

4800 Ashford Dunwoody Road Dunwoody, GA 30346 Phone: (678) 382-6800 Dunwoodyga.gov

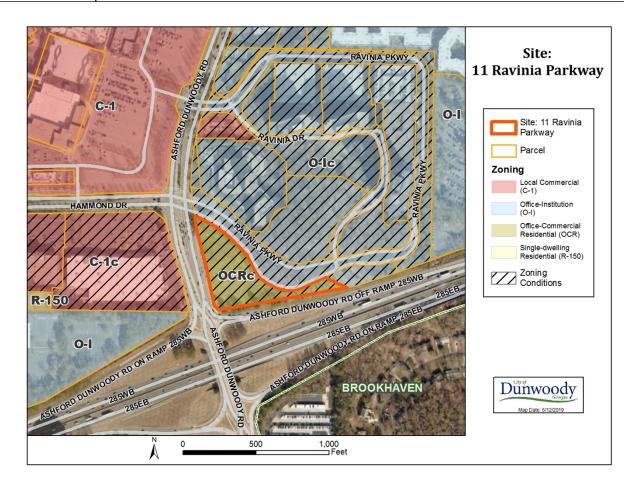
#### **MEMORANDUM**

To: City Council

From: John Olson, AICP

Date: September 9, 2019

**Subject:** Alex Brock, attorney for the owner, on behalf of GMC Real Estate Acquisitions, LLC, Atlanta, GA 30338 seeks to rezone the property, located at 11 Ravinia Parkway, from its current OCR (Office, Commercial, Residential) District conditional zoning classification to a PC-2 (Perimeter Center) District. The tax parcel number for the site is 18 347 01 049.





#### BACKGROUND

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The subject property in question is located along the northeast intersection of Ashford Dunwoody Road and Interstate 285. The property consists of approximately 3.45 acres of undeveloped land, mainly composed of an open grassy knoll along the center of the site, and several trees along the perimeter. The property is bounded by a private road known as Ravinia Parkway to the north and east, Ashford Dunwoody Road to the west, and an off-ramp of westbound Interstate I-285 to the south.

In 2004, the site was altered from Office-Institution Conditional (O-Ic) District to an Office-Commercial-Residential Conditional (OCRc) District. The site plan and conditions of this case permits a 37,000 square foot retail and commercial development. Pursuant to the City of Dunwoody Zoning Ordinance, the subject application seeks a rezoning of the 3.45 acres of land from OCRc District to a Perimeter Center (PC-2) District.

An applicant initiated community meeting was held on Monday, June 3, 2019 in which the applicant presented the application. There were approximately fifteen (15) people in attendance, and the meeting was broadcast to approximately 1,000 people via a Facebook live feed. In response to the meeting, the applicant has provided a communication summary report, which is included within the rezoning application packet attached to this report.

#### SITE PLAN ANALYSIS

The project will be developed with a 275 key hotel, 12,500 square feet of retail shops, 30,000 square feet of restaurants, a parking deck, and streetscape amenities. More specifically, a 10,500 square foot, one-story restaurant and plaza area is proposed along the northern tip of the site, near the intersection of Ashford Dunwoody Road and Ravinia Parkway. There is valet drop-off along the southwest side of the building and a small, pervious, 16-space surface parking area to the west of the building. Along the southern portion, there are three (3) proposed buildings: a one to two-story retail/restaurant building fronting Ashford Dunwoody, a one to two-story retail/restaurant building fronting I-285, and an 8-story hotel with a two story restaurant/retail fronting Ravinia Parkway. Much of parking for the development will be built behind the buildings within the existing elevation of land. This design allows for the placement of two 107-space parking levels below grade. Due to the subterranean design, most parking will remain hidden, and therefore be out of view from I-285 and Ashford Dunwoody Road. Access into the development will be achieved via a full access intersection that will be constructed behind the corner restaurant building, along Ravinia Parkway. Additionally, the hotel will have a right-in and right-out (RIRO) hotel drop-off and pick-up, and RIRO truck service driveway, along the south side of Ravinia Parkway. Review of the submitted site plan indicates that an open storm water detention facility is proposed within the eastern panhandle of the site. During the preapplication review, city staff discussed the possibility of placing the stormwater treatment under the developed area of the site; however, considering that the topography directs most of the site's water to the east, it appears that some storm water detention may have to remain within the eastern panhandle of the site. It shall be noted that regardless of what happens with the future development of the site, the trees surrounding the proposed detention area will likely be cleared for the state's future express lanes on I-285.

To achieve the desired urban form of shopfront buildings, retail and restaurant fronts are designed in proximity to their adjoining street frontages. The submitted building elevations



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indicate that the prominent building materials will include brick and stone. In addition, all buildings will have three-dimensional architecture and outdoor dining areas. In regards to streetscapes, the Ashford Dunwoody Road frontage incorporates an 8-foot street buffer, 8-foot sidewalk, and minimum 3-foot buffer; and at Ravinia Parkway, the frontage incorporates a 6-foot street buffer and 6-foot sidewalk terminating at the proposed hotel. As a major parkway frontage, the Perimeter Center Overlay requires 34-feet of parkway frontage along Ashford Dunwoody Road; and as a secondary street, the overlay requires 20 feet of frontage along Ravinia Parkway. However, measurements of the proposed frontages indicate that there is insufficient frontage widths along both streets, as there is approximately 21-feet of streetscape frontage along Ashford Dunwoody Road Parkway. Due to inadequate widths, the proposed streetscaping design will require approval of a special administrative permit per procedures listed in Article V, Division 7.

The submitted tree removal plan indicates that 68 trees, including 14 specimen trees will be removed on the site, with the majority of the tree removal occurring in the area of the proposed open storm water detention facility in the eastern panhandle of the site. Six large oak trees will be preserved near the corner of Ashford Dunwoody Road and Ravinia Parkway but 14 mature oaks are proposed to be removed due to their placement 20 feet or more from the back of curb along the Ravinia Parkway frontage. In response to the street tree removal, staff has added condition 8 which states that the owner shall plant a row of single-stemmed hardwood trees a minimum 4 inch caliber at intervals no more than 50 feet. Also, due to intersection improvements, 100 feet of median will be removed within the Ravinia Parkway right-of-way; as a result, five (5) maple trees, ranging in size 11 to 18 inches will be removed.

The southern border of the site is immediately adjacent to the planned "westside connector" road. The current concept plan for the road calls for a grade separated ramp that provides access between I-285 to Perimeter Center Parkway. It shall be emphasized that this project remains an important component in mitigating congestion on Ashford Dunwoody Road at I-285 and at Hammond Drive, as studies have demonstrated that it will remove approximately 700 vehicles from this area during peak traffic hours. Still, a funding source has not been determined so the construction timeframe is not known. In reviewing the proposed west side connector, there appears to be some conflict with the road alignment and the detention of the project site. In response, Public Works has met with GDOT to explore options to minimize impacts on the site. At this time it appears that the only potential solution is to pursue adding the road onto the proposed bridge structure for GDOT's top end 285 managed lanes project. This particular option would move the alignment off the part of the Ravinia development where buildings are planned. Because the road does not include a shared use path, condition 12 states the Owner shall remove a southbound left turn lane on Ashford Dunwoody Road at Hammond and expand the pedestrian refuge island on the north side of the intersection. Finally, the traffic study recommends that a northbound right turn lane be added independent of development along the portion of Ashford Dunwoody Road that borders the site. To accommodate this improvement in the future, the applicant has agreed to dedicate additional right-of-way up to the face of the wall as shown on Exhibit A. At such time the city constructs the additional lane, the landscape buffer would be reduced from 8 feet to 6 feet and the sidewalk would be reduced from 8 feet to 7 feet directly adjacent to the wall.

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**Community Development** 

#### SURROUNDING LAND USE

There is a 42-acre office development known as Ravinia to the northeast of the subject site. Zoned Office-Institutional (O-I), this development incorporates 1.6 million square feet of office space within three office buildings, and a 500-room hotel. Immediately across Ashford Dunwoody Road to the west of the subject property lies Commercial (C-1) zoning districts that include the Perimeter Mall and several strip mall shopping centers.

The table below summarizes all of the nearby zoning districts and land uses:

| Direction | Zoning | Future Land Use            | Current Land Use                             |
|-----------|--------|----------------------------|----------------------------------------------|
| Ν         | O-I    | Perimeter Center<br>(PC-2) | Ravinia (Office<br>and Hotel)                |
| S         | N/A    | N/A                        | The area south of site consists of I-<br>285 |
| E         | O-I    | Perimeter Center<br>(PC-2) | Ravinia (Office)                             |
| W         | C-1    | Perimeter Center<br>(PC-1) | Retail                                       |

#### **REVIEW AND APPROVAL CRITERIA**

In accordance with Georgia and local law, the following review and approval criteria shall be used in reviewing the respective amendment applications:

#### Section 27-335. Review and approval criteria.

- b. *Zoning Map Amendments.* The following review and approval criteria must be used in reviewing and taking action on all zoning map amendments:
- 1. Whether the zoning proposal is in conformity with the policy and intent of the comprehensive plan;

The future land use map identified in the"2015-2035 Comprehensive Plan" (Plan) envisions the Perimeter Center as a livable regional center with a mix of housing, first-class office, and retail in an environment that includes pedestrian and bicycle-oriented amenities. Equally as important, figure 27-104-1 explicitly identifies the site as an intended PC-2 District. Based on the aforementioned information, a request to rezone the site to a PC-2 to allow a mix of retail and restaurant uses, and hotel, would appear to be consistent with the Plan.

2. Whether the zoning proposal will permit a use that is suitable in view of the use and development of adjacent and nearby properties; The proposed hotel and retail uses on the site remain compatible when compared with adjacent higher intensity land uses, including the Perimeter Mall, which has nearly 1.6 million square feet of restaurant/retail floor area; and the Ravinia complex, which contains a 500-room hotel and 1.6 million square feet of office space.



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3. Whether the property to be affected by the zoning proposal has a reasonable economic use as currently zoned;

The subject lot has a reasonable economic use currently zoned as OCRc, which under a 2004 approval allows up to 37,000 square feet of retail and commercial development, and limits the height to two (2) stories or less. Approving the site for 42,000 square feet of retail/restaurants and a hotel up to 8 stories would effectively upzone the property to align with the Comprehensive Plan and intended PC Districts. Overall, the request will result in a greater economic use for the property.

- 4. Whether the zoning proposal will adversely affect the existing use or usability of adjacent or nearby property; The area surrounding the site consists of commercial and office uses with similar and higher intensities of development. From a land use perspective, it appears that the development will not adversely affect the use or usability of adjacent of nearby property.
- 5. Whether there are other existing or changing conditions affecting the use and development of the property that provide supporting grounds for either approval or disapproval of the zoning proposal;

The Perimeter Center Overlay and Perimeter Center Districts were approved in May 2016. Since this time the area has seen an increase in new zoning and development approvals that have shifted the focus away from suburban office and commercial development to urban, mixed use development. In addition, the urban design has been focused mainly on placing buildings with active uses near the street and hiding parking in the rear. Street frontages have also been designed with wider sidewalks, bicycle facilities, and street trees. Based on the changing conditions, it appears that the applicant's request to develop a mixed-use, urban development with active streetscapes aligns with these trends, which provides supporting grounds for approval.

6. Whether the zoning proposal will adversely affect historic buildings, sites, districts, or archaeological resources;

The site is currently a vacant, undeveloped parcel, therefore, the zoning proposal should not adversely affect any historic buildings, sites, districts, or archaeological resources.

7. Whether the zoning proposal will result in a use that will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools. *The addition of 42,500 square feet of restaurant/retail space and an 8-story hotel is anticipated to add additional traffic to an already heavily congested intersection. Based on information within the traffic study, the applicant has agreed to dedicate additional right-of-way along Ashford Dunwoody Road. As previously noted, this project does not include a residential component, so it will not have any impact on area schools.* 



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#### SUMMARY OF PLANNING COMMISSION

Planning Commission held a public hearing regarding the case on July 11, 2019 and no one from the public spoke in favor or opposition of the development. Following discussions, Commissioner Price motioned to approve the case incorporating staff conditions with the following additional recommendations:

- 1. There shall be no minimum parking requirement for the development;
- 2. The owner shall incorporate a pedestrian crossing facility across Ravinia Parkway near the vehicular access drive into the development; and
- 3. To allow programmable space, the owner shall remove some parking behind the four retail/restaurant buildings.

