.9	67.0	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.9	116.6	110.0	47.9	75.8	78.6	23.7	77.9	67.0	23.7
LOS	F	F	F	D	E	E	C	E	E	C
Approach Delay		115.2		57.3		66.2			61.7	
Approach LOS		F		E		E			E	

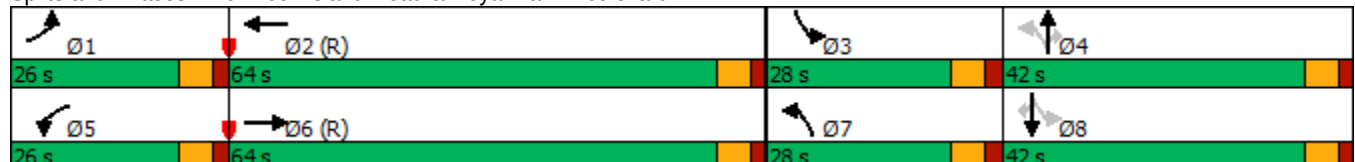
Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 121 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 78.0
 Intersection Capacity Utilization 102.9%
 Analysis Period (min) 15

Intersection LOS: E

ICU Level of Service G

Splits and Phases: 6: Rock Island Road & Royal Palm Boulevard



HCM 2010 Signalized Intersection Summary
6: Rock Island Road & Royal Palm Boulevard

AM Future Background

01/17/2019

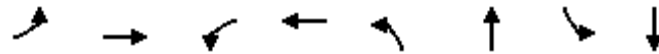
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	1072	315	178	821	173	251	773	282	217	637	181
Future Volume (veh/h)	136	1072	315	178	821	173	251	773	282	217	637	181
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	143	1128	332	187	864	182	264	814	297	228	671	191
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1034	301	207	1183	249	297	850	380	249	796	356
Arrive On Green	0.09	0.38	0.38	0.12	0.41	0.41	0.13	0.24	0.24	0.11	0.23	0.23
Sat Flow, veh/h	1774	2707	787	1774	2911	613	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	143	733	727	187	525	521	264	814	297	228	671	191
Grp Sat Flow(s),veh/h/ln	1774	1770	1724	1774	1770	1755	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	12.7	61.1	61.1	16.7	40.1	40.1	18.1	36.3	28.1	15.7	29.0	17.0
Cycle Q Clear(g_c), s	12.7	61.1	61.1	16.7	40.1	40.1	18.1	36.3	28.1	15.7	29.0	17.0
Prop In Lane	1.00		0.46	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	676	659	207	719	713	297	850	380	249	796	356
V/C Ratio(X)	0.87	1.08	1.10	0.90	0.73	0.73	0.89	0.96	0.78	0.92	0.84	0.54
Avail Cap(c_a), veh/h	222	676	659	222	719	713	317	850	380	296	796	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	71.7	49.4	49.4	69.8	40.1	40.1	43.2	60.0	56.8	44.5	59.3	54.6
Incr Delay (d2), s/veh	19.6	59.5	67.2	32.9	6.4	6.5	23.1	22.0	14.7	24.1	9.1	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	41.0	41.4	10.0	20.8	20.7	10.7	20.4	13.8	9.3	15.2	7.9
LnGrp Delay(d),s/veh	91.3	108.9	116.6	102.7	46.5	46.6	66.3	82.0	71.5	68.6	68.4	59.5
LnGrp LOS	F	F	F	F	D	D	E	F	E	E	E	E
Approach Vol, veh/h	1603				1233				1375			
Approach Delay, s/veh	110.8				55.0				76.7			
Approach LOS	F				E				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.8	71.0	23.8	44.4	24.7	67.1	26.2	42.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	58.0	22.0	36.0	20.0	58.0	22.0	36.0				
Max Q Clear Time (g_c+I1), s	14.7	42.1	17.7	38.3	18.7	63.1	20.1	31.0				
Green Ext Time (p_c), s	0.0	5.9	0.1	0.0	0.0	0.0	0.1	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay	80.0											
HCM 2010 LOS	E											

Timings

9: Holiday Springs Blvd/Woodside Drive & Sample Road

AM Future Background

01/17/2019



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	113	1426	57	1332	94	31	253	62
Future Volume (vph)	113	1426	57	1332	94	31	253	62
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases					4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	12.0	25.0	11.0	24.0	11.0	24.0
Total Split (s)	18.0	50.0	18.0	50.0	15.0	25.0	15.0	25.0
Total Split (%)	16.7%	46.3%	16.7%	46.3%	13.9%	23.1%	13.9%	23.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	None	Max
Act Effect Green (s)	10.4	47.8	8.7	43.6	27.4	19.0	28.6	19.6
Actuated g/C Ratio	0.10	0.44	0.08	0.40	0.25	0.18	0.26	0.18
v/c Ratio	0.70	0.69	0.42	0.77	0.29	0.26	0.71	0.29
Control Delay	69.2	27.1	55.6	30.6	29.6	19.4	43.9	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	27.1	55.6	30.6	29.6	19.4	43.9	15.0
LOS	E	C	E	C	C	B	D	B
Approach Delay		30.1		31.5		24.8		31.5
Approach LOS		C		C		C		C

Intersection Summary

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 30.6

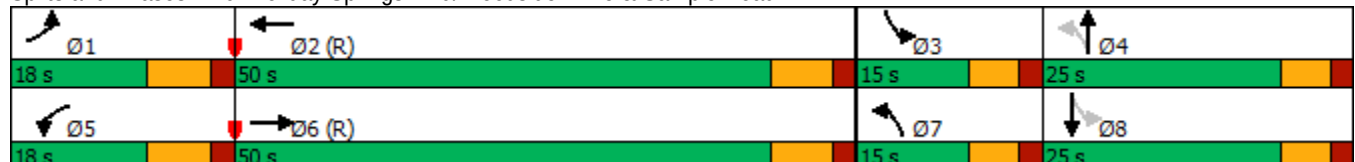
Intersection LOS: C

Intersection Capacity Utilization 75.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Holiday Springs Blvd/Woodside Drive & Sample Road



HCM 2010 Signalized Intersection Summary
9: Holiday Springs Blvd/Woodside Drive & Sample Road

AM Future Background
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	1426	45	57	1332	148	94	31	52	253	62	128
Future Volume (veh/h)	113	1426	45	57	1332	148	94	31	52	253	62	128
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	119	1501	47	60	1402	156	99	33	55	266	65	135
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	2312	72	78	1939	216	320	111	184	384	351	314
Arrive On Green	0.08	0.46	0.46	0.04	0.42	0.42	0.06	0.18	0.18	0.08	0.20	0.20
Sat Flow, veh/h	1774	5066	159	1774	4645	517	1774	629	1049	1774	1770	1583
Grp Volume(v), veh/h	119	1004	544	60	1023	535	99	0	88	266	65	135
Grp Sat Flow(s),veh/h/ln	1774	1695	1835	1774	1695	1772	1774	0	1678	1774	1770	1583
Q Serve(g_s), s	7.1	24.7	24.7	3.6	27.2	27.2	4.9	0.0	4.9	9.0	3.3	8.1
Cycle Q Clear(g_c), s	7.1	24.7	24.7	3.6	27.2	27.2	4.9	0.0	4.9	9.0	3.3	8.1
Prop In Lane	1.00		0.09	1.00		0.29	1.00		0.63	1.00		1.00
Lane Grp Cap(c), veh/h	146	1547	837	78	1415	740	320	0	295	384	351	314
V/C Ratio(X)	0.81	0.65	0.65	0.77	0.72	0.72	0.31	0.00	0.30	0.69	0.19	0.43
Avail Cap(c_a), veh/h	181	1547	837	181	1415	740	360	0	295	384	351	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	22.7	22.7	51.1	26.2	26.2	33.5	0.0	38.7	37.0	36.0	37.9
Incr Delay (d2), s/veh	20.1	2.1	3.9	12.9	2.7	5.2	0.5	0.0	2.6	5.2	1.2	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	12.0	13.4	2.0	13.2	14.3	2.4	0.0	2.5	7.0	1.7	3.9
LnGrp Delay(d),s/veh	68.8	24.8	26.6	64.0	29.0	31.4	34.0	0.0	41.3	42.2	37.2	42.2
LnGrp LOS	E	C	C	E	C	C	C		D	D	D	D
Approach Vol, veh/h	1667			1618			187			466		
Approach Delay, s/veh	28.5			31.1			37.4			41.5		
Approach LOS	C			C			D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	52.1	15.0	25.0	11.7	56.3	12.6	27.4				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	11.0	43.0	9.0	19.0	11.0	43.0	9.0	19.0				
Max Q Clear Time (g_c+I1), s	9.1	29.2	11.0	6.9	5.6	26.7	6.9	10.1				
Green Ext Time (p_c), s	0.0	8.8	0.0	0.3	0.0	8.9	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	31.5											
HCM 2010 LOS	C											

Intersection												
Int Delay, s/veh	13											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	87	0	114	21	0	19	22	1076	3	6	860	22
Future Vol, veh/h	87	0	114	21	0	19	22	1076	3	6	860	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	92	0	120	22	0	20	23	1133	3	6	905	23
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1530	-	453	1644	-	567	928	0	0	1136	0	0
Stage 1	917	-	-	1179	-	-	-	-	-	-	-	-
Stage 2	613	-	-	465	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.94	7.54	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	3.32	3.52	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 80	0	554	66	0	467	733	-	-	611	-	-
Stage 1	293	0	-	202	0	-	-	-	-	-	-	-
Stage 2	446	0	-	547	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 74	-	554	50	-	467	733	-	-	611	-	-
Mov Cap-2 Maneuver	~ 74	-	-	50	-	-	-	-	-	-	-	-
Stage 1	284	-	-	196	-	-	-	-	-	-	-	-
Stage 2	414	-	-	424	-	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	128.8		71.8			0.2			0.1			
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	733	-	-	74	554	50	467	611	-	-		
HCM Lane V/C Ratio	0.032	-	-	1.238	0.217	0.442	0.043	0.01	-	-		
HCM Control Delay (s)	10.1	-	-	280.2	13.3	124.9	13.1	11	-	-		
HCM Lane LOS	B	-	-	F	B	F	B	B	-	-		
HCM 95th %tile Q(veh)	0.1	-	-	7.1	0.8	1.6	0.1	0	-	-		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Timings
15: Rock Island Road & Holiday Springs Blvd

AM Future Background

01/17/2019

										
Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	24	4	207	1	49	994	5	6	1052	19
Future Volume (vph)	24	4	207	1	49	994	5	6	1052	19
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	5	2			6	
Permitted Phases	4		4		2		2	6		6
Detector Phase	4	4	4	8	5	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	25.0	24.5	11.0	24.5	24.5	24.5	24.5	24.5
Total Split (s)	25.0	25.0	25.0	25.0	12.0	62.0	62.0	50.0	50.0	50.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	13.8%	71.3%	71.3%	57.5%	57.5%	57.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	6.0	6.0	6.5	6.5	6.5
Lead/Lag					Lead			Lag	Lag	Lag
Lead-Lag Optimize?					Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	8.9	8.9	8.9	8.9	65.6	65.6	65.6	57.5	57.5	57.5
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.75	0.75	0.75	0.66	0.66	0.66
v/c Ratio	0.17	0.02	0.67	0.01	0.14	0.39	0.00	0.02	0.47	0.02
Control Delay	36.2	32.2	19.4	27.5	4.3	4.7	0.0	9.0	9.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	32.2	19.4	27.5	4.3	4.7	0.0	9.0	9.9	0.1
LOS	D	C	B	C	A	A	A	A	A	A
Approach Delay		21.3		27.5		4.6			9.7	
Approach LOS		C		C		A			A	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 87