The motion passed unanimously 6-0. It shall be noted that the City Council approved the removal of minimum parking requirements a few weeks after the Planning Commission hearing; therefore, eliminating minimum parking requirement is not warranted as a final condition. In regards to a pedestrian crossing facility, it is the opinion of staff that placing a crossing at Ravinia Parkway near the vehicular access drive would not be a safe place to cross because of visibility and grade issues. For this reason, staff has not included it as a final condition of zoning.

#### RECOMMENDATION

The proposed concept is in keeping with the Comprehensive Plan, and PC Districts that intend to transform the Perimeter into a more walkable urban setting. Therefore, the proposal is recommended for approval based on the following exhibits and conditions:

EXHIBIT A: Site plan, completed by Wakefield Beasley and Associates, dated August 20, 2019.

EXHIBIT B: Streetscaping Sections, completed by Site Solutions, dated June 25, 2019.

EXHIBIT C: Westside Connector Corridor.

- 1. The owner shall develop the site in general conformity with "Exhibit A" with minor changes allowed as defined by Section 27-337(b) or necessary changes to meet conditions of zoning or land development requirements made necessary by actual field conditions at the time of development;
- Prior to the issuance of a land disturbance permit, t<sup>T</sup>he owner shall dedicate right-ofway along Ashford Dunwoody Road up to the face of the proposed retaining wall of the development, as depicted in "Exhibit A". <u>All construction costs associated with this</u> <u>expansion shall be the sole and exclusive responsibility of the City.</u>
- 3. The owner shall construct the streetscaping in general conformity with "Exhibit B". Any minor variations to the streetscapes made necessary by actual field conditions at the time of development shall be subject to approval by the Public Works Director or Community Development Director;
- 4. Major façade materials shall include brick, stone, hard coat stucco and glass, with other high quality materials approved by the Community Development Director during the permit review process;
- 5. During the land development phase, the applicant shall work with the City Arborist and Community Development Director to save trees on the site as depicted on the Tree Removal Plan by Site Solutions, dated June 25, 2019. In the event that the site plan or landscape plan needs to be amended to save existing trees or modify plantings, the Community Development Director is authorized to approve of a revised landscape plan;



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- All loading facilities and trash/recycling enclosure(s) must be screened from a standing view six (6) feet above ground from public rights-of-way by landscaping and a solid brick wall at least six feet in height or the height of the dumpster;
- 7. All mechanical equipment (e.g., air conditioning, heating, cooling, ventilation, exhaust and similar equipment) shall be roof mounted and screened in all directions by walls or parapets or will be enclosed in opaque structures to hide the mechanical equipment from a standing view six (6) feet above ground from public right-of-way within 100 feet;
- 8. Within the Ravinia Parkway right-of-way along the northern border of the site, the owner shall plant a row of single-stemmed hardwood trees a minimum 4 inch caliber at intervals on average of no more than 50 feet. In circumstances where the spacing requirement cannot be met due to driveways and other improvements, the city arborist may approve alternate spacing;
- 9. All utilities servicing the site shall be underground with the exception of required aboveground elements, such as transformers and cable boxes;
- 9. Prior to permitting, the Owner shall enter into a mutually agreed upon Development Agreement to preserve a corridor on the south end of the site for the future westside connector road as generally depicted on Exhibit C, and to provide for right of way, and construction easements for the roadway at such time that a final design is completed and approved by the Georgia Development of Transportation;
- 10. The ground sign at the corner of I-285 and Ashford Dunwoody Road shall be designed into and no more than three (3) feet on top of the retaining wall that will rise above the intersection, but such signage shall not count against each buildings allowable wall signage; there shall be no free standing ground signs along the corner of Ashford Dunwoody Road and Ravinia Parkway;
- 11. Any stormwater detention facility located outside of the northern panhandle of the site shall be underground;
- 12. As part of the development, Owner shall remove a southbound left turn lane on Ashford Dunwoody Road at Hammond and expand the pedestrian refuge island on the north side of the intersection;
- 13. Separate ownership of parts of the subject property and/or conveyance of part of the subject property to different owners shall not create non-conforming uses or lots and shall not require any variances. The newly created property lines which arise from these conveyances are not required to observe setback, buffer or other zoning requirements, except as may be required by life and safety codes; and
- 14. The allowed building signage shall be in general conformance, in size and number, with those shown on the building elevations by Wakefield Beasley, dated June 25, 2019.

#### **Attachments**

- EXHIBIT A: Site plan, completed by Wakefield Beasley and Associates, dated August 20, 2019
- EXHIBIT B: Streetscaping Sections, completed by Site Solutions, dated June 25, 2019.
- EXHIBIT C: Westside Connector Corridor
- RZ19-02 Application Packet
- Landscape Plan, dated May 7, 2019 and last revised June 25, 2019.
- Tree Removal Plan, dated May 7, 2019 and last revised June 25, 2019.
- Conceptual Renderings
- Building Elevations
- Location Map
- Dunwoody Comprehensive Plan Excerpt
- Traffic Impact Study

#### AN ORDINANCE TO AMEND THE CITY OF DUNWOODY ZONING CLASSIFICATION AND MAP FOR ZONING CONDITIONS OF LAND LOT 347, District 18, IN CONSIDERATION OF ZONING CASE RZ-19-XXX (11 Ravinia Parkway) OCR (OFFICE, COMMERCIAL, RESIDENTIAL) DISTRICT CONDITIONAL ZONING CLASSIFICATION TO A PC-2 (PERIMETER CENTER) DISTRICT.

- WHEREAS, GMC Real Estate Acquisitions, LLC, seeks permission to rezone property from its current OCRc (Office, Commercial, Residential) District conditional zoning classification to a PC-2 (Perimeter Center) District in order to allow new development and construction in the area; and
- WHEREAS, the property, Tax Parcel 18 347 01 049, is located along the northeast intersection of Ashford Dunwoody Road and Interstate 285 and is bounded by a private road known as Ravinia Parkway to the north and east, Ashford Dunwoody Road to the west, and an off-ramp of westbound Interstate I-285 to the south, and consists of 3.45 acres; and
- **WHEREAS,** the Property is currently undeveloped land, mainly composed of an open, grassy knoll along the center of the site, and several trees along the perimeter; and
- WHEREAS, the site plan and conditions of this case permits approximately 42,500 square feet of restaurant/retail space, a hotel, parking deck, and streetscape amenities. Pursuant to the City of Dunwoody Zoning Ordinance, the subject application seeks a rezoning of the 3.45 acres of land from OCRc District to a Perimeter Center (PC-2) District; and
- **WHEREAS,** the Mayor and City Council find that the proposed use aligns with the Dunwoody Comprehensive Plan, which calls for the Perimeter Center District to be a livable, regional center with a mix of housing, first-class office and retail, in an environment that includes pedestrian and bicycle-oriented amenities; and
- **WHEREAS,** notice to the public regarding said rezoning and modification to conditions of zoning has been duly published in *The Dunwoody Crier*, the Official News Organ of the City of Dunwoody; and
- **WHEREAS,** a public hearing was held by the Mayor and City Council of the City of Dunwoody as required by the Zoning Procedures Act.

**NOW THEREFORE,** THE MAYOR AND CITY COUNCIL OF THE CITY OF DUNWOODY, GEORGIA HEREBY **ORDAIN AND APPROVE** the rezoning of said

#### ORDINANCE 2019-\_\_\_-

property from OCRc (Office, Commercial, Residential) District conditional zoning classification to a PC-2 (Perimeter Center) District subject to the following conditions:

EXHIBIT A: Site plan, completed by Wakefield Beasley and Associates, dated August 20, 2019.

EXHIBIT B: Streetscaping Sections, completed by Site Solutions, dated June 25, 2019.

- 1. The owner shall develop the site in general conformity with "Exhibit A" with minor changes allowed as defined by Section 27-337(b) or necessary changes to meet conditions of zoning or land development requirements made necessary by actual field conditions at the time of development;
- 2. Prior to the issuance of a land disturbance permit, the owner shall dedicate rightof-way along Ashford Dunwoody Road up to the face of the proposed retaining wall of the development, as depicted in "Exhibit A". All construction costs associated with this expansion shall be the sole and exclusive responsibility of the City.
- 3. The owner shall construct the streetscaping in general conformity with "Exhibit B". Any minor variations to the streetscapes made necessary by actual field conditions at the time of development shall be subject to approval by the Public Works Director or Community Development Director;
- 4. Major façade materials shall include brick, stone, hard coat stucco and glass, with other high quality materials approved by the Community Development Director during the permit review process;
- 5. During the land development phase, the applicant shall work with the City Arborist and Community Development Director to save trees on the site as depicted on the Tree Removal Plan by Site Solutions, dated June 25, 2019. In the event that the site plan or landscape plan needs to be amended to save existing trees or modify plantings, the Community Development Director is authorized to approve of a revised landscape plan;
- 6. All loading facilities and trash/recycling enclosure(s) must be screened from a standing view six (6) feet above ground from public rights-of-way by landscaping and a solid brick wall at least six feet in height or the height of the dumpster;
- 7. All mechanical equipment (e.g., air conditioning, heating, cooling, ventilation, exhaust and similar equipment) shall be roof mounted and screened in all directions by walls or parapets or will be enclosed in opaque structures to hide the mechanical equipment from a standing view six (6) feet above ground from public right-of-way within 100 feet;
- 8. Within the Ravinia Parkway right-of-way along the northern border of the site, the owner shall plant a row of single-stemmed hardwood trees a minimum 4 inch caliber at intervals on average of no more than 50 feet. In circumstances where the spacing requirement cannot be met due to driveways and other improvements, the city arborist may approve alternate spacing;
- 9. All utilities servicing the site shall be underground with the exception of required aboveground elements, such as transformers and cable boxes;
- 10. The ground sign at the corner of I-285 and Ashford Dunwoody Road shall be designed into and no more than three (3) feet on top of the retaining wall that will rise above the intersection, but such signage shall not count against each

#### ORDINANCE 2019-\_\_-

buildings allowable wall signage; there shall be no free standing ground signs along the corner of Ashford Dunwoody Road and Ravinia Parkway;

- 11.Any stormwater detention facility located outside of the northern panhandle of the site shall be underground;
- 12.As part of the development, Owner shall remove a southbound left turn lane on Ashford Dunwoody Road at Hammond and expand the pedestrian refuge island on the north side of the intersection;
- 13.Separate ownership of parts of the subject property and/or conveyance of part of the subject property to different owners shall not create non-conforming uses or lots and shall not require any variances. The newly created property lines which arise from these conveyances are not required to observe setback, buffer or other zoning requirements, except as may be required by life and safety codes; and
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- EXHIBIT B: Streetscaping Sections, completed by Site Solutions, dated June 25, 2019.
- RZ19-02 Application Packet
- Landscape Plan, dated May 7, 2019 and last revised June 25, 2019.
- Tree Removal Plan, dated May 7, 2019 and last revised June 25, 2019.
- Conceptual Renderings
- Building Elevations
- Location Map
- Dunwoody Comprehensive Plan Excerpt
- Traffic Impact Study

**SO ORDAINED AND EFFECTIVE,** this the \_\_\_\_ day of \_\_\_\_\_, 2019.

Approved by: Content Approved as to Form and

Denis L. Shortal, Mayor

City Attorney

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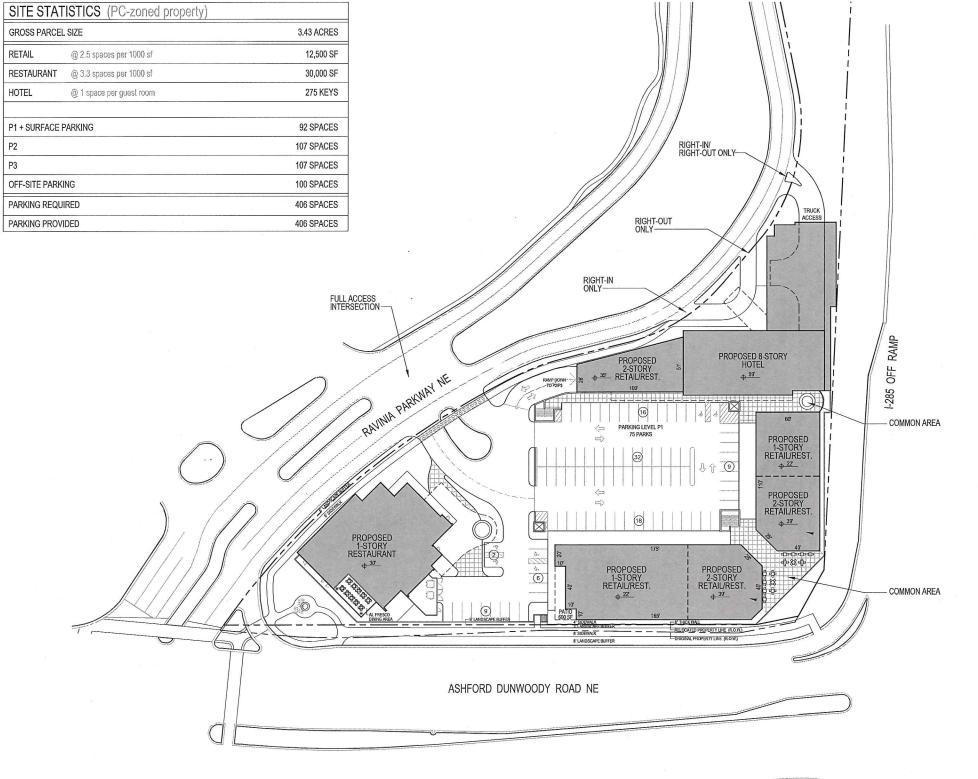
#### STATE OF GEORGIA CITY OF DUNWOODY

Attest:

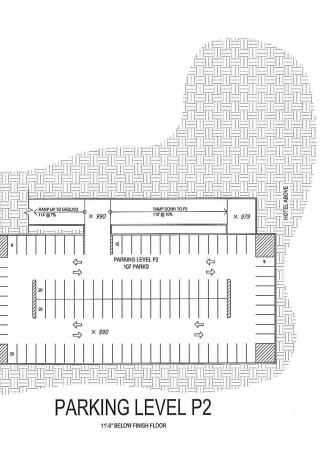
Sharon Lowery, City Clerk

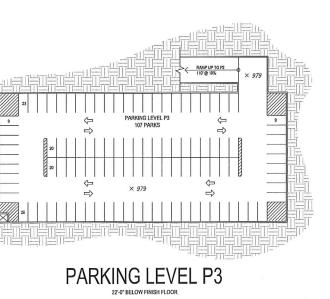
SEAL

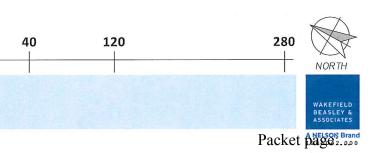
# Exhibit A

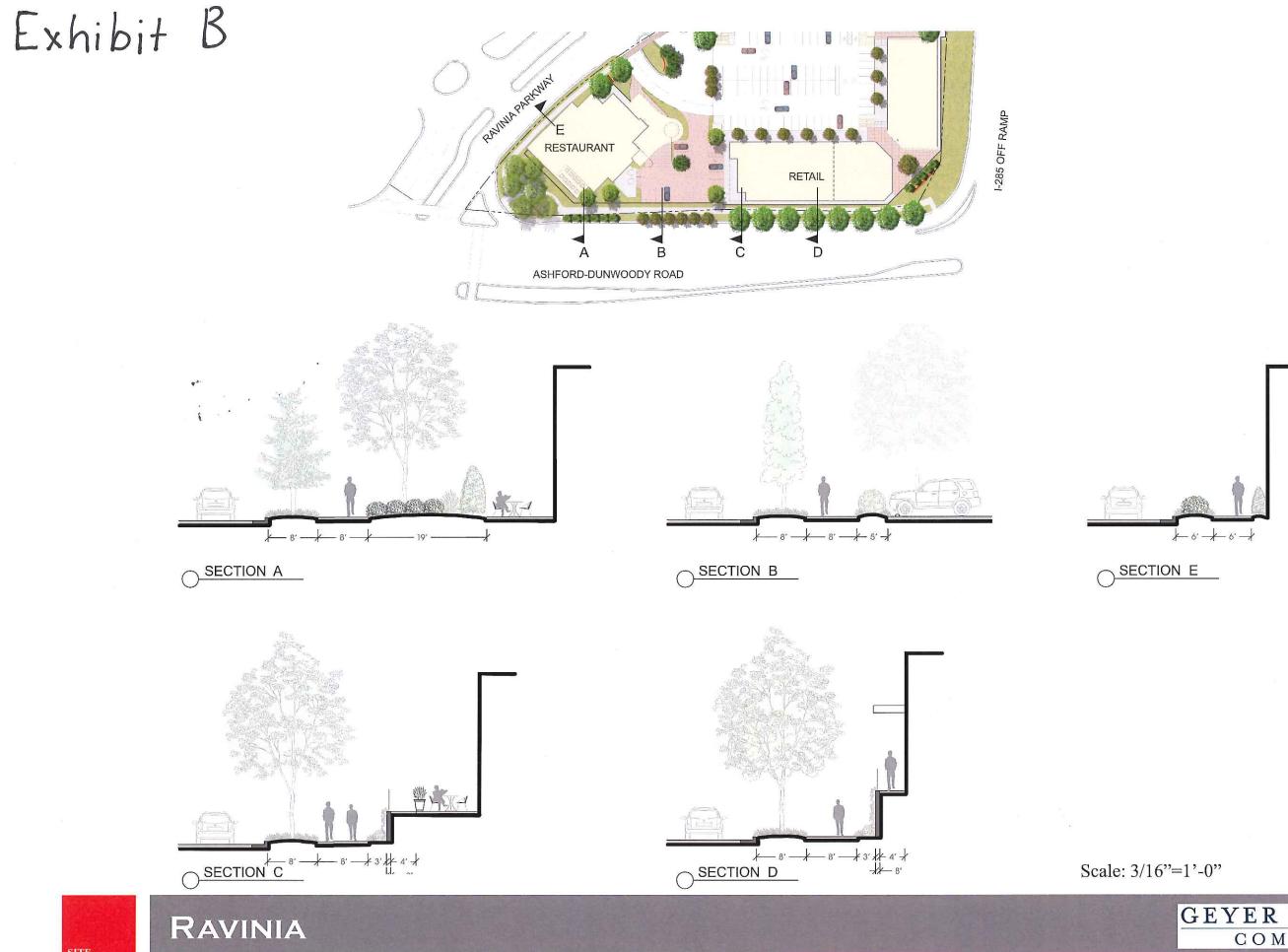


WBA ARCHITECTURE | INTERIORS | PLANNING RAVINIA - PSP.012A DUNWOODY, GEORGIA AUGUST 20, 2019 WWW.WBASSOCIATES.COM | A NELSON Company 0







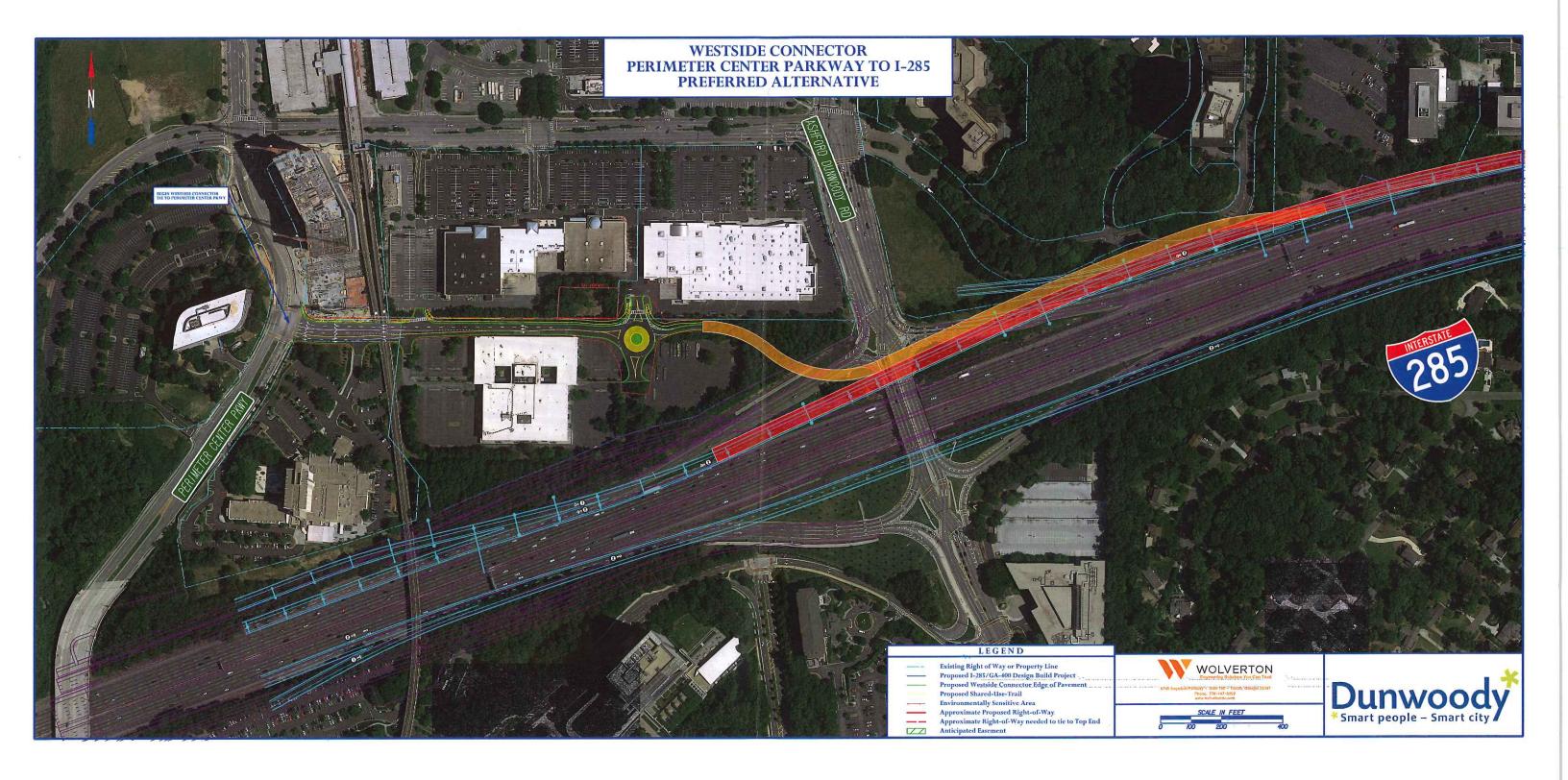


SITE



Sections

# Exhibit C



Packet page:...