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 8.6

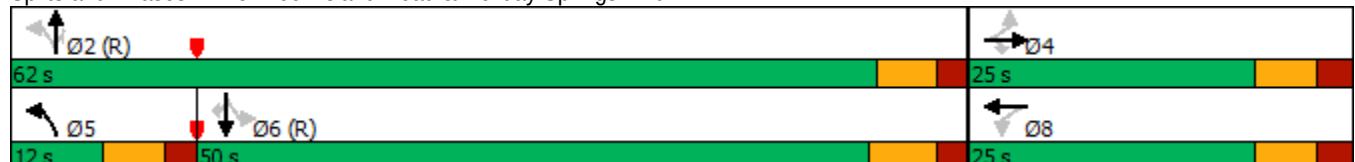
Intersection LOS: A

Intersection Capacity Utilization 57.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 15: Rock Island Road & Holiday Springs Blvd



HCM 2010 Signalized Intersection Summary
15: Rock Island Road & Holiday Springs Blvd

AM Future Background
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	4	207	0	1	1	49	994	5	6	1052	19
Future Volume (veh/h)	24	4	207	0	1	1	49	994	5	6	1052	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	25	4	218	0	1	1	52	1046	5	6	1107	20
Adj No. of Lanes	1	1	1	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	299	254	83	137	137	349	2442	1092	382	2052	918
Arrive On Green	0.16	0.16	0.16	0.00	0.16	0.16	0.04	0.69	0.69	0.58	0.58	0.58
Sat Flow, veh/h	1409	1863	1583	1154	856	856	1774	3539	1583	535	3539	1583
Grp Volume(v), veh/h	25	4	218	0	0	2	52	1046	5	6	1107	20
Grp Sat Flow(s),veh/h/ln	1409	1863	1583	1154	0	1712	1774	1770	1583	535	1770	1583
Q Serve(g_s), s	1.3	0.2	11.7	0.0	0.0	0.1	0.9	11.3	0.1	0.4	16.6	0.5
Cycle Q Clear(g_c), s	1.4	0.2	11.7	0.0	0.0	0.1	0.9	11.3	0.1	2.2	16.6	0.5
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	308	299	254	83	0	275	349	2442	1092	382	2052	918
V/C Ratio(X)	0.08	0.01	0.86	0.00	0.00	0.01	0.15	0.43	0.00	0.02	0.54	0.02
Avail Cap(c_a), veh/h	381	396	337	143	0	364	399	2442	1092	382	2052	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	0.27	0.27	0.27	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	30.7	35.5	0.0	0.0	30.7	7.9	5.9	4.2	8.5	11.2	7.8
Incr Delay (d2), s/veh	0.1	0.0	15.4	0.0	0.0	0.0	0.1	0.1	0.0	0.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	6.2	0.0	0.0	0.0	0.5	5.4	0.0	0.1	8.3	0.2
LnGrp Delay(d),s/veh	31.4	30.7	50.9	0.0	0.0	30.7	8.0	6.1	4.2	8.6	12.2	7.8
LnGrp LOS	C	C	D			C	A	A	A	A	B	A
Approach Vol, veh/h		247			2			1103			1133	
Approach Delay, s/veh		48.6			30.7			6.2			12.1	
Approach LOS		D			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		66.5		20.5	9.6	57.0		20.5				
Change Period (Y+Rc), s		* 6.5		6.5	6.0	6.5		6.5				
Max Green Setting (Gmax), s		* 56		18.5	6.0	43.5		18.5				
Max Q Clear Time (g_c+I1), s		13.3		13.7	2.9	18.6		2.1				
Green Ext Time (p_c), s		8.9		0.3	0.0	8.5		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			13.1									
HCM 2010 LOS			B									
Notes												

Timings

3: Rock Island Road & Sample Road

PM Future Background

01/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1319	265	481	1637	56	238	203	384	108	328	73
Future Volume (vph)	88	1319	265	481	1637	56	238	203	384	108	328	73
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6	7	5	2	3	7	4		3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	7	5	2	3	7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	6.0	6.0	5.0	6.0	5.0
Minimum Split (s)	12.0	47.0	12.0	12.0	47.0	11.5	12.0	48.5	48.5	11.5	48.5	12.0
Total Split (s)	30.0	54.0	25.0	30.0	54.0	25.0	25.0	51.0	51.0	25.0	51.0	30.0
Total Split (%)	18.8%	33.8%	15.6%	18.8%	33.8%	15.6%	15.6%	31.9%	31.9%	15.6%	31.9%	18.8%
Yellow Time (s)	5.0	5.0	4.5	5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.5	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5	7.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	9.7	63.5	86.8	32.1	85.9	103.6	16.3	26.7	26.7	10.7	21.0	37.2
Actuated g/C Ratio	0.06	0.40	0.54	0.20	0.54	0.65	0.10	0.17	0.17	0.07	0.13	0.23
v/c Ratio	0.45	0.69	0.30	0.73	0.63	0.06	0.72	0.36	0.50	0.50	0.74	0.18
Control Delay	79.0	43.3	10.6	66.9	28.3	1.8	81.3	60.2	6.9	79.2	76.8	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	43.3	10.6	66.9	28.3	1.8	81.3	60.2	6.9	79.2	76.8	11.2
LOS	E	D	B	E	C	A	F	E	A	E	E	B
Approach Delay		40.0			36.2			41.5			67.9	
Approach LOS		D			D			D			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 62 (39%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 41.4

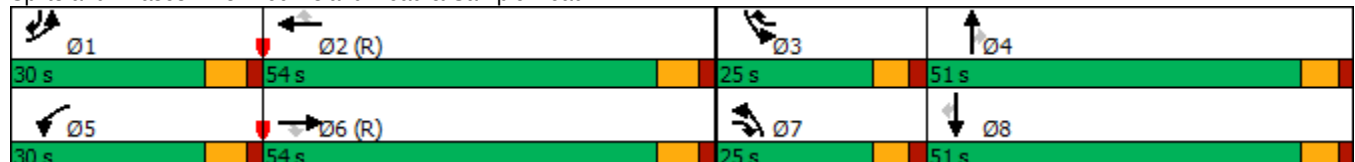
Intersection LOS: D

Intersection Capacity Utilization 77.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Rock Island Road & Sample Road



HCM 2010 Signalized Intersection Summary
3: Rock Island Road & Sample Road

PM Future Background

01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	1319	265	481	1637	56	238	203	384	108	328	73
Future Volume (veh/h)	88	1319	265	481	1637	56	238	203	384	108	328	73
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	93	1388	279	506	1723	59	251	214	404	114	345	77
Adj No. of Lanes	2	3	1	2	3	1	2	2	2	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	2393	882	495	2922	983	298	604	476	159	461	269
Arrive On Green	0.04	0.47	0.47	0.14	0.57	0.57	0.09	0.17	0.17	0.05	0.13	0.13
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	93	1388	279	506	1723	59	251	214	404	114	345	77
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1770	1393	1721	1770	1583
Q Serve(g_s), s	4.3	31.8	15.2	23.0	34.9	2.3	11.5	8.5	22.5	5.2	15.0	6.8
Cycle Q Clear(g_c), s	4.3	31.8	15.2	23.0	34.9	2.3	11.5	8.5	22.5	5.2	15.0	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	137	2393	882	495	2922	983	298	604	476	159	461	269
V/C Ratio(X)	0.68	0.58	0.32	1.02	0.59	0.06	0.84	0.35	0.85	0.72	0.75	0.29
Avail Cap(c_a), veh/h	495	2393	882	495	2922	983	398	984	775	398	984	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.8	30.8	19.0	68.5	21.9	11.9	72.0	58.6	64.4	75.3	67.0	57.9
Incr Delay (d2), s/veh	3.0	0.5	0.5	46.4	0.9	0.1	11.6	0.4	5.0	5.9	2.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	15.0	6.7	14.1	16.5	1.1	6.0	4.2	9.0	2.6	7.5	3.0
LnGrp Delay(d),s/veh	78.8	31.4	19.5	114.9	22.8	12.1	83.6	58.9	69.3	81.2	69.5	58.5
LnGrp LOS	E	C	B	F	C	B	F	E	E	F	E	E
Approach Vol, veh/h		1760			2288			869			536	
Approach Delay, s/veh		32.0			42.9			70.9			70.4	
Approach LOS		C			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	98.9	13.9	33.8	30.0	82.3	20.4	27.3				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	23.0	47.0	18.5	44.5	23.0	47.0	18.5	44.5				
Max Q Clear Time (g_c+I1), s	6.3	36.9	7.2	24.5	25.0	33.8	13.5	17.0				
Green Ext Time (p_c), s	0.2	7.3	0.2	2.8	0.0	8.0	0.4	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay				46.5								
HCM 2010 LOS				D								

Timings 6: Rock Island Road & Royal Palm Boulevard

PM Future Background

01/17/2019

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	210	980	213	1078	274	726	195	159	690	186
Future Volume (vph)	210	980	213	1078	274	726	195	159	690	186
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6	5	2	7	4		3	8	
Permitted Phases					4		4	8		8
Detector Phase	1	6	5	2	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	11.0	43.0	11.0	43.0	11.0	41.0	41.0	11.0	41.0	41.0
Total Split (s)	26.0	64.0	26.0	64.0	28.0	42.0	42.0	28.0	42.0	42.0
Total Split (%)	16.3%	40.0%	16.3%	40.0%	17.5%	26.3%	26.3%	17.5%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Max	Max	None	Max	Max
Act Effect Green (s)	20.0	58.0	20.0	58.0	62.5	43.0	43.0	51.0	36.0	36.0
Actuated g/C Ratio	0.12	0.36	0.12	0.36	0.39	0.27	0.27	0.32	0.22	0.22
v/c Ratio	1.00	1.03	1.01	1.07	1.00	0.80	0.39	0.73	0.91	0.44
Control Delay	128.6	80.8	131.2	93.1	100.9	62.2	19.0	51.4	76.9	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.6	80.8	131.2	93.1	100.9	62.2	19.0	51.4	76.9	26.3
LOS	F	F	F	F	F	E	B	D	E	C
Approach Delay		87.8		98.6		64.0			63.8	
Approach LOS		F		F		E			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 121 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 80.6

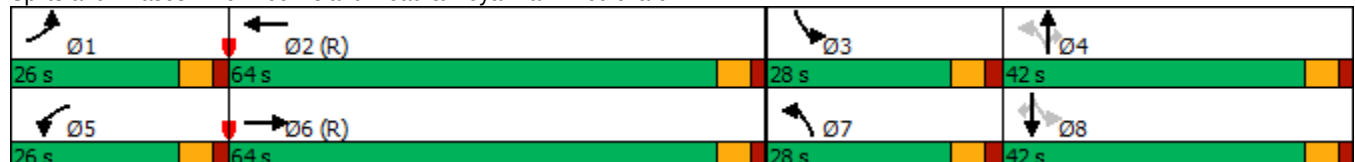
Intersection LOS: F

Intersection Capacity Utilization 102.1%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 6: Rock Island Road & Royal Palm Boulevard



HCM 2010 Signalized Intersection Summary
6: Rock Island Road & Royal Palm Boulevard