## AMENDMENT APPLICATION



#### **Community Development**

#### 4800 Ashford Dunwoody Road | Dunwoody, GA 30338 Phone: (678) 382-6800 | Fax: (770) 396-4828

#### \* Applicant Information:

Phone. (076) 362-0600 | Fax. (770) 390-462

| Company Name: GMC Real Estate Acquisitions, LLC, c/o J. Alexander Brock          |  |  |  |  |  |
|----------------------------------------------------------------------------------|--|--|--|--|--|
| Contact Name:Alex Brock                                                          |  |  |  |  |  |
| Address: 1230 Peachtree Street, Suite 3100, Atlanta, GA 30309                    |  |  |  |  |  |
| Phone:404-815-3603Fax:404-685-6903Email:jabrock@sgrlaw.com                       |  |  |  |  |  |
| Pre-application conference date (required):May 30, 2019                          |  |  |  |  |  |
| Owner Information:      Check here if same as applicant                          |  |  |  |  |  |
| Owner's Name:Hines Ravinia Four Limited Partnership, a Texas limited partnership |  |  |  |  |  |
| Owner's Address:5 Ravinia Drive, Suite 1160, Atlanta, GA 30346-2109              |  |  |  |  |  |
| Phone: 770-206-5303 Fax: 770-206-5325 Email: vikram.mehra@hines.com              |  |  |  |  |  |
| Property Information:                                                            |  |  |  |  |  |
| Property Address: 11 Ravinia Pkwy, Atlanta, GA 30346 Parcel ID: 18 347 01 049    |  |  |  |  |  |

#### Current Zoning Classification: Office-Commercial-Residential (OCR)

Requested Zoning Classification: Perimeter Center-2 (PC-2)

#### \* Applicant Affidavit:

I hereby certify that to the best of my knowledge, this amendment application form is correct and complete. If additional materials are determined to be necessary, I understand that I am responsible for filing additional materials as specified by the City of Dunwoody Zoning Ordinance. I certify that I, the applicant (if different), am authorized to act on the owner's behalf, pursuant to this application and associated actions.

| Applicant's Name: J. Alexander Brock   |                     |
|----------------------------------------|---------------------|
| Applicant's Signature: <u>J. M.R.</u>  | Date: <u>4/4/19</u> |
| * Notary:                              | AT A A              |
| Sworn to and subscribed before me this | _ Day of, 20_19     |
| Notary Publice Hacy M. Duffie          | MOD                 |
| Signature: My har wife                 | R NOTARY IN         |
| My Commission Expires:                 | CO PUBLIC           |
|                                        | CONTY 3             |

My Commission Expires October 2, 2020



## Additional Applicant Notarized Certification

#### **Community Development**

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I hereby certify that to the best of my knowledge, this application form is correct and complete. If additional materials are determined to be necessary, I understand that I am responsible for filing additional materials as specified by the City of Dunwoody Zoning Ordinance. I certify that I, the applicant (if different), am authorized to act on the owner's behalf, pursuant to this application and associated actions.

| * Applicant:         |                     |        |        |       |
|----------------------|---------------------|--------|--------|-------|
| Applicant Name:      |                     |        |        |       |
|                      |                     |        | _Date: |       |
|                      |                     |        |        |       |
|                      | Fax:                |        |        |       |
| Sworn to and subscr  | ibed before me this | Day of |        | _, 20 |
| Notary Public:       |                     |        |        |       |
|                      |                     |        |        |       |
|                      |                     |        |        |       |
|                      |                     |        |        |       |
| * Applicant:         |                     |        |        |       |
|                      |                     |        |        |       |
| Signature:           |                     |        | Date:  |       |
|                      |                     |        |        |       |
| Phone:               | Fax:                | Email: |        |       |
| Sworn to and subscri | ibed before me this | Day of |        | _, 20 |
| Notary Public:       |                     |        |        |       |
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| Sworn to and subscri | ibed before me this | Day of |        | _, 20 |
| Notary Public:       |                     |        |        |       |
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## Additional Property Owner(s) Notarized Certification



#### **Community Development**

4800 Ashford Dunwoody Road | Dunwoody, GA 30338 Phone: (678) 382-6800 | Fax: (770) 396-4828

I hereby certify that to the best of my knowledge, this amendment form is correct and complete. If additional materials are determined to be necessary, I understand that I am responsible for filing additional materials as specified by the City of Dunwoody Zoning Ordinance. I certify that the applicant(s) (if different) are authorized to act on my behalf, pursuant to this application and associated actions.

#### Property Owner (If Applicable):

| Owner Name: Hines Ravinia Four Limited Partnership, a Texas limited partnership |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |  |  |  |
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| Signature: Vilumbelum                                                           | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 632019         |  |  |  |
| Address: <u>5 Ravinia Drive, Suite 1160, Atlanta, GA 30</u>                     | 0346-2109                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | · •            |  |  |  |
| Phone:                                                                          | An and a second | nes.com        |  |  |  |
| Sworn to and subscribed before me this $3^{\mu\nu}$                             | Day of JUNE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | , 20 <u>19</u> |  |  |  |
| Notary Public: Misha Jobach                                                     | SHAJLOO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                |  |  |  |
|                                                                                 | EXPIRES<br>GEORGIA<br>JULY 5, 2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |  |  |  |
| * Property Owner (If Applicable):                                               | TT UBLIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |  |  |  |
| Owner Name:                                                                     | COULSE COULSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |  |  |  |
| Signature:                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |  |  |  |
| Address:                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |  |  |  |
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| Sworn to and subscribed before me this                                          | Day of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | , 20           |  |  |  |
| Notary Public:                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |  |  |  |
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| Property Owner (If Applicable):                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |  |  |  |
| Owner Name:                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |  |  |  |
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| Sworn to and subscribed before me this                                          | Day of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | , 20           |  |  |  |
| Notary Public:                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |  |  |  |
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## Campaign Disclosure Ordinance

Community Development 4800 Ashford Dunwoody Road | Dunwoody, GA 30338 Phone: (678) 382-6800 | Fax: (770) 396-4828

Campaign Disclosure Ordinance

Please read the law and complete the Campaign Disclosure Statement on the following page if you are requesting an amendment.

GA Citation/Title GA Code 36-67A-3, Disclosure of campaign contributions \*38069 Code, 36-67A-3

#### **CODE OF GEORGIA TITLE 36. LOCAL GOVERNMENT PROVISIONS APPLICABLE TO COUNTIES AND MUNICIPAL CORPORATIONS CHAPTER 67A. CONFLICT OF INTEREST IN ZONING ACTIONS** (Current through 2000 General Assembly)

36-67A-3 Disclosure of campaign contributions.

- a) When any applicant for rezoning action has made, within two years immediately preceding the filing of that applicant's application for the rezoning action, campaign contributions aggregating \$250.00 or more to a local government official who will consider the application, it shall be the duty of the applicant to file a disclosure report with the governing authority of the respective local government showing:
  - 1) The name and official position of the local government official to whom the campaign contribution was made; and
  - 2) The dollar amount and description of each campaign contribution made by the applicant to the local government official during the two years immediately preceding the filing of the application for the rezoning action and the date of each such contribution.
- b) The disclosures required by subsection (a) of this Code section shall be filed within ten days after the application for the rezoning action is first filed.
- c) When any opponent of a rezoning action has made, within two years immediately preceding the filing of the rezoning action being opposed, campaign contributions aggregating \$250.00 or more to a local government official of the local government which will consider the application, it shall be the duty of the opponent to file a disclosure with the governing authority respective local government showing:
  - 1) The name and official position of the local government official to whom the campaign contribution was made; and
  - 2) The dollar amount and description of each campaign contribution made by the opponent to the local government official during the two years immediately preceding the filing of the application for the rezoning action and the date of each such contribution.

d) The disclosure required by subsection ( c) of this Code section shall be filed at least five calendar days prior to the

first hearing by the local government of any of its agencies on the rezoning application.

(Code 1981, 36-67A-3, enacted by Ga. L. 1986, p. 1269, 1; Ga. L. 1991, p. 1365, 1; Ga. L. 1993, p. 91, 36.)

Official Code of Georgia Annotated Copyright 1982 - 2000 State of Georgia.



**Community Development** 

632019

4800 Ashford Dunwoody Road | Dunwoody, GA 30338 Phone: (678) 382-6800 | Fax: (770) 396-4828

Have you, within the two years immediately preceding the filing of this application, made campaign contributions aggregating \$250.00 or more to a member of the City of Dunwoody City Council or a member of the City of Dunwoody Planning Commission?

U YES NO

| *   | Applic   | <del>ant</del> / Owner: | Hines Ravinia Four Limited Partnership | 1     |
|-----|----------|-------------------------|----------------------------------------|-------|
| Sig | gnature: | VI                      | warflun                                | Date: |
| Ad  | dress:   | 5 Ravinia Drive         | , Suite 1160, Atlanta, GA 30346-2109   | 5.8   |

| Date | Government Official | Official Position | Description | Amount |
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**Community Development** 

4800 Ashford Dunwoody Road | Dunwoody, GA 30338 Phone: (678) 382-6800 | Fax: (770) 396-4828

Have you, within the two years immediately preceding the filing of this application, made campaign contributions aggregating \$250.00 or more to a member of the City of Dunwoody City Council or a member of the City of Dunwoody Planning Commission?

Applicant / Owner: GMC Real Estate Acquisitions, LLC, c/o J. Alexander Brock

| Signature:         |                                               | Date: | 6/3/ | 2019 |  |
|--------------------|-----------------------------------------------|-------|------|------|--|
| Address: 1230 Pead | achtree Street, Suite 3100, Atlanta, GA 30309 |       |      |      |  |

| Date | Government Official | Official Position | Description | Amount |
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**Community Development** 

4800 Ashford Dunwoody Road | Dunwoody, GA 30338 Phone: (678) 382-6800 | Fax: (770) 396-4828

Have you, within the two years immediately preceding the filing of this application, made campaign contributions aggregating \$250.00 or more to a member of the City of Dunwoody City Council or a member of the City of Dunwoody Planning Commission?

| * Applicant / Swner: Kathryn M. Zickert                  |                                      |
|----------------------------------------------------------|--------------------------------------|
| Signature: The Signature                                 | bullickan Date: June 4, 2019         |
| Address: 5 Ravinia Drive, Suite 1160, Atlanta, GA 30346- | 2109 Olstanski w/ express permission |

| Amount | Description | <b>Official Position</b> | Government Official | Date |
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#### **Community Development**

4800 Ashford Dunwoody Road | Dunwoody, GA 30338 Phone: (678) 382-6800 | Fax: (770) 396-4828

Date: June 4, 2019

Have you, within the two years immediately preceding the filing of this application, made campaign contributions aggregating \$250.00 or more to a member of the City of Dunwoody City Council or a member of the City of Dunwoody Planning Commission?

UYES XNO

| * | Applicant / | Owner: | Denn | ls J. | Webb, | Jr. |
|---|-------------|--------|------|-------|-------|-----|
|   | nature:     | X      |      |       | /     |     |

Signature:

Address: 5 Ravinia Drive, Suite 1160, Atlanta, GA 30346-2109

If the answer above is yes, please complete the following section:

| Date | Government Official | <b>Official Position</b> | Description | Amount |
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**Community Development** 

4800 Ashford Dunwoody Road | Dunwoody, GA 30338 Phone: (678) 382-6800 | Fax: (770) 396-4828

Date: June 4, 2019

Have you, within the two years immediately preceding the filing of this application, made campaign contributions aggregating \$250.00 or more to a member of the City of Dunwoody City Council or a member of the City of Dunwoody Planning Commission?

🗆 YES 🕱 NO

| * | Applicant | - Owner: | J. Alexander Brock |
|---|-----------|----------|--------------------|
|   |           |          |                    |

Signature: J. July Rr

Address: 5 Ravinia Drive, Suite 1160, Atlanta, GA 30346-2109

| Date | Government Official | <b>Official Position</b> | Description | Amount |
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William Christopher Amacher, age 92, passed away on May 12, 2019 at his home in Dunwoody. He was preceded

in death by his

cherished wife

Joyce

was

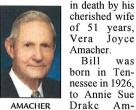
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AMACHER

Amacher. The family moved to Dunwoody in 1934 to pursue farming. After graduating from Chamblee High School, Bill proudly served our country in WWII, with a Military Police Battalion. After being discharged, he returned to Georgia to continue his education, and played football at Erskine University and West Georgia College, but would ultimately transfer to the University of Georgia. Along with his brother, Fred Amacher, he formed Amacher Bros. Construction Co. in 1953 and was a commercial contractor for over 50 years in Atlanta.

Bill was an active member of Dunwoody United Methodist Church, and particularly enjoyed his Crusaders Sunday School class. He was a member of Dunwoody Preservation Trust, working alongside his beloved wife, Joyce, on a number of community service projects. The City of Dunwoody awarded him Keys to the City in honor of his dedication to historic preservation.

Whether he was playing tennis on his backyard court,

**OBITUARIES** 

vegetable gardening, studying history, playing golf, boating on Lake Lanier, or dancing, Bill was always very active and thoroughly enjoyed all of it. He loved watching the Dawgs between the hedges as well as the Braves and the Falcons. He and his wife Joyce traveled all over the US, China, Europe, Canada and Mexico. Bill loved to entertain in the home he built for his family in Dunwoody. He had a unique voice that is often imitated but never totally mastered.

His family will miss seeing Bill driving around Dunwoody in his pickup truck full of construction equipment, hardhat in tow. He is survived by his son, Zachery Christopher Amacher, and wife Amie. He is also survived by his wife's children who he loved dearly, Zerah Whitfield Wilson and husband Bob and Zelda Whitfield Patrick and husband Dixon, six grandchildren; Lauren and Elliott Wilson, Samantha and Brenda Patrick, Allison and Kimberly Amacher, nephews Eric Amacher and Lance Amacher and their families.

The memorial service will be on Thursday, May 30th, at Dunwoody United Methodist Church at 11:00 a.m. Friends and family are invited to gather at 10:00 a.m. for visitation.

In lieu of flowers, donations can be made to Dunwoody United Methodist Church in memory of Bill Amacher.