PM Future Background
01/17/2019

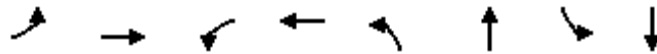
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	980	246	213	1078	201	274	726	195	159	690	186
Future Volume (veh/h)	210	980	246	213	1078	201	274	726	195	159	690	186
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	221	1032	259	224	1135	212	288	764	205	167	726	196
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	1018	254	222	1080	201	304	983	440	241	796	356
Arrive On Green	0.13	0.36	0.36	0.13	0.36	0.36	0.14	0.28	0.28	0.08	0.22	0.22
Sat Flow, veh/h	1774	2807	701	1774	2980	554	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	221	649	642	224	672	675	288	764	205	167	726	196
Grp Sat Flow(s),veh/h/ln	1774	1770	1739	1774	1770	1765	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	19.9	58.0	58.0	20.0	58.0	58.0	20.3	31.8	17.2	11.5	32.0	17.5
Cycle Q Clear(g_c), s	19.9	58.0	58.0	20.0	58.0	58.0	20.3	31.8	17.2	11.5	32.0	17.5
Prop In Lane	1.00		0.40	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	641	630	222	641	640	304	983	440	241	796	356
V/C Ratio(X)	1.00	1.01	1.02	1.01	1.05	1.06	0.95	0.78	0.47	0.69	0.91	0.55
Avail Cap(c_a), veh/h	222	641	630	222	641	640	304	983	440	335	796	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	70.0	51.0	51.0	70.0	51.0	51.0	45.2	53.2	47.9	44.5	60.5	54.8
Incr Delay (d2), s/veh	59.4	38.4	40.6	63.1	48.5	51.1	37.3	6.0	3.5	1.2	15.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	35.2	35.0	13.7	37.0	37.3	15.8	16.4	7.9	5.6	17.3	8.2
LnGrp Delay(d),s/veh	129.3	89.4	91.6	133.1	99.5	102.1	82.5	59.2	51.5	45.7	75.4	60.2
LnGrp LOS	F	F	F	F	F	F	F	E	D	D	E	E
Approach Vol, veh/h	1512				1571				1257			
Approach Delay, s/veh	96.2				105.4				63.3			
Approach LOS	F				F				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	64.0	19.6	50.4	26.0	64.0	28.0	42.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	58.0	22.0	36.0	20.0	58.0	22.0	36.0				
Max Q Clear Time (g_c+I1), s	21.9	60.0	13.5	33.8	22.0	60.0	22.3	34.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.9	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	85.6											
HCM 2010 LOS	F											

Timings

9: Holiday Springs Blvd/Woodside Drive & Sample Road

PM Future Background

01/17/2019



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑↑↑	↰	↑↑↑	↰	↑	↰	↑↑
Traffic Volume (vph)	241	1444	119	1773	102	47	216	60
Future Volume (vph)	241	1444	119	1773	102	47	216	60
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases					4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	12.0	25.0	11.0	24.0	11.0	24.0
Total Split (s)	18.0	50.0	18.0	50.0	15.0	25.0	15.0	25.0
Total Split (%)	16.7%	46.3%	16.7%	46.3%	13.9%	23.1%	13.9%	23.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	None	Max
Act Effect Green (s)	11.0	43.5	10.5	43.0	27.5	19.0	28.5	19.5
Actuated g/C Ratio	0.10	0.40	0.10	0.40	0.25	0.18	0.26	0.18
v/c Ratio	1.41	0.81	0.73	1.05	0.31	0.42	0.67	0.28
Control Delay	251.5	32.5	71.7	67.2	29.9	22.0	42.3	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	251.5	32.5	71.7	67.2	29.9	22.0	42.3	15.5
LOS	F	C	E	E	C	C	D	B
Approach Delay		61.6		67.5		25.3		30.2
Approach LOS		E		E		C		C

Intersection Summary

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.41

Intersection Signal Delay: 59.7

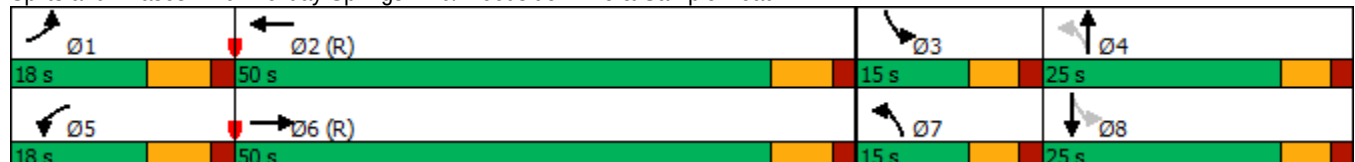
Intersection LOS: E

Intersection Capacity Utilization 95.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 9: Holiday Springs Blvd/Woodside Drive & Sample Road



HCM 2010 Signalized Intersection Summary
 9: Holiday Springs Blvd/Woodside Drive & Sample Road

PM Future Background
 01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	241	1444	128	119	1773	230	102	47	100	216	60	117
Future Volume (veh/h)	241	1444	128	119	1773	230	102	47	100	216	60	117
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	254	1520	135	125	1866	242	107	49	105	227	63	123
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1969	175	153	1817	234	333	93	199	327	344	308
Arrive On Green	0.10	0.41	0.41	0.09	0.40	0.40	0.06	0.18	0.18	0.08	0.19	0.19
Sat Flow, veh/h	1774	4756	422	1774	4562	587	1774	529	1134	1774	1770	1583
Grp Volume(v), veh/h	254	1083	572	125	1383	725	107	0	154	227	63	123
Grp Sat Flow(s),veh/h/ln	1774	1695	1788	1774	1695	1759	1774	0	1663	1774	1770	1583
Q Serve(g_s), s	11.0	29.7	29.8	7.5	43.0	43.0	5.3	0.0	9.1	9.0	3.2	7.3
Cycle Q Clear(g_c), s	11.0	29.7	29.8	7.5	43.0	43.0	5.3	0.0	9.1	9.0	3.2	7.3
Prop In Lane	1.00		0.24	1.00		0.33	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	181	1403	740	153	1350	700	333	0	293	327	344	308
V/C Ratio(X)	1.41	0.77	0.77	0.82	1.02	1.04	0.32	0.00	0.53	0.69	0.18	0.40
Avail Cap(c_a), veh/h	181	1403	740	181	1350	700	365	0	293	327	344	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.74	0.74	0.74	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	27.3	27.3	48.5	32.5	32.5	33.3	0.0	40.4	36.5	36.3	38.0
Incr Delay (d2), s/veh	212.3	4.2	7.7	16.9	27.5	38.9	0.6	0.0	6.6	6.2	1.2	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	14.7	16.2	4.4	25.2	28.4	2.6	0.0	4.7	6.0	1.7	3.5
LnGrp Delay(d),s/veh	260.8	31.4	35.0	65.4	60.0	71.4	33.8	0.0	47.0	42.7	37.5	41.8
LnGrp LOS	F	C	C	E	F	F	C		D	D	D	D
Approach Vol, veh/h	1909			2233			261			413		
Approach Delay, s/veh	63.0			64.0			41.6			41.6		
Approach LOS	E			E			D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	50.0	15.0	25.0	16.3	51.7	13.0	27.0				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	11.0	43.0	9.0	19.0	11.0	43.0	9.0	19.0				
Max Q Clear Time (g_c+I1), s	13.0	45.0	11.0	11.1	9.5	31.8	7.3	9.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	7.4	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	60.5											
HCM 2010 LOS	E											

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	0	28	7	0	1	60	822	21	8	940	68
Future Vol, veh/h	28	0	28	7	0	1	60	822	21	8	940	68
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	0	29	7	0	1	63	865	22	8	989	72
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1564	-	495	1502	-	433	1061	0	0	887	0	0
Stage 1	1005	-	-	991	-	-	-	-	-	-	-	-
Stage 2	559	-	-	511	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.94	7.54	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	3.32	3.52	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	75	0	520	84	0	571	652	-	-	759	-	-
Stage 1	259	0	-	264	0	-	-	-	-	-	-	-
Stage 2	481	0	-	514	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	69	-	520	73	-	571	652	-	-	759	-	-
Mov Cap-2 Maneuver	69	-	-	73	-	-	-	-	-	-	-	-
Stage 1	234	-	-	238	-	-	-	-	-	-	-	-
Stage 2	434	-	-	480	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	51.9			53.7			0.7			0.1		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	652	-	-	69	520	73	571	759	-	-		
HCM Lane V/C Ratio	0.097	-	-	0.427	0.057	0.101	0.002	0.011	-	-		
HCM Control Delay (s)	11.1	-	-	91.5	12.3	59.8	11.3	9.8	-	-		
HCM Lane LOS	B	-	-	F	B	F	B	A	-	-		
HCM 95th %tile Q(veh)	0.3	-	-	1.7	0.2	0.3	0	0	-	-		

Timings
15: Rock Island Road & Holiday Island Blvd

PM Future Background

01/17/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	18	2	110	15	1	132	1017	42	18	1014	66
Future Volume (vph)	18	2	110	15	1	132	1017	42	18	1014	66
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	5	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	25.0	24.5	24.5	11.0	24.5	24.5	24.5	24.5	24.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	12.0	62.0	62.0	50.0	50.0	50.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%	13.8%	71.3%	71.3%	57.5%	57.5%	57.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.0	6.0	6.0	6.5	6.5	6.5
Lead/Lag						Lead			Lag	Lag	Lag
Lead-Lag Optimize?						Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	7.1	7.1	7.1	7.1	7.1	69.8	71.0	71.0	56.1	56.1	56.1
Actuated g/C Ratio	0.08	0.08	0.08	0.08	0.08	0.80	0.82	0.82	0.64	0.64	0.64
v/c Ratio	0.17	0.01	0.49	0.14	0.10	0.33	0.37	0.03	0.06	0.47	0.06
Control Delay	39.4	35.0	14.3	38.6	20.3	4.7	3.4	1.0	8.5	9.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	35.0	14.3	38.6	20.3	4.7	3.4	1.0	8.5	9.8	0.6
LOS	D	C	B	D	C	A	A	A	A	A	A
Approach Delay		18.1			30.1		3.5			9.2	
Approach LOS		B			C		A			A	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 87

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 7.1

Intersection LOS: A

Intersection Capacity Utilization 58.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 15: Rock Island Road & Holiday Island Blvd



HCM 2010 Signalized Intersection Summary
15: Rock Island Road & Holiday Island Blvd

PM Future Background
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	2	110	15	1	12	132	1017	42	18	1014	66
Future Volume (veh/h)	18	2	110	15	1	12	132	1017	42	18	1014	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	19	2	116	16	1	13	139	1071	44	19	1067	69
Adj No. of Lanes	1	1	1	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	178	152	203	11	142	414	2672	1195	400	2231	998
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.06	0.75	0.75	0.63	0.63	0.63
Sat Flow, veh/h	1394	1863	1583	1269	114	1486	1774	3539	1583	503	3539	1583
Grp Volume(v), veh/h	19	2	116	16	0	14	139	1071	44	19	1067	69
Grp Sat Flow(s),veh/h/ln	1394	1863	1583	1269	0	1600	1774	1770	1583	503	1770	1583
Q Serve(g_s), s	1.1	0.1	6.2	1.0	0.0	0.7	2.2	9.3	0.6	1.3	13.9	1.5
Cycle Q Clear(g_c), s	1.8	0.1	6.2	1.1	0.0	0.7	2.2	9.3	0.6	1.3	13.9	1.5
Prop In Lane	1.00		1.00	1.00		0.93	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	205	178	152	203	0	153	414	2672	1195	400	2231	998
V/C Ratio(X)	0.09	0.01	0.77	0.08	0.00	0.09	0.34	0.40	0.04	0.05	0.48	0.07
Avail Cap(c_a), veh/h	368	396	337	351	0	340	437	2672	1195	400	2231	998
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.41	0.41	0.41	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	35.6	38.4	36.1	0.0	35.9	6.0	3.7	2.7	6.2	8.5	6.2
Incr Delay (d2), s/veh	0.2	0.0	7.8	0.2	0.0	0.3	0.2	0.2	0.0	0.2	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.0	0.4	0.0	0.3	1.1	4.5	0.3	0.2	6.9	0.7
LnGrp Delay(d),s/veh	36.9	35.6	46.2	36.3	0.0	36.1	6.2	3.9	2.7	6.4	9.2	6.3
LnGrp LOS	D	D	D	D		D	A	A	A	A	A	A
Approach Vol, veh/h		137			30			1254			1155	
Approach Delay, s/veh		44.7			36.2			4.1			9.0	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		72.2		14.8	10.8	61.3		14.8				
Change Period (Y+Rc), s		* 6.5		6.5	6.0	6.5		6.5				
Max Green Setting (Gmax), s		* 56		18.5	6.0	43.5		18.5				
Max Q Clear Time (g_c+I1), s		11.3		8.2	4.2	15.9		3.1				
Green Ext Time (p_c), s		9.4		0.3	0.1	8.8		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									
Notes												

FUTURE TOTAL

Timings

3: Rock Island Road & Sample Road

AM Future Total

01/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1401	147	241	946	137	250	533	931	296	354	142
Future Volume (vph)	180	1401	147	241	946	137	250	533	931	296	354	142
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6	7	5	2	3	7	4		3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	7	5	2	3	7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	6.0	6.0	5.0	6.0	5.0
Minimum Split (s)	12.0	47.0	12.0	12.0	47.0	11.5	12.0	48.5	48.5	11.5	48.5	12.0
Total Split (s)	30.0	54.0	25.0	30.0	54.0	25.0	25.0	51.0	51.0	25.0	51.0	30.0
Total Split (%)	18.8%	33.8%	15.6%	18.8%	33.8%	15.6%	15.6%	31.9%	31.9%	15.6%	31.9%	18.8%
Yellow Time (s)	5.0	5.0	4.5	5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.5	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5	7.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	14.1	57.7	81.3	17.1	60.7	85.4	16.6	40.5	40.5	17.7	41.6	62.2
Actuated g/C Ratio	0.09	0.36	0.51	0.11	0.38	0.53	0.10	0.25	0.25	0.11	0.26	0.39
v/c Ratio	0.62	0.80	0.18	0.69	0.52	0.16	0.74	0.63	0.90	0.82	0.41	0.23
Control Delay	79.3	51.3	4.7	78.8	40.9	6.1	82.3	55.9	38.9	87.4	49.9	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.3	51.3	4.7	78.8	40.9	6.1	82.3	55.9	38.9	87.4	49.9	16.0
LOS	E	D	A	E	D	A	F	E	D	F	D	B
Approach Delay		50.2			44.2			50.5			57.9	
Approach LOS		D			D			D			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 62 (39%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 50.0

Intersection LOS: D

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Rock Island Road & Sample Road

			
Ø1	Ø2 (R)	Ø3	Ø4
30 s	54 s	25 s	51 s
			
Ø5	Ø6 (R)	Ø7	Ø8
30 s	54 s	25 s	51 s

HCM 2010 Signalized Intersection Summary

3: Rock Island Road & Sample Road

AM Future Total
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	1401	147	241	946	137	250	533	931	296	354	142
Future Volume (veh/h)	180	1401	147	241	946	137	250	533	931	296	354	142
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	189	1475	155	254	996	144	263	561	980	312	373	149
Adj No. of Lanes	2	3	1	2	3	1	2	2	2	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	1836	714	305	1934	766	310	984	775	356	1032	571
Arrive On Green	0.07	0.36	0.36	0.09	0.38	0.38	0.09	0.28	0.28	0.10	0.29	0.29
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	189	1475	155	254	996	144	263	561	980	312	373	149
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1770	1393	1721	1770	1583
Q Serve(g_s), s	8.7	41.8	9.5	11.6	24.1	8.3	12.0	21.8	44.5	14.3	13.4	10.6
Cycle Q Clear(g_c), s	8.7	41.8	9.5	11.6	24.1	8.3	12.0	21.8	44.5	14.3	13.4	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	1836	714	305	1934	766	310	984	775	356	1032	571
V/C Ratio(X)	0.79	0.80	0.22	0.83	0.51	0.19	0.85	0.57	1.26	0.88	0.36	0.26
Avail Cap(c_a), veh/h	495	1836	714	495	1934	766	398	984	775	398	1032	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.3	46.0	26.7	71.7	38.2	23.4	71.7	49.5	57.7	70.7	44.9	36.1
Incr Delay (d2), s/veh	3.9	2.5	0.5	6.4	1.0	0.5	12.9	0.8	129.2	17.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	20.0	4.3	5.8	11.5	3.7	6.3	10.8	31.1	7.7	6.6	4.7
LnGrp Delay(d),s/veh	77.2	48.5	27.2	78.2	39.2	24.0	84.6	50.3	187.0	88.7	45.1	36.3
LnGrp LOS	E	D	C	E	D	C	F	D	F	F	D	D
Approach Vol, veh/h	1819			1394			1804			834		
Approach Delay, s/veh	49.7			44.7			129.6			59.8		
Approach LOS	D			D			F			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.1	67.9	23.0	51.0	21.2	64.8	20.9	53.1				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	23.0	47.0	18.5	44.5	23.0	47.0	18.5	44.5				
Max Q Clear Time (g_c+I1), s	10.7	26.1	16.3	46.5	13.6	43.8	14.0	15.4				
Green Ext Time (p_c), s	0.4	7.0	0.2	0.0	0.6	2.5	0.4	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay	74.6											
HCM 2010 LOS	E											

Timings

6: Rock Island Road & Royal Palm Boulevard

AM Future Total

01/17/2019

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	139	1072	178	821	251	776	282	232	647	193
Future Volume (vph)	139	1072	178	821	251	776	282	232	647	193
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6	5	2	7	4		3	8	
Permitted Phases					4		4	8		8
Detector Phase	1	6	5	2	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	11.0	43.0	11.0	43.0	11.0	41.0	41.0	11.0	41.0	41.0
Total Split (s)	26.0	64.0	26.0	64.0	28.0	42.0	42.0	28.0	42.0	42.0
Total Split (%)	16.3%	40.0%	16.3%	40.0%	17.5%	26.3%	26.3%	17.5%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Max	Max	None	Max	Max
Act Effect Green (s)	16.3	59.2	18.8	61.7	58.8	38.1	38.1	57.2	37.2	37.2
Actuated g/C Ratio	0.10	0.37	0.12	0.39	0.37	0.24	0.24	0.36	0.23	0.23
v/c Ratio	0.81	1.14	0.90	0.78	0.92	0.97	0.57	0.91	0.83	0.44
Control Delay	101.1	116.6	110.0	48.2	77.8	84.2	24.3	82.1	68.1	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.1	116.6	110.0	48.2	77.8	84.2	24.3	82.1	68.1	24.3
LOS	F	F	F	D	E	F	C	F	E	C
Approach Delay		115.2		57.5		70.0			63.3	
Approach LOS		F		E		E			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 121 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 79.3

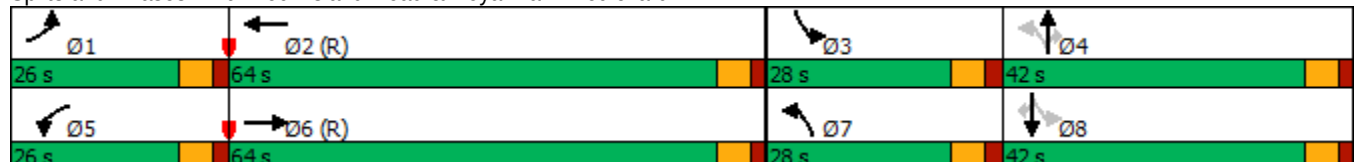
Intersection LOS: E

Intersection Capacity Utilization 103.9%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 6: Rock Island Road & Royal Palm Boulevard



HCM 2010 Signalized Intersection Summary
6: Rock Island Road & Royal Palm Boulevard

AM Future Total
01/17/2019

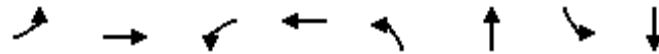
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	1072	315	178	821	177	251	776	282	232	647	193
Future Volume (veh/h)	139	1072	315	178	821	177	251	776	282	232	647	193
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	146	1128	332	187	864	186	264	817	297	244	681	203
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	1034	301	207	1173	253	294	807	361	264	796	356
Arrive On Green	0.09	0.38	0.38	0.12	0.40	0.40	0.13	0.23	0.23	0.12	0.22	0.22
Sat Flow, veh/h	1774	2707	787	1774	2898	624	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	146	733	727	187	527	523	264	817	297	244	681	203
Grp Sat Flow(s),veh/h/ln	1774	1770	1724	1774	1770	1753	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	13.0	61.1	61.1	16.7	40.4	40.5	18.1	36.5	28.5	17.7	29.5	18.2
Cycle Q Clear(g_c), s	13.0	61.1	61.1	16.7	40.4	40.5	18.1	36.5	28.5	17.7	29.5	18.2
Prop In Lane	1.00		0.46	1.00		0.36	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	676	659	207	716	710	294	807	361	264	796	356
V/C Ratio(X)	0.88	1.08	1.10	0.90	0.74	0.74	0.90	1.01	0.82	0.93	0.86	0.57
Avail Cap(c_a), veh/h	222	676	659	222	716	710	314	807	361	289	796	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	71.6	49.4	49.4	69.8	40.4	40.4	43.3	61.8	58.7	48.4	59.5	55.1
Incr Delay (d2), s/veh	20.7	59.5	67.2	32.9	6.6	6.7	24.6	34.8	18.7	27.3	9.5	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	41.0	41.4	10.0	21.1	20.9	10.8	21.7	14.4	12.6	15.5	8.5
LnGrp Delay(d),s/veh	92.3	108.9	116.6	102.7	47.0	47.1	67.9	96.6	77.4	75.7	69.0	60.5
LnGrp LOS	F	F	F	F	D	D	E	F	E	E	E	E
Approach Vol, veh/h	1606						1378		1128			
Approach Delay, s/veh	110.9						87.0		68.9			
Approach LOS	F						F		E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	70.8	25.7	42.5	24.7	67.1	26.2	42.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	58.0	22.0	36.0	20.0	58.0	22.0	36.0				
Max Q Clear Time (g_c+I1), s	15.0	42.5	19.7	38.5	18.7	63.1	20.1	31.5				
Green Ext Time (p_c), s	0.0	5.9	0.1	0.0	0.0	0.0	0.1	1.5				
Intersection Summary												
HCM 2010 Ctrl Delay	83.1											
HCM 2010 LOS	F											

Timings

AM Future Total

9: Holiday Springs Blvd/Woodside Drive & Sample Road

01/17/2019



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	113	1434	65	1332	123	31	253	62
Future Volume (vph)	113	1434	65	1332	123	31	253	62
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases					4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	12.0	25.0	11.0	24.0	11.0	24.0
Total Split (s)	18.0	50.0	18.0	50.0	15.0	25.0	15.0	25.0
Total Split (%)	16.7%	46.3%	16.7%	46.3%	13.9%	23.1%	13.9%	23.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	None	Max
Act Effect Green (s)	10.4	47.5	9.1	43.6	27.7	19.0	28.3	19.3
Actuated g/C Ratio	0.10	0.44	0.08	0.40	0.26	0.18	0.26	0.18
v/c Ratio	0.70	0.70	0.46	0.77	0.37	0.27	0.71	0.29
Control Delay	69.2	27.6	56.6	30.6	31.2	18.5	44.0	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	27.6	56.6	30.6	31.2	18.5	44.0	15.0
LOS	E	C	E	C	C	B	D	B
Approach Delay		30.5		31.7		25.8		31.6
Approach LOS		C		C		C		C

Intersection Summary

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 30.9

Intersection LOS: C

Intersection Capacity Utilization 76.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Holiday Springs Blvd/Woodside Drive & Sample Road