...

PUBLIC NOTICE is hereby given that there will be a meeting of interested parties at 6:30 p.m., on the 3rd day of June, 2019, in the Overton Room at Two Ravinia Drive, Atlanta, Georgia 30346, for the purpose of discussing a Pre-Application by GMC Real Estate Acquisition, LLC, submitted to the City of Dunwoody to rezone a +3.43 acre parcel from Office-Commercial-Residential (OCR) to Perimeter Center-2 (PC-2) to allow the proposed development of the property located at 11 Ravinia Pkwy, Atlanta, Georgia. The proposed development will consist of a restaurant, retail and hotel. All interested parties are hereby notified and invited to attend.

**PUBLIC NOTICE** 

This 23rd day of May, 2019.

J. Alexander Brock Attorney for GMC Real Estate Acquisition, LLC

THIS NOTICE IS GIVEN PURSUANT TO DUNWOODY CODE OF ORDINANCES SECTION 27-306.

#### **DUNWOODY CRIER**

Edith Bigby Tribble Chapin, long time Dunwoody resident and Dunwoody Methodist Church member,

passed away on May 12, 2019 in Highlands, NC. Edith was preceded in death by her husband Judson Chapin, her CHAPIN parents Rob-

ert and Edith Tribble, and her sisters, Robbie Tribble and Sally Herriot. Edith was born on June 27, 1923 in Jonesville, South Carolina and raised there, graduating from Winthrop College in 1944. She married Army Lieutenant Judson Chapin, a

Charities.

Clemson graduate, that same year. After marriage, she joined Judson, living at a succession of army posts during the war, where she was employed in the base accounting departments. After the war, her husband's insurance career took them from city to city, during which Edith was a devoted home maker and math teacher who received her Master's from the University of Memphis. Over the years, she taught math at Kingsbury High in Memphis, Lindbergh High in St. Louis, and Peachtree High in Dunwoody. Edith and Judson raised three sons, and putand put them successfully through college. They also widened their horizons with visits to 45 states. The couple enjoyed family,

bridge with friends, antiques, and frequent travel to England. After Judson's passing Edith continued to travel the world with friends and her sister Sally. She lost track of how many lands she had been to, but she always said that home with her family was her favorite place to be. Edith sold her Dunwoody, GA home in 2013 and moved to Huntcliff Senior Living where she made new friends and loved her caregivers. In 2019 she moved to Highlands, NC. Edith is survived by her three sons, Walter (Elena) of Poulsbo, WA, Jud (Sarah) of Cashiers, NC, and Stephen of Atlanta, by her two grandchildren Meredith (Chip) Hamner of Raleigh, NC,

**OBITUARIES**, page 12





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Page 11

#### ENHIBITA

ALL THAT TRACT of land in Land Lot 347 of the 18th District of Delash County, Georgia, described as follows;

BEGINNING at a Georgia DOT concrete unter found on the north right-of-way line of Interstate Highway 285 (variable right-of-way) which Georgia DOT concrete is located South 80~03'-05" West 20.24 feet from the intersection of the north right-of-way line of Interstate 285 with the east right-ofway line of Achford-Danwoody Road (variable right-of-way); numlay there along the north right-of-way line of Interstate 285 North \$0°-03'-05" East 20.24 feet to the point of intersection of the north right-ofway line of said Ashford-Dunwoody Road; thence, along the east right-of-way line of said Ashford-Dunwoody Road; thence, along the east right-of-way line of said Ashford-Dunwoody road, the following courses and dists cer:

- 1) North 48°-10'-13" West 38.00 feet to a point
- 2) North 14"-52'-32" West 25.00 foot to a point,
- 3) North 11"-44"-52" West 201.62 feet to a point,
- 4) North 14"-52'-30" West 158.10 fbct to a point;
- 5) Thence along the are of a curve to the right (which are is submeded by a chord having a bearing and distance of North 12°-39°-39° West 77.41 foct, and a radius of 1.001.75 fbet) 77.43 fact to a point and
- North 07"-50"-17" West 74.75 fort to a point on the southerly right-of-way line of Ravinia Parkway (a variable right-of-way);

Thence along the southerty right of way line of the said Raviala Parkway the following bearings and distances

- Thence along the are of a 742.10-foot radius curve to the right an are distance of 341.78 feet to a point (said are being subtended by a chord bearing South 54°-12'-13" Past and having a length of 338.62 feet);
- 2) Thence South 40°-40'-53" East a distance of 20.72 foet to a point,
- Thence along the arc of a 228.09-foot radius curve to the right an arc distance of 15.90 feet to a point (said arc being subtended by a chord bearing South 33°-39'-37" East and having a length of 55.76 foot);
- 4) Torner South 26"-38"-21" East a distance of 62.87 frees
- Therace along the are of a 171.34-foot radius curve to the left an are distance of 106.39 foot to a point (said are being subtended by a chord bearing South 44\*-25'-40" East and having a length of 104.69 fier);
- 6) Thence South 62"-13'-00" East a distance of 51.22 feet to a point
- Thence along the arc of a 169.64-foot radius cutve to the left an arc distance of 153.64 feet to a point (said arc being subtended by a choid bearing South 88°-09'-48° East and having a length of 148.44 fact);
- 8) Thence North 65°-53'-25" East a distance of 142.42 feet to a polot;

Thence leaving the said southerly right-of-way line of Ravinis Parkway and running South 66°-13'-42" East 146.38 foot to a point on the aforenemianed North right-of-way line of Interstate Highway 285;

Thence along the said North right-of-way line of Interstate Highway 285 South 80"-03"-05" West 745.88 feet to the POINT OF BEGINNING.

#### STATEMENT OF INTENT

and

Other Material Required by City of Dunwoody Zoning Ordinance For the Zoning Map Amendment Application

of

GMC Real Estate Acquisitions, LLC

for

± 3.43 Acres of Land located in Land Lot 347, 18<sup>th</sup> District, DeKalb County Address: 11 Ravinia Parkway

Submitted for Applicant by:

Kathryn M. Zickert Dennis J. Webb, Jr. J. Alexander Brock Smith, Gambrell & Russell, LLP Promenade, Suite 3100 1230 Peachtree Street, NE Atlanta, Georgia 30309 404-815-3500 #7..

SGR/21140523.1
Packet page:...

#### I. INTRODUCTION

This application seeks to rezone  $\pm 3.43$  acres in the City of Dunwoody from the Office-Commercial-Residential (OCR) district to Perimeter Center-2 (PC-2) to allow for a commercial mixed-use development. The property is located in the southeastern quadrant of the intersection of Ravinia Parkway and Ashford-Dunwoody Road (the "Subject Property"). The Subject Property is more particularly located at 11 Ravinia Parkway (Parcel ID No. 18 347 01 049). The Subject Property is in the Perimeter Center Overlay and is currently undeveloped with mostly grassed areas and few trees along its perimeter.

The Applicant is seeking the instant rezoning to allow the development of the Subject Property for  $\pm$  42,500 square feet of restaurant/retail space, a hotel, parking deck, and appurtenant site improvements (the "Proposed Development"). This type of development is well suited for the area which is largely commercial with some office, hotel and limited residential uses. To the south, the Subject Property is bounded by the right-of-way of U.S. Interstate 285 ("I-285"); to the west, it is bounded by the right-of-way of Ashford Dunwoody Road; to the north and east, it is bounded by the right-of-way of Ravinia Parkway; and it is also bordered on the east by undeveloped Hines Atlanta Limited property, zoned Office-Institutional (O-I).

The area surrounding Perimeter Mall and particularly along Ashford-Dunwoody Road has experienced tremendous growth in the past forty (40) years; however, the Subject Property has remained idle. The site was originally zoned as a part of the overall Ravinia development in 1982 and was then considered for restaurant/retail development later in 2004, yet none of the developments envisioned for the property ever materialized. During this same period, the surrounding area has grown to be one of the premier commercial centers in the Metro-Atlanta

> SGR/21140523.1 Packet page:...

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area and the Subject Property is primed for the type of upscale restaurant/retail/hotel development that is now proposed. The City of Dunwoody Zoning Ordinance was updated in 2017 to incorporate the Perimeter Center zoning districts to keep pace with the development in the Perimeter Center area. This Application seeks to bring the Subject Property's zoning in line with the current Perimeter Center zoning and the surrounding development.

In addition, the Proposed Development's layout will incorporate many design features desired for the PC-2 district such as pedestrian connectivity, street interaction, and open space. The Proposed Development's buildings will be located close to the adjacent right-of-ways to provide more pedestrian connectivity and activate the streetscape. Moreover, the proposed retail and restaurant buildings will be one (1) to two (2) stories in height and the proposed hotel will be up to ten (10) stories with the taller hotel building to the rear towards I-285, which reduces the impact of building massing on the adjacent streetscape. The parking for the Proposed Development will be contained in a structured parking deck internal to and surrounded by the retail, restaurant and hotel buildings. The surrounding buildings and the underground parking levels will shield much of the parking from view of the right-of-way. In fact, 214 spaces out of the total 308 spaces onsite, will be underground and completely hidden from the adjacent streets. The effect of these design considerations is to create a development that is both attractive and blends harmoniously with the surrounding development.

The Applicant submits this document as a Statement of Intent with regard to its Zoning Map Amendment Application, a preservation of its constitutional rights, and an analysis of the criteria for the Zoning Map Amendment Application as required by the City of Dunwoody's Zoning Ordinance, § 27-333.

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#### II. ZONING HISTORY

The Subject Property is zoned OCR and is located within the Perimeter Center Overlay. It is designated as being in the "Perimeter Center" (PC) character area on the city's Future Land Use Map. The PC character area fully allows the proposed PC-2 Zoning. The Subject Property was rezoned from Single Family Residential Large Lot (R-100) to Office-Institutional (O-I) in 1982 pursuant to Zoning Ordinance CZ-82075 for its development with the overall Ravinia complex. This zoning underwent multiple applications for modification, with the latest being in 1997 which modified the zoning to allow 266,000 square feet of office plus retail and conference use. In 2004, the Subject Property was rezoned from O-I to OCR to allow restaurant/retail use pursuant to ordinance number CZ-04022. The 2004 zoning, however, was conditioned to several requirements, one of which limited the building height to two (2) stories, absent the grant of a Special Land Use Permit. The conditions imposed by the 2004 zoning have left the Subject Property undeveloped for the past fifteen (15) years, despite the area's rapid growth during that The current proposal seeks to rectify this misstep and allow an attractive same period. development in one of Dunwoody's leading areas.

#### **III.IMPACT ANALYSIS**

## 1. WHETHER THE ZONING PROPOSAL IS IN CONFORMITY WITH THE POLICY AND INTENT OF THE COMPREHENSIVE PLAN.

The Subject Property is located within the Perimeter Center Character Area of the City of Dunwoody's 2015-2035 Comprehensive Plan (the "Comprehensive Plan") and within the Perimeter Center Overlay under the Code. The Proposed Development will be in compliance and advance the goals of the Overlay. Furthermore, the Proposed Development is entirely consistent with these designations, which encompass high quality mixed-use developments that provide

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services to the residents, workers and visitors of Perimeter Center. In particular, the proposed redevelopment will further the following stated policies of the Comprehensive Plan:

- (a) New development that includes amenities and green space;
- (b) Encourage hotel and convention development near MARTA in order to foster commerce along the mass transportation route;
- (c) Promoting redevelopments that promote a "pedestrian and bicycle-oriented environment;"
- (d) Promoting redevelopments that "reduce remaining excessive surface parking;" and
- (e) Promoting redevelopment that "continues to emphasize high quality design standards and building materials;"

Additionally, the Subject Property is located in the PC-2 subarea under the Comprehensive Plan and designated for PC-2 under the Perimeter Center Overlay. The Proposed Development is consistent with these designations, which promote the highest intensity of buildings supporting pedestrian and bicycle activity.

#### 2. WHETHER THE ZONING PROPOSAL WILL PERMIT A USE THAT IS SUITABLE IN VIEW OF THE USE AND DEVELOPMENT OF ADJACENT AND NEARBY PROPERTIES.

Yes. As stated in previous paragraphs, the surrounding area is largely commercial and the Proposed Development is complementary to the existing development. The proposed retail and restaurant space will offer high-end options that will fill a niche that is lacking in much of the surrounding market. In addition, the boutique hotel will provide options to select travelers currently underserved by lodging choices in the area, thereby expanding the attractiveness of the area to a larger customer base. It is the Applicant's desire that the Proposed Development will operate in harmony with the nearby and adjacent uses.