	Ø1		Ø2 (R)		Ø3		Ø4
18 s		50 s		15 s		25 s	
	Ø5		Ø6 (R)		Ø7		Ø8
18 s		50 s		15 s		25 s	

HCM 2010 Signalized Intersection Summary
 9: Holiday Springs Blvd/Woodside Drive & Sample Road

AM Future Total
 01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	1434	49	65	1332	148	123	31	59	253	62	128
Future Volume (veh/h)	113	1434	49	65	1332	148	123	31	59	253	62	128
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	119	1509	52	68	1402	156	129	33	62	266	65	135
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	2275	78	88	1939	216	328	102	192	378	325	291
Arrive On Green	0.08	0.45	0.45	0.05	0.42	0.42	0.08	0.18	0.18	0.08	0.18	0.18
Sat Flow, veh/h	1774	5048	174	1774	4645	517	1774	580	1090	1774	1770	1583
Grp Volume(v), veh/h	119	1013	548	68	1023	535	129	0	95	266	65	135
Grp Sat Flow(s),veh/h/ln	1774	1695	1832	1774	1695	1772	1774	0	1670	1774	1770	1583
Q Serve(g_s), s	7.1	25.3	25.3	4.1	27.2	27.2	6.3	0.0	5.4	9.0	3.4	8.2
Cycle Q Clear(g_c), s	7.1	25.3	25.3	4.1	27.2	27.2	6.3	0.0	5.4	9.0	3.4	8.2
Prop In Lane	1.00		0.09	1.00		0.29	1.00		0.65	1.00		1.00
Lane Grp Cap(c), veh/h	146	1527	825	88	1415	740	328	0	294	378	325	291
V/C Ratio(X)	0.81	0.66	0.66	0.78	0.72	0.72	0.39	0.00	0.32	0.70	0.20	0.46
Avail Cap(c_a), veh/h	181	1527	825	181	1415	740	341	0	294	378	325	291
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	23.3	23.3	50.7	26.2	26.2	32.9	0.0	38.9	37.2	37.4	39.4
Incr Delay (d2), s/veh	20.1	2.3	4.2	11.5	2.7	5.1	0.8	0.0	2.9	5.8	1.4	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	12.3	13.7	2.3	13.2	14.3	3.2	0.0	2.7	7.0	1.8	4.0
LnGrp Delay(d),s/veh	68.8	25.5	27.4	62.2	29.0	31.3	33.7	0.0	41.8	43.0	38.8	44.6
LnGrp LOS	E	C	C	E	C	C	C		D	D	D	D
Approach Vol, veh/h	1680			1626			224			466		
Approach Delay, s/veh	29.2			31.1			37.1			42.9		
Approach LOS	C			C			D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	52.1	15.0	25.0	12.3	55.7	14.2	25.8				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	11.0	43.0	9.0	19.0	11.0	43.0	9.0	19.0				
Max Q Clear Time (g_c+I1), s	9.1	29.2	11.0	7.4	6.1	27.3	8.3	10.2				
Green Ext Time (p_c), s	0.0	8.8	0.0	0.3	0.0	8.8	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	32.0											
HCM 2010 LOS	C											

Intersection												
Int Delay, s/veh	14.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱	↰		↱	↰	↱	↱	↰	↱	↰
Traffic Vol, veh/h	87	0	114	21	0	19	24	1082	3	6	883	29
Future Vol, veh/h	87	0	114	21	0	19	24	1082	3	6	883	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	92	0	120	22	0	20	25	1139	3	6	929	31

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1561	-	465	1666	-	570	960	0	0	1142	0	0
Stage 1	941	-	-	1189	-	-	-	-	-	-	-	-
Stage 2	620	-	-	477	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.94	7.54	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	3.32	3.52	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 76	0	544	63	0	465	712	-	-	608	-	-
Stage 1	283	0	-	199	0	-	-	-	-	-	-	-
Stage 2	442	0	-	538	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 70	-	544	47	-	465	712	-	-	608	-	-
Mov Cap-2 Maneuver	~ 70	-	-	47	-	-	-	-	-	-	-	-
Stage 1	273	-	-	192	-	-	-	-	-	-	-	-
Stage 2	408	-	-	415	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB
HCM Control Delay, s	143.2		78		0.2		0.1
HCM LOS	F		F				

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	712	-	-	70	544	47	465	608	-	-
HCM Lane V/C Ratio	0.035	-	-	1.308	0.221	0.47	0.043	0.01	-	-
HCM Control Delay (s)	10.2	-	-	\$ 313.1	13.5	136.8	13.1	11	-	-
HCM Lane LOS	B	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	7.4	0.8	1.7	0.1	0	-	-

Notes										
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon				

Timings
15: Rock Island Road & Holiday Springs Blvd

AM Future Total
01/17/2019

										
Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	24	4	220	1	53	1002	5	6	1083	19
Future Volume (vph)	24	4	220	1	53	1002	5	6	1083	19
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4		8	5	2			6	
Permitted Phases	4		4		2		2	6		6
Detector Phase	4	4	4	8	5	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	25.0	24.5	11.0	24.5	24.5	24.5	24.5	24.5
Total Split (s)	25.0	25.0	25.0	25.0	12.0	62.0	62.0	50.0	50.0	50.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	13.8%	71.3%	71.3%	57.5%	57.5%	57.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	6.0	6.0	6.5	6.5	6.5
Lead/Lag					Lead			Lag	Lag	Lag
Lead-Lag Optimize?					Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	9.7	9.7	9.7	9.7	64.8	64.8	64.8	54.3	54.3	54.3
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.74	0.74	0.74	0.62	0.62	0.62
v/c Ratio	0.16	0.02	0.70	0.01	0.16	0.40	0.00	0.02	0.52	0.02
Control Delay	34.8	31.0	21.7	26.5	4.8	5.0	0.0	9.8	11.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	31.0	21.7	26.5	4.8	5.0	0.0	9.8	11.7	0.1
LOS	C	C	C	C	A	A	A	A	B	A
Approach Delay		23.1		26.5		5.0			11.5	
Approach LOS		C		C		A			B	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 87

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 9.8

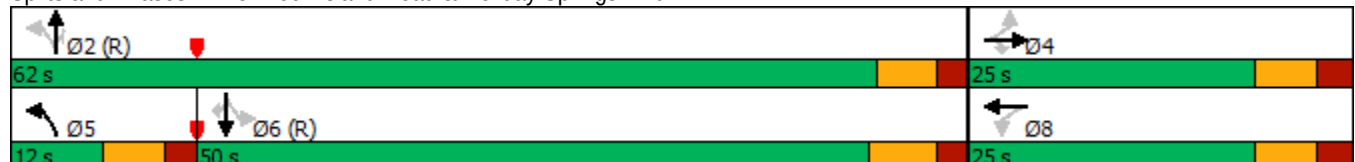
Intersection LOS: A

Intersection Capacity Utilization 57.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 15: Rock Island Road & Holiday Springs Blvd



HCM 2010 Signalized Intersection Summary
15: Rock Island Road & Holiday Springs Blvd

AM Future Total
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	4	220	0	1	1	53	1002	5	6	1083	19
Future Volume (veh/h)	24	4	220	0	1	1	53	1002	5	6	1083	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	25	4	232	0	1	1	56	1055	5	6	1140	20
Adj No. of Lanes	1	1	1	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	315	268	83	145	145	335	2412	1079	372	2017	902
Arrive On Green	0.17	0.17	0.17	0.00	0.17	0.17	0.04	0.68	0.68	0.57	0.57	0.57
Sat Flow, veh/h	1409	1863	1583	1140	856	856	1774	3539	1583	530	3539	1583
Grp Volume(v), veh/h	25	4	232	0	0	2	56	1055	5	6	1140	20
Grp Sat Flow(s),veh/h/ln	1409	1863	1583	1140	0	1712	1774	1770	1583	530	1770	1583
Q Serve(g_s), s	1.3	0.2	12.4	0.0	0.0	0.1	1.0	11.8	0.1	0.5	17.8	0.5
Cycle Q Clear(g_c), s	1.4	0.2	12.4	0.0	0.0	0.1	1.0	11.8	0.1	2.5	17.8	0.5
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	315	268	83	0	289	335	2412	1079	372	2017	902
V/C Ratio(X)	0.08	0.01	0.87	0.00	0.00	0.01	0.17	0.44	0.00	0.02	0.57	0.02
Avail Cap(c_a), veh/h	381	396	337	132	0	364	381	2412	1079	372	2017	902
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	0.22	0.22	0.22	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	30.1	35.2	0.0	0.0	30.1	8.5	6.3	4.4	9.1	11.9	8.1
Incr Delay (d2), s/veh	0.1	0.0	17.4	0.0	0.0	0.0	0.1	0.1	0.0	0.1	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	6.7	0.0	0.0	0.0	0.5	5.8	0.0	0.1	8.9	0.2
LnGrp Delay(d),s/veh	30.8	30.1	52.5	0.0	0.0	30.1	8.6	6.4	4.4	9.1	13.0	8.2
LnGrp LOS	C	C	D			C	A	A	A	A	B	A
Approach Vol, veh/h		261			2			1116			1166	
Approach Delay, s/veh		50.1			30.1			6.5			12.9	
Approach LOS		D			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		65.8		21.2	9.7	56.1		21.2				
Change Period (Y+Rc), s		* 6.5		6.5	6.0	6.5		6.5				
Max Green Setting (Gmax), s		* 56		18.5	6.0	43.5		18.5				
Max Q Clear Time (g_c+I1), s		13.8		14.4	3.0	19.8		2.1				
Green Ext Time (p_c), s		9.0		0.3	0.0	8.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			13.9									
HCM 2010 LOS			B									
Notes												

Timings

3: Rock Island Road & Sample Road

PM Future Total

01/17/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1319	265	511	1667	56	238	207	413	108	336	73
Future Volume (vph)	88	1319	265	511	1667	56	238	207	413	108	336	73
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	1	6	7	5	2	3	7	4		3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	7	5	2	3	7	4	4	3	8	1
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	6.0	6.0	5.0	6.0	5.0
Minimum Split (s)	12.0	47.0	12.0	12.0	47.0	11.5	12.0	48.5	48.5	11.5	48.5	12.0
Total Split (s)	30.0	54.0	25.0	30.0	54.0	25.0	25.0	51.0	51.0	25.0	51.0	30.0
Total Split (%)	18.8%	33.8%	15.6%	18.8%	33.8%	15.6%	15.6%	31.9%	31.9%	15.6%	31.9%	18.8%
Yellow Time (s)	5.0	5.0	4.5	5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.5	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5	7.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	9.7	59.7	83.1	35.5	85.5	103.2	16.3	27.1	27.1	10.7	21.4	37.6
Actuated g/C Ratio	0.06	0.37	0.52	0.22	0.53	0.64	0.10	0.17	0.17	0.07	0.13	0.24
v/c Ratio	0.45	0.73	0.31	0.71	0.65	0.06	0.72	0.36	0.52	0.50	0.75	0.18
Control Delay	79.0	46.8	12.0	63.5	29.0	1.8	81.3	59.9	6.8	79.2	76.6	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	46.8	12.0	63.5	29.0	1.8	81.3	59.9	6.8	79.2	76.6	11.1
LOS	E	D	B	E	C	A	F	E	A	E	E	B
Approach Delay		43.0			36.2			40.3			67.9	
Approach LOS		D			D			D			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 62 (39%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 42.1

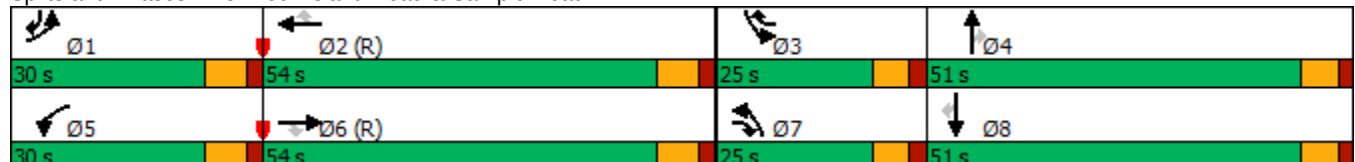
Intersection LOS: D

Intersection Capacity Utilization 78.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Rock Island Road & Sample Road



HCM 2010 Signalized Intersection Summary

3: Rock Island Road & Sample Road

PM Future Total
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	1319	265	511	1667	56	238	207	413	108	336	73
Future Volume (veh/h)	88	1319	265	511	1667	56	238	207	413	108	336	73
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	93	1388	279	538	1755	59	251	218	435	114	354	77
Adj No. of Lanes	2	3	1	2	3	1	2	2	2	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	2336	864	495	2865	965	298	644	507	159	501	287
Arrive On Green	0.04	0.46	0.46	0.14	0.56	0.56	0.09	0.18	0.18	0.05	0.14	0.14
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	3539	2787	3442	3539	1583
Grp Volume(v), veh/h	93	1388	279	538	1755	59	251	218	435	114	354	77
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1770	1393	1721	1770	1583
Q Serve(g_s), s	4.3	32.5	15.5	23.0	36.8	2.4	11.5	8.6	24.2	5.2	15.3	6.7
Cycle Q Clear(g_c), s	4.3	32.5	15.5	23.0	36.8	2.4	11.5	8.6	24.2	5.2	15.3	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	137	2336	864	495	2865	965	298	644	507	159	501	287
V/C Ratio(X)	0.68	0.59	0.32	1.09	0.61	0.06	0.84	0.34	0.86	0.72	0.71	0.27
Avail Cap(c_a), veh/h	495	2336	864	495	2865	965	398	984	775	398	984	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.45	0.45	0.45	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.8	32.2	20.0	68.5	23.3	12.7	72.0	57.1	63.4	75.3	65.5	56.4
Incr Delay (d2), s/veh	2.7	0.5	0.4	66.2	1.0	0.1	11.6	0.3	6.1	5.9	1.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	15.3	6.9	15.5	17.5	1.1	6.0	4.2	9.8	2.6	7.6	3.0
LnGrp Delay(d),s/veh	78.5	32.7	20.5	134.7	24.3	12.8	83.6	57.4	69.6	81.2	67.4	56.9
LnGrp LOS	E	C	C	F	C	B	F	E	E	F	E	E
Approach Vol, veh/h	1760		2352				904			545		
Approach Delay, s/veh	33.2		49.3				70.5			68.8		
Approach LOS	C		D				E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	97.1	13.9	35.6	30.0	80.5	20.4	29.1				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	23.0	47.0	18.5	44.5	23.0	47.0	18.5	44.5				
Max Q Clear Time (g_c+I1), s	6.3	38.8	7.2	26.2	25.0	34.5	13.5	17.3				
Green Ext Time (p_c), s	0.2	6.2	0.2	2.9	0.0	7.7	0.4	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			49.5									
HCM 2010 LOS			D									

Timings

6: Rock Island Road & Royal Palm Boulevard

PM Future Total

01/17/2019

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	222	980	213	1078	274	737	195	167	696	193
Future Volume (vph)	222	980	213	1078	274	737	195	167	696	193
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6	5	2	7	4		3	8	
Permitted Phases					4		4	8		8
Detector Phase	1	6	5	2	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	11.0	43.0	11.0	43.0	11.0	41.0	41.0	11.0	41.0	41.0
Total Split (s)	26.0	64.0	26.0	64.0	28.0	42.0	42.0	28.0	42.0	42.0
Total Split (%)	16.3%	40.0%	16.3%	40.0%	17.5%	26.3%	26.3%	17.5%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Max	Max	None	Max	Max
Act Effect Green (s)	20.0	58.0	20.0	58.0	62.3	42.4	42.4	51.6	36.0	36.0
Actuated g/C Ratio	0.12	0.36	0.12	0.36	0.39	0.26	0.26	0.32	0.22	0.22
v/c Ratio	1.06	1.03	1.01	1.08	1.00	0.83	0.39	0.77	0.92	0.46
Control Delay	141.1	80.8	131.2	96.9	101.2	64.1	19.7	56.5	78.0	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	141.1	80.8	131.2	96.9	101.2	64.1	19.7	56.5	78.0	26.8
LOS	F	F	F	F	F	E	B	E	E	C
Approach Delay		90.0		101.8		65.3			65.2	
Approach LOS		F		F		E			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 121 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 82.7

Intersection LOS: F

Intersection Capacity Utilization 103.4%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 6: Rock Island Road & Royal Palm Boulevard

			
Ø1	Ø2 (R)	Ø3	Ø4
26 s	64 s	28 s	42 s
			
Ø5	Ø6 (R)	Ø7	Ø8
26 s	64 s	28 s	42 s

HCM 2010 Signalized Intersection Summary
6: Rock Island Road & Royal Palm Boulevard

PM Future Total

01/17/2019

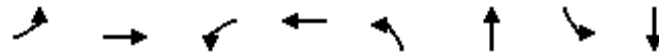
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	980	246	213	1078	216	274	737	195	167	696	193
Future Volume (veh/h)	222	980	246	213	1078	216	274	737	195	167	696	193
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	234	1032	259	224	1135	227	288	776	205	176	733	203
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	1018	254	222	1067	212	302	969	434	242	796	356
Arrive On Green	0.13	0.36	0.36	0.13	0.36	0.36	0.14	0.27	0.27	0.09	0.22	0.22
Sat Flow, veh/h	1774	2807	701	1774	2943	586	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	234	649	642	224	680	682	288	776	205	176	733	203
Grp Sat Flow(s),veh/h/ln	1774	1770	1739	1774	1770	1759	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	20.0	58.0	58.0	20.0	58.0	58.0	20.5	32.6	17.3	12.1	32.4	18.2
Cycle Q Clear(g_c), s	20.0	58.0	58.0	20.0	58.0	58.0	20.5	32.6	17.3	12.1	32.4	18.2
Prop In Lane	1.00		0.40	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	641	630	222	641	638	302	969	434	242	796	356
V/C Ratio(X)	1.06	1.01	1.02	1.01	1.06	1.07	0.95	0.80	0.47	0.73	0.92	0.57
Avail Cap(c_a), veh/h	222	641	630	222	641	638	302	969	434	329	796	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	70.0	51.0	51.0	70.0	51.0	51.0	45.9	54.0	48.4	44.6	60.6	55.1
Incr Delay (d2), s/veh	75.7	38.4	40.6	63.1	52.5	55.6	38.7	6.9	3.7	2.4	15.7	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	35.2	35.0	13.7	37.7	38.0	15.9	16.9	8.0	6.0	17.6	8.6
LnGrp Delay(d),s/veh	145.7	89.4	91.6	133.1	103.5	106.6	84.6	60.9	52.1	47.0	76.3	60.7
LnGrp LOS	F	F	F	F	F	F	F	E	D	D	E	E
Approach Vol, veh/h	1525				1586				1269			
Approach Delay, s/veh	99.0				109.0				64.9			
Approach LOS	F				F				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	64.0	20.2	49.8	26.0	64.0	28.0	42.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	58.0	22.0	36.0	20.0	58.0	22.0	36.0				
Max Q Clear Time (g_c+I1), s	22.0	60.0	14.1	34.6	22.0	60.0	22.5	34.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.6	0.0	0.0	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	87.9											
HCM 2010 LOS	F											

Timings

PM Future Total

9: Holiday Springs Blvd/Woodside Drive & Sample Road

01/17/2019



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	241	1474	149	1773	118	47	216	60
Future Volume (vph)	241	1474	149	1773	118	47	216	60
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases					4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	12.0	25.0	11.0	24.0	11.0	24.0
Total Split (s)	18.0	50.0	18.0	50.0	15.0	25.0	15.0	25.0
Total Split (%)	16.7%	46.3%	16.7%	46.3%	13.9%	23.1%	13.9%	23.1%
Yellow Time (s)	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	None	Max
Act Effect Green (s)	11.0	43.0	11.0	43.0	27.6	19.0	28.4	19.4
Actuated g/C Ratio	0.10	0.40	0.10	0.40	0.26	0.18	0.26	0.18
v/c Ratio	1.41	0.85	0.87	1.05	0.36	0.43	0.68	0.28
Control Delay	251.5	34.2	89.2	67.2	30.8	21.9	42.8	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	251.5	34.2	89.2	67.2	30.8	21.9	42.8	15.5
LOS	F	C	F	E	C	C	D	B
Approach Delay		62.4		68.7		25.8		30.5
Approach LOS		E		E		C		C

Intersection Summary

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.41

Intersection Signal Delay: 60.5

Intersection LOS: E

Intersection Capacity Utilization 95.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 9: Holiday Springs Blvd/Woodside Drive & Sample Road

	Ø1		Ø2 (R)		Ø3		Ø4
18 s		50 s		15 s		25 s	
	Ø5		Ø6 (R)		Ø7		Ø8
18 s		50 s		15 s		25 s	

HCM 2010 Signalized Intersection Summary
 9: Holiday Springs Blvd/Woodside Drive & Sample Road

PM Future Total
 01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	241	1474	143	149	1773	230	118	47	104	216	60	117
Future Volume (veh/h)	241	1474	143	149	1773	230	118	47	104	216	60	117
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	254	1552	151	157	1866	242	124	49	109	227	63	123
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	1877	182	181	1817	234	337	91	202	324	329	294
Arrive On Green	0.10	0.40	0.40	0.10	0.40	0.40	0.07	0.18	0.18	0.08	0.19	0.19
Sat Flow, veh/h	1774	4714	458	1774	4562	587	1774	515	1146	1774	1770	1583
Grp Volume(v), veh/h	254	1116	587	157	1383	725	124	0	158	227	63	123
Grp Sat Flow(s),veh/h/ln	1774	1695	1782	1774	1695	1759	1774	0	1661	1774	1770	1583
Q Serve(g_s), s	11.0	31.9	31.9	9.4	43.0	43.0	6.1	0.0	9.4	9.0	3.2	7.4
Cycle Q Clear(g_c), s	11.0	31.9	31.9	9.4	43.0	43.0	6.1	0.0	9.4	9.0	3.2	7.4
Prop In Lane	1.00		0.26	1.00		0.33	1.00		0.69	1.00		1.00
Lane Grp Cap(c), veh/h	181	1350	709	181	1350	700	337	0	292	324	329	294
V/C Ratio(X)	1.41	0.83	0.83	0.87	1.02	1.04	0.37	0.00	0.54	0.70	0.19	0.42
Avail Cap(c_a), veh/h	181	1350	709	181	1350	700	354	0	292	324	329	294
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.73	0.73	0.73	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	29.2	29.2	47.8	32.5	32.5	32.9	0.0	40.5	36.6	37.1	38.8
Incr Delay (d2), s/veh	212.3	5.9	10.7	26.4	27.3	38.6	0.7	0.0	7.0	6.6	1.3	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	16.0	17.8	5.9	25.2	28.3	3.0	0.0	4.9	6.1	1.7	3.6
LnGrp Delay(d),s/veh	260.8	35.1	39.9	74.2	59.8	71.1	33.6	0.0	47.5	43.2	38.4	43.1
LnGrp LOS	F	D	D	E	F	F	C		D	D	D	D
Approach Vol, veh/h	1957				2265				282		413	
Approach Delay, s/veh	65.8				64.4				41.4		42.4	
Approach LOS	E				E				D		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	50.0	15.0	25.0	18.0	50.0	13.9	26.1				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	11.0	43.0	9.0	19.0	11.0	43.0	9.0	19.0				
Max Q Clear Time (g_c+I1), s	13.0	45.0	11.0	11.4	11.4	33.9	8.1	9.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	6.4	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	61.8											
HCM 2010 LOS	E											