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## 3. WHETHER THE PROPERTY TO BE AFFECTED BY THE ZONING PROPOSAL HAS A REASONABLE ECONOMIC USE AS CURRENTLY ZONED.

The Subject Property's current OCR zoning limits the use to restaurant and retail in buildings of less than two stories. In the time since the Subject Property was zoned in 2004, the Perimeter Center area has experienced tremendous commercial growth. This growth coupled with certain market demands for hotel use in the area, has shown that the current zonings restrictions make the Subject Property impractical for development limited exclusively to lowrise commercial. As a result the Subject Property has sat vacant for the past fifteen (15) years with little serious interest in development. The proposed PC-2 zoning will rectify this situation and allow a practical development that follows the positive growth trends of the area.

## 4. WHETHER THE ZONING PROPOSAL WILL ADVERSELY AFFECT THE EXISTING USE OR USABILITY OF ADJACENT OR NEARBY PROPERTY.

No. The surrounding uses are primarily commercial, which is complementary to the Proposed Development.

#### 5. WHETHER THERE ARE OTHER EXISTING OR CHANGING CONDITIONS AFFECTING THE USE AND DEVELOPMENT OF THE PROPERTY THAT PROVIDE SUPPORTING GROUNDS FOR EITHER APPROVAL OR DISAPPROVAL OF THE ZONING PROPOSAL.

As stated in prior paragraphs, the growth trend in the area has been toward taller buildings, such as what is now currently proposed. Evidencing this trend is the City of Dunwoody's adoption of the Perimeter Center zoning districts in 2017, which allows such taller building heights and a variety of commercial uses. The Subject Property is situated in the intended Perimeter Center, Subarea 2, which is intended for buildings of up to fourteen (14) stories. The proposed PC-2 zoning makes the Subject Property compliant with zoning envisioned for the area.

#### 6. WHETHER THE ZONING PROPOSAL WILL ADVERSELY AFFECT HISTORIC BUILDINGS, SITES, DISTRICTS, OR ARCHAEOLOGICAL RESOURCES.

The Applicant is not aware of any historic buildings, sites, districts, or archaeological resources either on the Subject Property or located in the immediate vicinity that would suffer adverse impacts from the requested rezoning.

#### 7. WHETHER THE ZONING PROPOSAL WILL RESULT IN A USE THAT WILL OR COULD CAUSE AN EXCESSIVE OR BURDENSOME USE OF EXISTING STREETS, TRANSPORTATION FACILITIES, UTILITIES, OR SCHOOLS.

Any additional vehicular traffic generated by the Proposed Development can be accommodated. As there is no residential component, the proposed development will have no impact on school enrollment. There is sufficient utility, water and sewer capacity to supply this site.

#### IV. NOTICE OF CONSTITUTIONAL CHALLENGE TO UNDERLYING ZONING AND PRESERVATION OF CONSTITUTIONAL RIGHTS

The zoning on the Subject Property (and any intervening zoning district other than that requested) is unconstitutional. Further, the Zoning Ordinance of the City of Dunwoody, Georgia lacks adequate standards for the Mayor and City Council to exercise their power to zone and rezone. In essence, the standards are not sufficient to contain the discretion of the Mayor and City Council and to provide the Courts with a reasonable basis for judicial review. Because the stated standards (individually and collectively) are too vague and uncertain to provide reasonable guidance to the Mayor and City Council, the Zoning Ordinance violates the Fifth and Fourteenth Amendments of the Constitution of the United States in matters of zoning. The Zoning

Ordinance also violates Article I, Section III, Paragraph 1; and Article I, Paragraphs 1 and 2 of the Constitution of the State of Georgia, 1983.

The Mayor and City Council are granted the power to zone pursuant to Article IX, Section II, Paragraph 4 of the Constitution of the State of Georgia, 1983. It is a power which must be fairly exercised. Based on this element of fairness, the Zoning Ordinance of the City of Dunwoody, Georgia violates Article IX, Section II, Paragraph 4 of the Constitution of the State of Georgia, 1983.

The Zoning Ordinance presently in effect is contrary to the best interest of the health and welfare of the citizens of the City of Dunwoody, Georgia, and constitutes an arbitrary and capricious act. As a result, the Zoning Ordinance is in violation of Article I, Section I, Paragraphs 1 and 2 of the Constitution of the State of Georgia, 1983; Article I, Section III, Paragraph 1 of the Constitution of the State of Georgia, 1983; and Article I, Section II, Paragraph 3 of the Constitution of the State of Georgia, 1983. Furthermore, the Zoning Ordinance violates the due process clause and equal protection clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

In addition, the Zoning Ordinance presently in effect is unconstitutional in that it renders this property unusable and destroys its marketability. Therefore, the Zoning Ordinance constitutes a taking of applicant's property without just and adequate compensation and without due process of law in violation of the Fifth and Fourteenth Amendments to the United States Constitution and in violation of Article I, Section I, Paragraph 1 and Article I, Section III, Paragraph 1(a) of the Constitution of Georgia, 1983.

The failure to rezone the Subject Property as requested would constitute the taking of property without due process and without the payment of adequate compensation in violation of #7..

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Article I, Section I, Paragraph 1 of the Constitution of the State of Georgia, 1983; and the Fifth and Fourteenth Amendments of the Constitution of the United States.

Failure to grant the application for rezoning or to zone the property to any other classification, including other intervening classifications, would be contrary to the best interest of the health and welfare of the citizens of the City of Dunwoody, Georgia, and would further constitute an arbitrary and capricious act. As such, failure to grant the application would constitute a Violation of Article I, Section I, Paragraph 1 of the Constitution of the State of Georgia, 1983; and Article I, Section III, Paragraph 1 of the Constitution of the State of Georgia, 1983; and Article I, Section II, Paragraph 3 of the Constitution of the State of Georgia, 1983; together with the due process clause and equal protection clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

Any limitation on the time for presentation of the issues before the Mayor and City Council who have the power to zone and rezone is a violation of the guarantees of free speech under Article I, Section I, Paragraph 5 of the Constitution of the State of Georgia, 1983; and the First Amendment of the Constitution of the United States of America. Further, said limitations are in violation of the right to petition and assemble, in violation of Article I, Section I, Paragraph IX of the Constitution of Georgia, 1983; and the First Amendment of the Constitution of the United States of America, as well as the due process clauses of the Constitution of Georgia, 1983 and the Constitution of the United States of America.

The Zoning Ordinance of the City of Dunwoody is unlawful, null and void in that its adoption and map adoption/maintenance did not comply with the requirements of its predecessor ordinance and/or the Zoning Procedures Law, O.C.G.A. § 36-66-1, *et seq*.

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Opponents to this rezoning request lack standing, have failed to exhaust administrative remedies, and have waived their rights to appeal.

#### V. CONCLUSION

For the foregoing reasons, the Applicant respectfully requests that the Zoning Map Amendment at issue be approved. The Applicant also invites and welcomes any comments from Staff or other officials of the City so that such recommendations or input might be incorporated as conditions of approval of this Application.

This \_\_\_\_\_ day of June, 2019.

Respectfully submitted,

SMITH, GAMBRELL & RUSSELL, L.L.P.

Kathryn M. Zickert Dennis J. Webb, Jr. J. Alexander Brock Attorneys For Applicant

Smith, Gambrell & Russell, LLP Promenade, Suite 3100 1230 Peachtree Street, N.E. Atlanta, Georgia 30309 404-815-3500 #7..

Promenade, Suite 3100 1230 Peachtree Street, N.E. Atlanta, Georgia 30309-3592 Tel: 404 815-3500 www.sgrlaw.com

J. Alexander Brock Direct Tel: (404) 815-3603 Direct Fax: jabrock@sgrlaw.com

## Smith, Gambrell & Russell, llp

Attorneys At Law

June 4, 2019

John Olson Planning Manager City of Dunwoody Office of Planning 4800 Ashford Dunwoody Road Dunwoody, GA 30338

#### Re: Neighbor Communication Summary Report

Dear Mr. Olson:

This letter is to serve as our Neighbor Communication Summary Report for the rezoning application for the property at 11 Ravinia Parkway, Dunwoody, GA (Parcel ID 18 347 01 049) (the "Subject Property"). In accordance with the City of Dunwoody Zoning Ordinance, § 27-306, we held an Applicant Initiated Meeting on June 3, 2019 to review our proposed rezoning application and the proposed development with interested neighbors. In addition, we also met with the Dunwoody Homeowners Association ("DHA") at its June 2, 2019 meeting to introduce our project to the members of that organization.

Notification of the Applicant Initiated Meeting was sent to residential property owners within 1,000-feet of the Subject Property on May 14, 2019 via first class U.S. Mail. In addition, an advertisement for the meeting was run in the May 23, 2019 issue of the Dunwoody Crier newspaper. See Exhibit 1 attached to this Report. Evidence of both the mailing and the request for advertisement were sent to the City of Dunwoody Planning Department on May 14, 2019. See Exhibit 1.

At the June 2 DHA meeting, the Applicant and the undersigned counsel gave a presentation of the proposed zoning and an overview of the proposed development. Questions and comments were then taken from the public and an open floor discussion was had on the Application. There were approximately fifteen (15) people in attendance, however the meeting was broadcast to approximately 1,000 individuals via Facebook live feed. The crowd in attendance at the meeting mostly had questions regarding the proposed development, but few

John Olson Planning Manager June 4, 2019 Page 2

comments and no criticisms. One concern that was for the separation of the proposed sidewalk along Ashford Dunwoody Road with a landscape strip. We pointed out that a 6-foot landscape strip was indeed proposed. At the time of drafting this report, the Applicant has not received any further comments or questions from the DHA meeting.

On June 3, 2019, the Applicant and the undersigned counsel held the Applicant Initiated Meeting. The meeting was held in one of the Ravinia conference rooms at 6:30pm. In addition to the address listed on the mailed and advertised notifications, the Applicant and Owner posted signs around the Ravinia complex directing attendees to the meeting room. Nonetheless, the meeting was not attended by anyone from the community.

Sincerely,

J. Alexander Brock Attorney

JAB/jab cc: Cameron Grogan, GMC

| From:        | <u>Olszewski, Vickey</u>                                                                     |
|--------------|----------------------------------------------------------------------------------------------|
| То:          | jim@appenmediagroup.com                                                                      |
| Cc:          | Brock, Alex                                                                                  |
| Subject:     | GMC Real Estate Acquisitions, LLC Rezoning the Ravinia Development in Dunwoodu Public Notice |
| Date:        | Tuesday, May 14, 2019 4:30:12 PM                                                             |
| Attachments: | PUBLIC NOTICE.docx                                                                           |

#### Jim,

Per our telephone conversation, attached please find a copy of the public notice we would like to place in the next publication of the Dunwoody Crier. Please provide an estimate of the cost to run this notice. Thank you for your assistance with this matter and should you have any questions, please contact me.

#### Vickey Olszewski

Paralegal - Land Use and Zoning

p | 404-815-3558
f | 404-685-6858
e | volszewski@sgrlaw.com
Promenade, Suite 3100 | 1230 Peachtree St. N.E. | Atlanta, GA 30309
www.sgrlaw.com



PUBLIC NOTICE is hereby given that there will be a meeting of interested parties at 6:30 p.m., on the 3rd day of June, 2019, in the Overton Room at Two Ravinia Drive, Atlanta, Georgia 30346, for the purpose of discussing a Pre-Application by GMC Real Estate Acquisition, LLC, submitted to the City of Dunwoody to rezone a  $\pm 3.43$  acre parcel from Office-Commercial-Residential (OCR) to Perimeter Center-2 (PC-2) to allow the proposed development of the property located at 11 Ravinia Pkwy, Atlanta, Georgia. The proposed development will consist of a restaurant, retail and hotel. All interested parties are hereby notified and invited to attend.

This \_\_\_\_\_ day of \_\_\_\_\_, 2019.

J. Alexander Brock Attorney for GMC Real Estate Acquisition, LLC

THIS NOTICE IS GIVEN PURSUANT TO DUNWOODY CODE OF ORDINANCES SECTION 27-306.