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	0	28	7	0	1	68	846	21	8	953	72
Future Vol, veh/h	28	0	28	7	0	1	68	846	21	8	953	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	0	29	7	0	1	72	891	22	8	1003	76

Major/Minor	Minor2		Minor1		Major1		Major2		Major2		Major2	
Conflicting Flow All	1609	-	502	1553	-	446	1079	0	0	913	0	0
Stage 1	1019	-	-	1035	-	-	-	-	-	-	-	-
Stage 2	590	-	-	518	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.94	7.54	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	3.32	3.52	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	70	0	515	77	0	560	642	-	-	742	-	-
Stage 1	254	0	-	248	0	-	-	-	-	-	-	-
Stage 2	461	0	-	509	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	63	-	515	66	-	560	642	-	-	742	-	-
Mov Cap-2 Maneuver	63	-	-	66	-	-	-	-	-	-	-	-
Stage 1	226	-	-	220	-	-	-	-	-	-	-	-
Stage 2	409	-	-	475	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	58.6		59.4		0.8		0.1	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	642	-	-	63	515	66	560	742	-	-
HCM Lane V/C Ratio	0.111	-	-	0.468	0.057	0.112	0.002	0.011	-	-
HCM Control Delay (s)	11.3	-	-	104.8	12.4	66.3	11.4	9.9	-	-
HCM Lane LOS	B	-	-	F	B	F	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	1.8	0.2	0.4	0	0	-	-

Timings

15: Rock Island Road & Holiday Springs Blvd

PM Future Total

01/17/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	18	2	117	15	1	146	1049	42	18	1031	66
Future Volume (vph)	18	2	117	15	1	146	1049	42	18	1031	66
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8	5	2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	5	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	25.0	24.5	24.5	11.0	24.5	24.5	24.5	24.5	24.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	12.0	62.0	62.0	50.0	50.0	50.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%	13.8%	71.3%	71.3%	57.5%	57.5%	57.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.0	6.0	6.0	6.5	6.5	6.5
Lead/Lag						Lead			Lag	Lag	Lag
Lead-Lag Optimize?						Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	7.2	7.2	7.2	7.2	7.2	67.3	67.3	67.3	53.3	53.3	53.3
Actuated g/C Ratio	0.08	0.08	0.08	0.08	0.08	0.77	0.77	0.77	0.61	0.61	0.61
v/c Ratio	0.17	0.01	0.50	0.14	0.10	0.38	0.40	0.04	0.06	0.50	0.07
Control Delay	39.2	35.0	14.8	38.3	20.2	5.5	3.9	1.0	8.8	10.9	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	35.0	14.8	38.3	20.2	5.5	3.9	1.0	8.8	10.9	0.6
LOS	D	C	B	D	C	A	A	A	A	B	A
Approach Delay		18.3			29.9		4.0			10.3	
Approach LOS		B			C		A			B	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 87

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 7.9

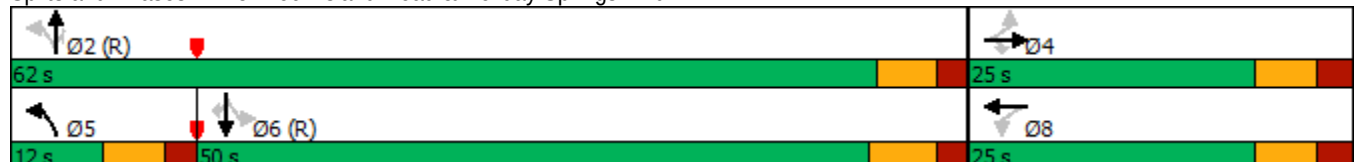
Intersection LOS: A

Intersection Capacity Utilization 60.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 15: Rock Island Road & Holiday Springs Blvd



HCM 2010 Signalized Intersection Summary
15: Rock Island Road & Holiday Springs Blvd

PM Future Total
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	2	117	15	1	12	146	1049	42	18	1031	66
Future Volume (veh/h)	18	2	117	15	1	12	146	1049	42	18	1031	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	19	2	123	16	1	13	154	1104	44	19	1085	69
Adj No. of Lanes	1	1	1	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	187	159	208	11	149	405	2655	1188	388	2213	990
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.06	0.75	0.75	0.63	0.63	0.63
Sat Flow, veh/h	1394	1863	1583	1261	114	1486	1774	3539	1583	488	3539	1583
Grp Volume(v), veh/h	19	2	123	16	0	14	154	1104	44	19	1085	69
Grp Sat Flow(s),veh/h/ln	1394	1863	1583	1261	0	1600	1774	1770	1583	488	1770	1583
Q Serve(g_s), s	1.1	0.1	6.6	1.0	0.0	0.7	2.4	9.9	0.6	1.3	14.4	1.5
Cycle Q Clear(g_c), s	1.8	0.1	6.6	1.1	0.0	0.7	2.4	9.9	0.6	1.3	14.4	1.5
Prop In Lane	1.00		1.00	1.00		0.93	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	187	159	208	0	161	405	2655	1188	388	2213	990
V/C Ratio(X)	0.09	0.01	0.77	0.08	0.00	0.09	0.38	0.42	0.04	0.05	0.49	0.07
Avail Cap(c_a), veh/h	368	396	337	350	0	340	428	2655	1188	388	2213	990
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.35	0.35	0.35	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	35.2	38.2	35.7	0.0	35.5	6.4	3.9	2.8	6.4	8.8	6.4
Incr Delay (d2), s/veh	0.2	0.0	7.8	0.2	0.0	0.2	0.2	0.2	0.0	0.2	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.2	0.4	0.0	0.3	1.2	4.8	0.3	0.2	7.2	0.7
LnGrp Delay(d),s/veh	36.5	35.3	46.0	35.9	0.0	35.8	6.6	4.1	2.8	6.6	9.6	6.5
LnGrp LOS	D	D	D	D		D	A	A	A	A	A	A
Approach Vol, veh/h		144			30			1302			1173	
Approach Delay, s/veh		44.6			35.8			4.4			9.4	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		71.8		15.2	10.9	60.9		15.2				
Change Period (Y+Rc), s		* 6.5		6.5	6.0	6.5		6.5				
Max Green Setting (Gmax), s		* 56		18.5	6.0	43.5		18.5				
Max Q Clear Time (g_c+I1), s		11.9		8.6	4.4	16.4		3.1				
Green Ext Time (p_c), s		9.9		0.3	0.1	9.0		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			9.1									
HCM 2010 LOS			A									
Notes												

Timings 6: Rock Island Road & Royal Palm Boulevard

AM Future Total Proposed Geometry

01/17/2019

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	139	1072	178	821	251	776	282	232	647	193
Future Volume (vph)	139	1072	178	821	251	776	282	232	647	193
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6	5	2	7	4		3	8	
Permitted Phases					4		4	8		8
Detector Phase	1	6	5	2	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	11.0	43.0	11.0	43.0	11.0	41.0	41.0	11.0	41.0	41.0
Total Split (s)	26.0	64.0	26.0	64.0	28.0	42.0	42.0	28.0	42.0	42.0
Total Split (%)	16.3%	40.0%	16.3%	40.0%	17.5%	26.3%	26.3%	17.5%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Max	Max	None	Max	Max
Act Effect Green (s)	10.7	65.4	12.6	67.3	58.8	38.1	38.1	57.2	37.2	37.2
Actuated g/C Ratio	0.07	0.41	0.08	0.42	0.37	0.24	0.24	0.36	0.23	0.23
v/c Ratio	0.64	1.03	0.69	0.72	0.92	0.97	0.57	0.91	0.83	0.44
Control Delay	85.2	77.7	85.1	41.6	77.8	84.2	24.3	82.1	68.1	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.2	77.7	85.1	41.6	77.8	84.2	24.3	82.1	68.1	24.3
LOS	F	E	F	D	E	F	C	F	E	C
Approach Delay		78.3		48.2		70.0			63.3	
Approach LOS		E		D		E			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 121 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 66.0

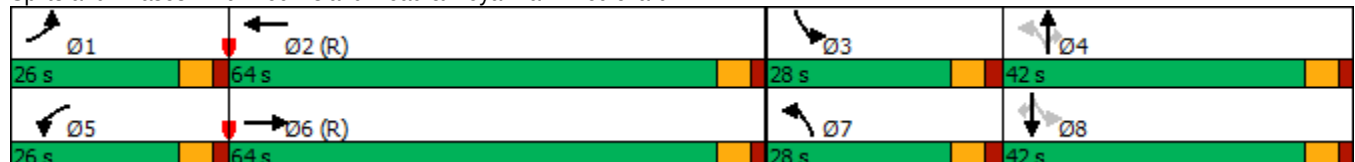
Intersection LOS: E

Intersection Capacity Utilization 99.1%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 6: Rock Island Road & Royal Palm Boulevard



HCM 2010 Signalized Intersection Summary
6: Rock Island Road & Royal Palm Boulevard

AM Future Total Proposed Geometry

01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 			 			 	
Traffic Volume (veh/h)	139	1072	315	178	821	177	251	776	282	232	647	193
Future Volume (veh/h)	139	1072	315	178	821	177	251	776	282	232	647	193
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	146	1128	332	187	864	186	264	817	297	244	681	203
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	1169	340	231	1286	277	294	807	361	264	796	356
Arrive On Green	0.05	0.43	0.43	0.07	0.44	0.44	0.13	0.23	0.23	0.12	0.22	0.22
Sat Flow, veh/h	3442	2707	787	3442	2898	624	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	146	733	727	187	527	523	264	817	297	244	681	203
Grp Sat Flow(s),veh/h/ln	1721	1770	1724	1721	1770	1753	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.7	64.2	66.4	8.6	37.8	37.8	18.1	36.5	28.5	17.7	29.5	18.2
Cycle Q Clear(g_c), s	6.7	64.2	66.4	8.6	37.8	37.8	18.1	36.5	28.5	17.7	29.5	18.2
Prop In Lane	1.00		0.46	1.00		0.36	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	764	744	231	785	778	294	807	361	264	796	356
V/C Ratio(X)	0.77	0.96	0.98	0.81	0.67	0.67	0.90	1.01	0.82	0.93	0.86	0.57
Avail Cap(c_a), veh/h	430	764	744	430	785	778	314	807	361	289	796	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	74.6	44.1	44.7	73.6	35.3	35.3	43.3	61.8	58.7	48.4	59.5	55.1
Incr Delay (d2), s/veh	2.5	24.0	27.9	2.6	4.5	4.6	24.6	34.8	18.7	27.3	9.5	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	36.4	37.3	4.2	19.5	19.3	10.8	21.7	14.3	12.6	15.5	8.5
LnGrp Delay(d),s/veh	77.1	68.0	72.6	76.2	39.8	39.9	67.9	96.6	77.4	75.7	69.0	60.5
LnGrp LOS	E	E	E	E	D	D	E	F	E	E	E	E
Approach Vol, veh/h	1606						1378		1128			
Approach Delay, s/veh	70.9						87.0		68.9			
Approach LOS	E						F		E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	77.0	25.7	42.5	16.7	75.1	26.2	42.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	58.0	22.0	36.0	20.0	58.0	22.0	36.0				
Max Q Clear Time (g_c+l1), s	8.7	39.8	19.7	38.5	10.6	68.4	20.1	31.5				
Green Ext Time (p_c), s	0.1	6.3	0.1	0.0	0.1	0.0	0.1	1.5				
Intersection Summary												
HCM 2010 Ctrl Delay	68.7											
HCM 2010 LOS	E											