Promenade, Suite 3100 1230 Peachtree Street, N.E. Atlanta, Georgia 30309-3592 Main: 404 815-3500 www.sgrlaw.com

J. Alexander Brock Direct Tel: 404-815-3603 Direct Fax: 404-685-6903 jabrock@sgrlaw.com

# Smith, Gambrell & Russell, LLP

Attorneys at Law

May 14, 2019

#### Re: 11 Ravinia Pkwy, Atlanta, Georgia Rezoning Application

Dear Neighbors:

You are receiving this notification because you are an owner of property located within 1,000 feet of the above-referenced property. GMC Real Estate Acquisition, LLC, will be submitting an application to the City of Dunwoody to rezone a  $\pm 3.43$  acre parcel from Office-Commercial-Residential (OCR) to Perimeter Center-2 (PC-2) to allow the proposed development of the property located at 11 Ravinia Pkwy, Atlanta, Georgia. The proposed development will consist of a restaurant, retail and hotel.

I write both to inform you of the pending Application and of the Applicant-Initiated Informational Meeting to be held on June 3, 2019 at 6:30 p.m., in the Overton Room at Two Ravinia Drive, Atlanta, Georgia. A map of the Ravinia Complex is attached for your reference.

Should you have any questions regarding this application, please feel free to contact me.

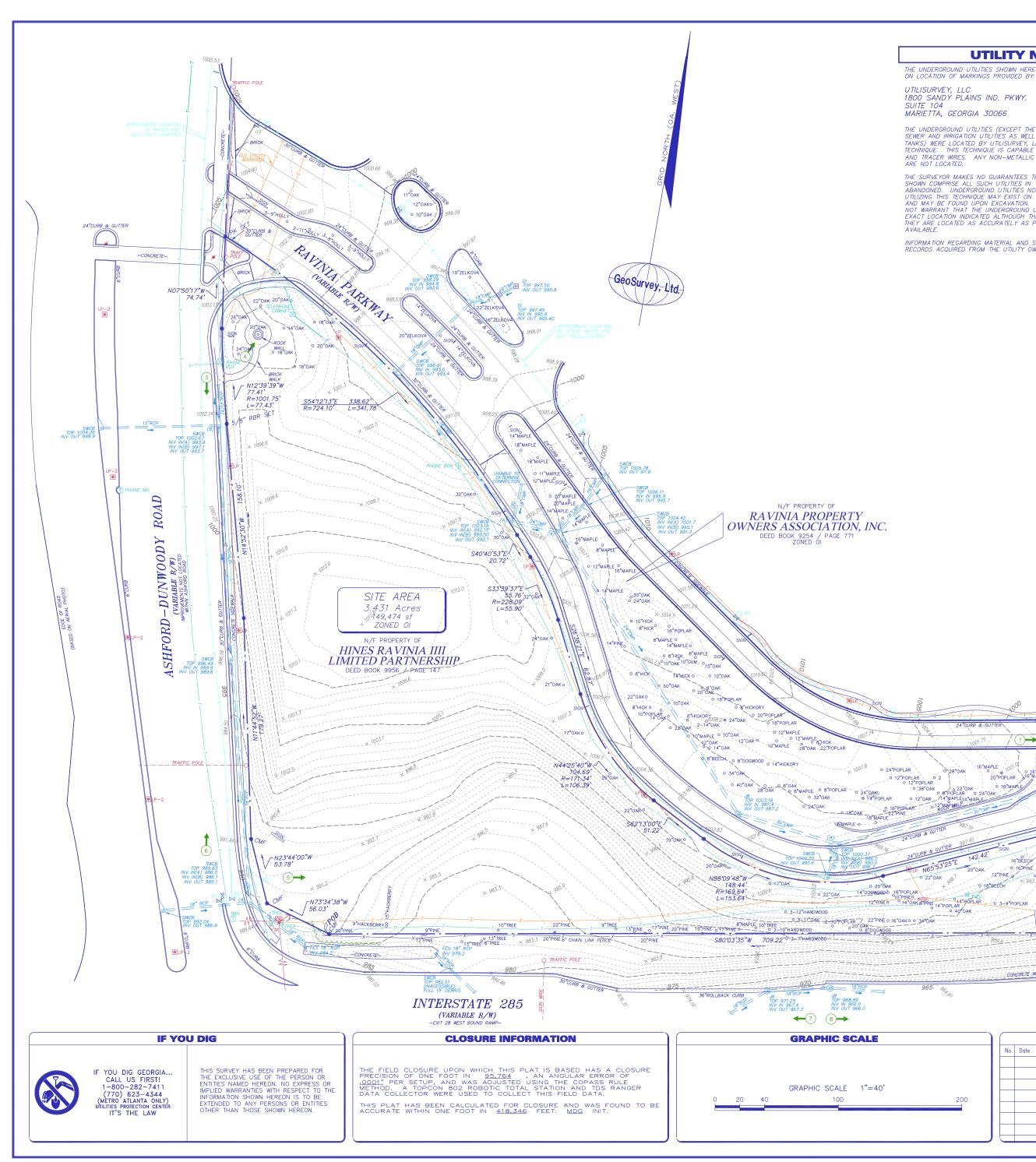
Sincerely,

J. Alexander Brock Attorney at Law

JAB/vmo

Attachment





# **SITE PHOTOGRAPHS UTILITY NOTE** THE UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON LOCATION OF MARKINGS PROVIDED BY: UTILISURVEY, LLC 1800 SANDY PLAINS IND. PKWY. SUITE 104 MARIETTA, GEORGIA 30066

THE UNDERGROUND UTILITIES (EXCEPT THE LOCATION OF EXISTING DRAINAGE, SEWER AND IRRIGATION UTILITIES AS WELL AS UNDERGROUND STORAGE TANKS) WERE LOCATED BY UTILISURVEY, LLC. UTILIZING RADIO FREQUENCY TECHNIQUE. THIS TECHNIQUE IS CAPABLE OF LOCATING METALLIC UTILITIES AND TRACER WIRES. ANY NON-METALLIC UTILITIES (WITHOUT TRACER WIRE) ARE NOT LOCATED.

THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. UNDERCROUND UTILITIES NOT OBSERVED OR LOCATED UTILIZING THIS TECHNIQUE MAY EXIST ON THIS SITE BUT NOT BE SHOWN, AND MAY BE FOUND UPON EXCAVATION. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAIL AFIF

INFORMATION REGARDING MATERIAL AND SIZE OF UTILITIES IS BASED ON RECORDS ACQUIRED FROM THE UTILITY OWNERS.







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20"POPLA

0 28"OAK

CONCRETE

0 8"GUM

× 992.3

987.1 × 14"POPLAR

0-14"POP-

(968.7

9878×

0 26"POPLAR

9 34"OAK @ 14"GUM 0 20 04K

4"GURB & G

20"0AK

20 POPLAR )16 MAPLE

16"BEECH 0 16"PINE

× 993.2

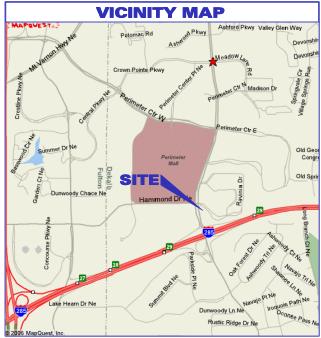
990-12"MAPLE



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#### **GENERAL NOTES**

THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE INSPECTION REPORT. EASEMENTS OR OTHER ENCUMBRANCES MAY EXIST ON PUBLIC RECORD BUT NOT BE SHOWN HEREON.

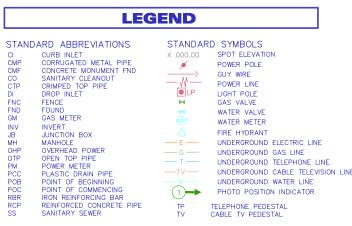
THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA BASED ON THE FLOOD INSURANCE RATE MAP FOR THIS AREA. THE MAP NUMBER FOR THIS AREA IS 13089COOT2 H, AND THE DATE OF SAID MAP IS MAY 7, 2001. THIS DETERMINATION WAS MADE BY GRAPHICALLY DETERMINING THE POSITION OF THIS SITE ON SAID FIRM MAPS UNLESS OTHERWISE NOTED. THE HORIZONTAL DATUM FOR THIS SURVEY IS BASED ON THE NORTH

AMERICAN DATUM OF 1983 (NAD'83) FROM GPS OBSERVATIONS PERFORMED BY GEOSURVEY, LTD. THE VERTICAL DATUM FOR THIS SURVEY IS BASED ON THE NORTH AMERICAN DATUM OF 1988 (NAVD'88) FROM GPS OBSERVATIONS PERFORMED BY GEOSURVEY, LTD.

THE SITE IS ZONED "OI" (OFFICE INSTITUTION DISTRICT). THE MINIMUM YARD SETBACKS ARE: FROM PUBLIC STREET FRONT 50 FEET; SIDE – 20 FEET; INTERIOR YARD SETBACKS– 20 FEET AND REAR – 30 FEET. PLEASE NOTE: ZONING AND SETBACKS SHOULD BE CONFIRMED AND VERIFIED BY PLANNING AND ZONING PRIOR TO DESIGN OR CONSTRUCTION ACTIVITIES. PLEASE NOTE: TREES (8"DBH AND LARGER) WERE LOCATED FOR THIS SURVEY. SURVEY REFERENCES

1> TOPOGRAPHIC SURVEY FOR HINES ATLANTA, PREPARED BY FISTER & ASSOCIATES, INC. DATED MARCH 13, 1997. 2> SURVEY FOR HINES ATLANTA LIMITED, RAVINIA 1 ASSOCIATES, RAVINIA II ASSOCIATES, RAVINIA III ASSOCIATES AND RAVINIA PROPERTY OWNERS ASSOCIATION, PREPARED BY HILL-FISTER ENGINEERS, INC. DATED DECEMBER 21, 1989.

| GAS<br>ATLANTA GAS LIGHT CO.<br>MARTIN MAREK                                                               | WATER<br>CITY OF ATLANTA WATER DPT.<br>BAHMAN FIROOZI<br>650 BISHOP STREET NW<br>ATLANTA, GA 30309<br>(404) 235-2064            | WATER<br>DELAKB CO. WATER & SEWER<br>JANICE WILSON                                                                                |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| CABLE TV<br>COMCAST<br>NETWORK OPERATIONS<br>2925 COURTYARDS DRIVE<br>NORCROSS, GA 30031<br>(770) 559-7699 |                                                                                                                                 | ELECTRICITY<br>GEORGIA POWER<br>IKE COLLNS<br>829 JEFFERSON STREET<br>ATLANTA, GA 30318<br>(404) 506-4569                         |
| P.O. BOX 4569                                                                                              | FIBER-OPTICS<br>AMERICAN TELEPHONE &<br>TELEGRAPH CO.<br>JENNIFER JONES<br>2315 SALEM RD<br>CONYERS, GA 30013<br>(770) 602-2493 | FIBER-OPTICS<br>LEVEL 3 COMMUNICATIONS<br>LYNN GILBERTSON<br>345 COURTLAND ST<br>15T FLOOR<br>ATLANTA, GA 30308<br>(404) 253-1900 |

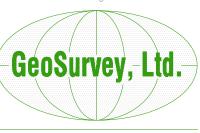


BOUNDARY AND TOPOGRAPHIC SURVEY FOR

# Hines Atlanta, Limited

|                           | SITE INFORMATION |                         |
|---------------------------|------------------|-------------------------|
| COUNTY: DEKALB            |                  | STATE: GEORGIA          |
| LAND LOT: 347             |                  | DISTRICT: 18TH          |
| FIELD WORK: BB PROJ TECH: | MDG PROJ MGR:    | GEE REVIEWED: JRC       |
| SURVEY DATE: MAY 24, 2006 | DRA              | AWING SCALE: $1" = 40'$ |
| GS Dwg File: 20062796.dwg |                  | GS Job No.: 20062796    |

|     |     |      | 960         |              |
|-----|-----|------|-------------|--------------|
|     |     |      |             | (            |
|     |     | F    | EVISIONS    | <sup>†</sup> |
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N/F PROPERTY OF

DEED BOOK 9254 / PAGE ZONED OI

HINES ATLANTA LI

LIMITS OF TOPO

Land Surveying & Mapping 300 Sandy Plains Ind. Parkway Suite 104 Marietta, Georgia 30066 Phone: (770) 795–9900 Fax: (770) 795–8880

