Timings

PM Future Total Proposed Geometry

6: Rock Island Road & Royal Palm Boulevard

01/17/2019

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	222	980	213	1078	274	737	195	167	696	193
Future Volume (vph)	222	980	213	1078	274	737	195	167	696	193
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6	5	2	7	4		3	8	
Permitted Phases					4		4	8		8
Detector Phase	1	6	5	2	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	11.0	43.0	11.0	43.0	11.0	41.0	41.0	11.0	41.0	41.0
Total Split (s)	26.0	64.0	26.0	64.0	28.0	42.0	42.0	28.0	42.0	42.0
Total Split (%)	16.3%	40.0%	16.3%	40.0%	17.5%	26.3%	26.3%	17.5%	26.3%	26.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Max	Max	None	Max	Max
Act Effect Green (s)	14.8	63.7	14.3	63.2	62.3	42.4	42.4	51.6	36.0	36.0
Actuated g/C Ratio	0.09	0.40	0.09	0.40	0.39	0.26	0.26	0.32	0.22	0.22
v/c Ratio	0.74	0.94	0.73	0.99	1.00	0.83	0.39	0.77	0.92	0.46
Control Delay	84.7	58.5	84.9	69.4	101.2	64.1	19.7	56.5	78.0	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.7	58.5	84.9	69.4	101.2	64.1	19.7	56.5	78.0	26.8
LOS	F	E	F	E	F	E	B	E	E	C
Approach Delay		62.5		71.6		65.3			65.2	
Approach LOS		E		E		E			E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 121 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 66.3

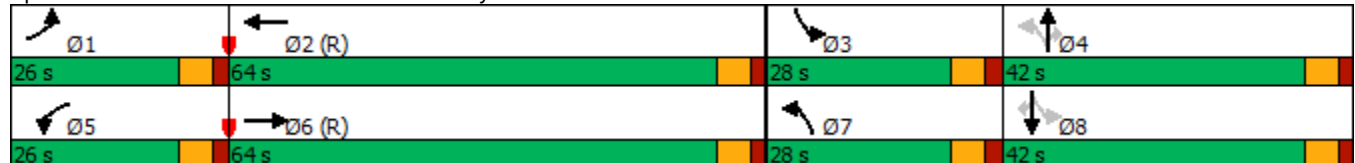
Intersection LOS: E

Intersection Capacity Utilization 97.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 6: Rock Island Road & Royal Palm Boulevard



HCM 2010 Signalized Intersection Summary
6: Rock Island Road & Royal Palm Boulevard

PM Future Total Proposed Geometry

01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	980	246	213	1078	216	274	737	195	167	696	193
Future Volume (veh/h)	222	980	246	213	1078	216	274	737	195	167	696	193
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	234	1032	259	224	1135	227	288	776	205	176	733	203
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	1150	287	267	1198	238	302	969	434	242	796	356
Arrive On Green	0.08	0.41	0.41	0.08	0.41	0.41	0.14	0.27	0.27	0.09	0.22	0.22
Sat Flow, veh/h	3442	2807	701	3442	2943	586	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	234	649	642	224	680	682	288	776	205	176	733	203
Grp Sat Flow(s),veh/h/ln	1721	1770	1739	1721	1770	1759	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	10.7	54.7	55.3	10.3	59.2	60.1	20.5	32.6	17.3	12.1	32.4	18.2
Cycle Q Clear(g_c), s	10.7	54.7	55.3	10.3	59.2	60.1	20.5	32.6	17.3	12.1	32.4	18.2
Prop In Lane	1.00		0.40	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	725	713	267	720	716	302	969	434	242	796	356
V/C Ratio(X)	0.84	0.89	0.90	0.84	0.94	0.95	0.95	0.80	0.47	0.73	0.92	0.57
Avail Cap(c_a), veh/h	430	725	713	430	720	716	302	969	434	329	796	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	72.6	44.0	44.2	72.8	45.7	46.0	45.9	54.0	48.4	44.6	60.6	55.1
Incr Delay (d2), s/veh	5.2	15.8	16.7	3.9	22.4	23.9	38.7	6.9	3.7	2.4	15.7	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	29.9	29.9	5.0	33.4	33.9	15.9	16.9	8.0	6.0	17.6	8.6
LnGrp Delay(d),s/veh	77.8	59.8	60.9	76.7	68.1	69.8	84.6	60.9	52.1	47.0	76.3	60.7
LnGrp LOS	E	E	E	E	E	E	F	E	D	D	E	E
Approach Vol, veh/h		1525			1586			1269			1112	
Approach Delay, s/veh		63.0			70.1			64.9			68.8	
Approach LOS		E			E			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	71.1	20.2	49.8	18.4	71.6	28.0	42.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	58.0	22.0	36.0	20.0	58.0	22.0	36.0				
Max Q Clear Time (g_c+I1), s	12.7	62.1	14.1	34.6	12.3	57.3	22.5	34.4				
Green Ext Time (p_c), s	0.2	0.0	0.1	0.6	0.2	0.5	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				66.7								
HCM 2010 LOS				E								



City Commission

Mayor Anthony N. Caggiano

Vice Mayor Tommy Ruzzano

Antonio Arserio

Arlene R. Schwartz

Joanne Simone

City Manager

Samuel A. May

Interim City Attorney

Goren, Cherof,
Doody & Ezrol, P.A.

City Clerk

Joseph J. Kavanagh

Date: January 31, 2019

To: Justine A. Leonor, E.I.
Thomas Engineering Group.
6300 NW 31st Avenue
Fort Lauderdale, FL 33309

RE: Land Use Plan Amendment (Letter of Verification)

Dear Ms. Leonor:

In response to your request for a letter of verification:

The current plant capacity is 13.5 MGD; the plant has a current demand of approximately AVG 5.088 MGD AND 6.200 MGD Max for the year 2018. At this time I'm not aware of any future committed demand on the Water treatment plant.

Sincerely,

Richard M Uber
Water Plant Manager

cc: Richard Nixon, DEES Director

Department of Environmental and Engineering Services (DEES)

901 NW 66th Avenue, Suite A, Margate, FL 33063 • Phone: (954) 972-0828 • Fax: (954) 978-7349

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City Commission

Mayor Anthony N. Caggiano
Vice Mayor Tommy Ruzzano
Antonio Arserio
Arlene R. Schwartz
Joanne Simone

City Manager

Samuel A. May

Interim City Attorney

Goren, Cherof,
Doody & Ezrol, P.A.

City Clerk

Joseph J. Kavanagh

January 31, 2019

Ms. Justine A. Leonor, E.I.
Thomas Engineering Group
6300 NW 31st Avenue
Fort Lauderdale, FL 33309

RE: Land Use Plan Amendment (Letter of Verification)

Dear Ms. Leonor:

In response to your request for a letter of verification; regarding the City of Margate's Wastewater plant capacity. At this time the design capacity for the plants is a combined 12.1 MGD (West-10.1 MGD and East-2.1 MGD). The FDEP permitted capacity is 10.1 MGD three month average daily flow (TMADF): West-7.9 MGD and East- 2.2 MGD. The current influent flow based on the TMADF for the months of October, November, and December 2018 was 6.519 MGD. At this time I'm not aware of any future committed demand on the Wastewater treatment system.

Sincerely,

Wendell O. Wheeler
Wastewater Plant Manager

cc: Richard Nixon, DEES Director

Department of Environmental and Engineering Services (DEES)

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January 17, 2019

Justine Leonor
Thomas Engineering Group
6300 NW 31st Avenue
Fort Lauderdale, FL 33309

Justine,

Wheelabrator South Broward has an agreement with the City of Margate to process all of their municipal solid waste. We have ample capacity to process of the city's current municipal solid waste as well as any solid waste to be generated by any future development projects. If you have further questions please feel free to contact me.

A handwritten signature in dark ink, appearing to read "Yareli B. Rivera", is written over the printed name and title.

Yareli B Rivera, On behalf of Bob Hely, Market Place Manager
Operations Specialist
Wheelabrator South Broward

PARK NAME	GROSS ACREAGE
Holiday Springs Rec Facility	7.526
Peninsula at Coral Bay	1.062
Kaye Stevens Park	3.721
Centennial Park	5.296
Calypso Cove at Royal Palm Park	4.589
Paradise Gardens 2 Rec Facility	1.19
Paradise Gardens 3 Rec Facility	2.312
David Park	6.901
Margate Middle School (Parks)	13.666
Southgate Park	1.845
Southeast Park	11.117
Oakland Hills Rec Facility	3.259
Serino Park	1.715
Lakewood on the Green Rec Facility	3.051
Coral Gate Park	4.591
Winfield Park	2.327
Paradise Gardens 1 Rec Facility	2.344
The Laurels Rec Facility	0.798
Vinson Park	7.744
Coral Cay Rec Facility	6.669
Margate Elementary (Park)	0.921
Paradise Gardens 4 Rec Facility	3.537
Townhomes of Oriole Rec Facility	1.23
Firefighters Park	11.842
North and South Bay Park (less wetlands)	7.529
Oriole Park/Margate Marina	17.319
Margate Sports Complex	12.036
Legacy Park	0.338
Greenwald Park	0.129
TOTAL	146.604

GOLF COURSE NAME	GROSS ACREAGE
Carolina (18 holes)	151.822
Oriole - Margate (18 holes)	126.248
Oriole - Executive (9 holes)	21.3
Palm Lakes (9 holes) [closed]	18.1
TOTAL	317.47

PRIVATE RECREATIONAL AREA	GROSS ACREAGE
Merrick Rec Area	0.167
Monte Carlo Rec Area	0.487
Aztec Rec Area	4.388
Coconut Key Rec Area	0.6
Colonies West Rec Area	3.284
Colonies East Rec Area	2.53
The Courtyards Rec Area	0.974
Coral Gate Rec Area	3.759
The Falls Rec Area	1.007
Holiday Springs Rec Area	6.432
The Lakes Rec Area	1.051
Lakewood on the Green Rec Area	3.69

RECERTIFIED: 1-27-11
EFFECTIVE: 1-27-11

RECERTIFIED: 12-9-10
EFFECTIVE: 12-9-10

The Laurels Rec Area	0.963
Oakland Hills Rec Area	2.515
Palm Lakes Rec Area	0.68
Royal Park Gardens Rec Area	2.831
Woodlake Isles Rec Area	1.014
TOTAL	36.372

CONSERVATION AREAS	GROSS ACREAGE
Juniper Glenn Wetlands	1.05
A.L. Wetlands	1.54
Merrick Preserve Wetlands	7.995
South Bay Park Wetlands	1.692
Fern Forest	24.602
Newth Plat Wetlands	1.23
TOTAL	38.109

LEVEL OF SERVICE DETERMINATION: PARKS AND RECREATION - 2025 FORECAST			
TYPE OF FACILITY	TOTAL ACREAGE	%	AC. APPLIED
Community, local, mini parks	146.604	100%	146.604
Golf Courses	317.47	15%	27.515
Private Recreational Facilities	36.372	100%	36.372
Conservation Areas	38.109	100%	38.109
		TOTAL	248.600

Estimated 2010 Population (52,995) x 3 ac/1,000 pop. = 158.985 acres (surplus of 109.72 acres)

Forecast 2015 Population (55,171) x 3 ac/1,000 pop. = 165.513 acres (surplus of 103.19 acres)

Forecast 2020 Population (57,838) x 3 ac/1,000 pop. = 173.514 acres (surplus of 95.19 acres)

Forecast 2025 Population (61,146) x 3 ac/1,000 pop. = 183.438 acres (surplus of 85.268 acres)

15% of total level of service requirements may be achieved by golf courses. Therefore 15% of the projected 183.438 acres required in 2025, equaling 27.5157 is used in the above table.