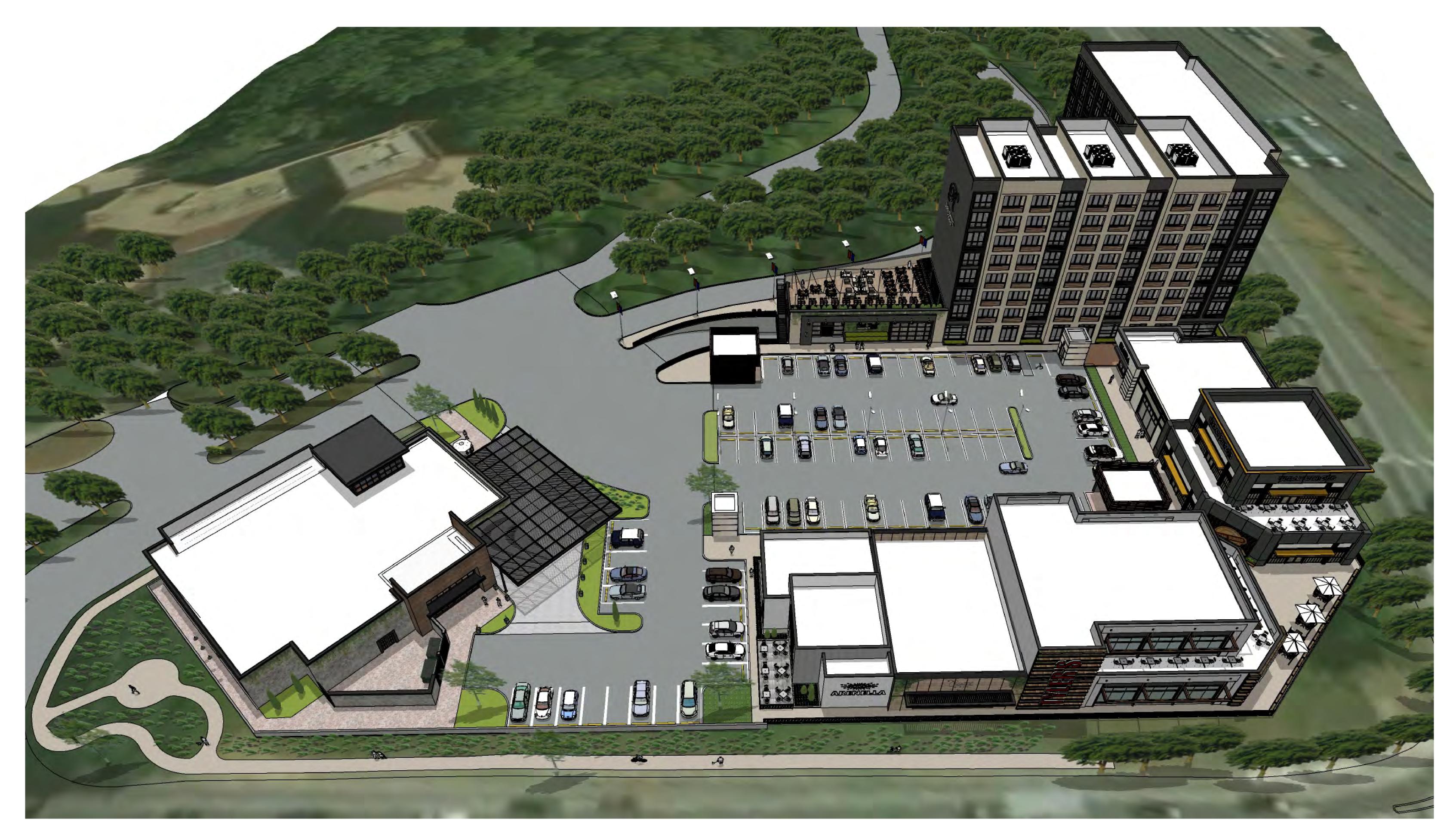






























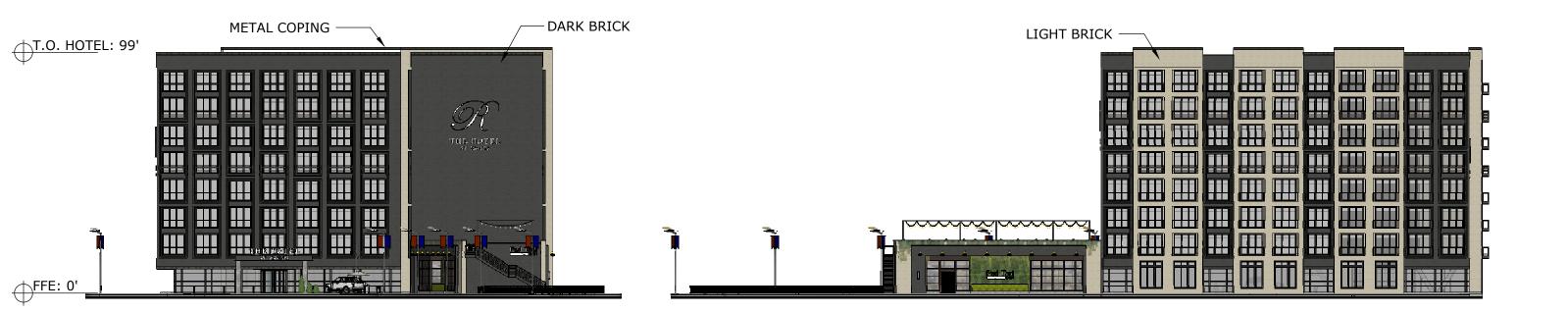














Material Legend

-Major Façade Materials will make up a minimum of 80% of each façade -Minor materials will make up no more than 20% of each façade -All glass will be highly transparent

-All accent materials will be per the Perimeter Center Overlay requirements

B ARCHITECTURE | INTERIORS | PLANNING **RAVINIA - CONCEPTUAL RENDERINGS** DUNWOODY, GEORGIA JUNE 25, 2019 WWW.WBASSOCIATES.COM | A NELSON Company







STOREFRONT ULTRA-CLEAR GLASS

#### Material Legend

-Major Façade Materials will make up a minimum of 80% of each façade -Minor materials will make up no more than 20% of each façade -All glass will be highly transparent -All accent materials will be per the Perimeter Center Overlay requirements





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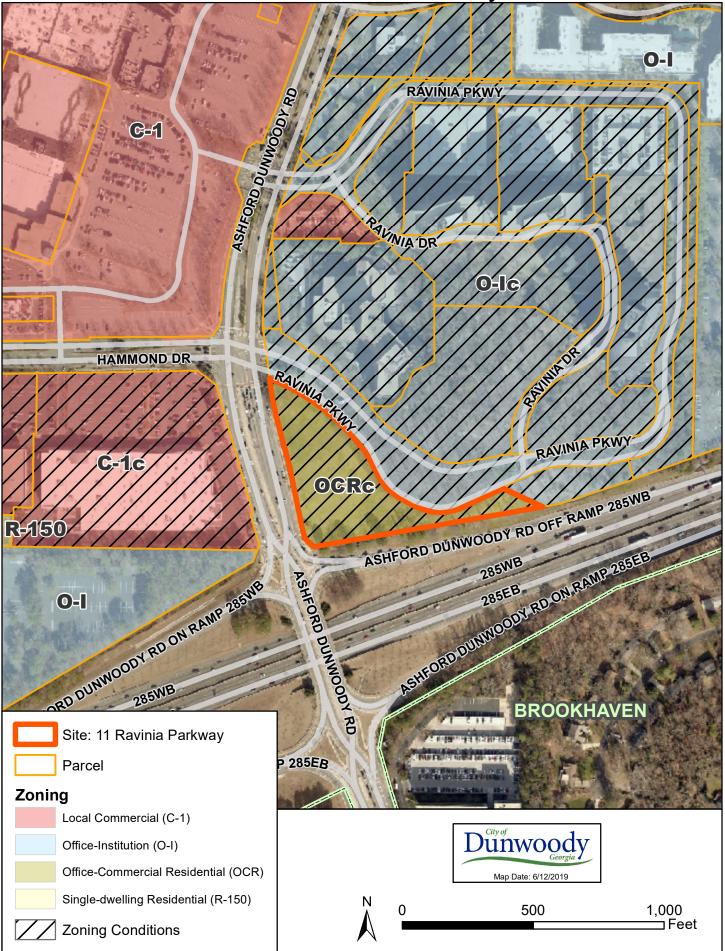
#### Material Legend

-Major Façade Materials will make up a minimum of 80% of each façade -Minor materials will make up no more than 20% of each façade -All glass will be highly transparent -All accent materials will be per the Perimeter Center Overlay requirements

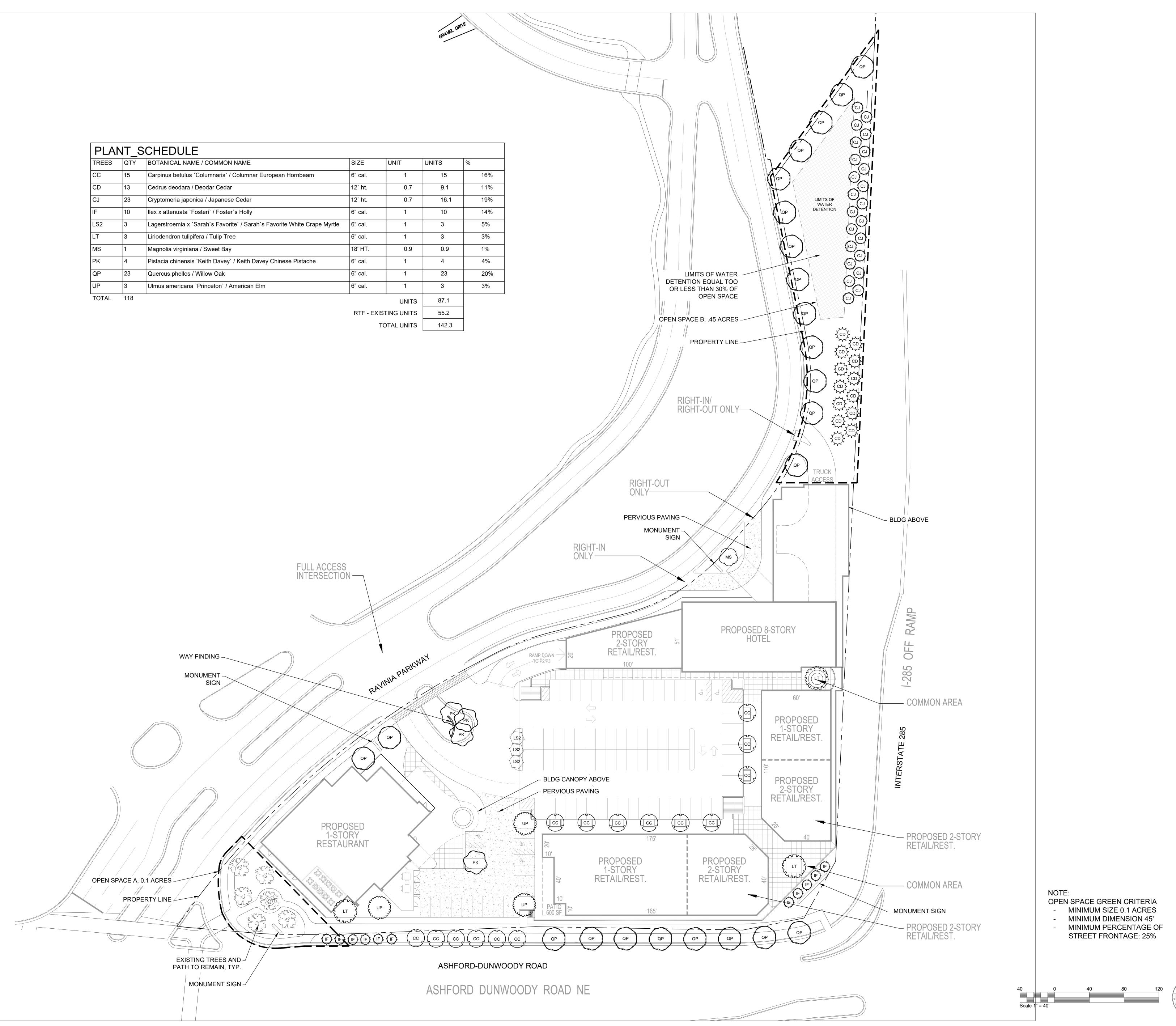




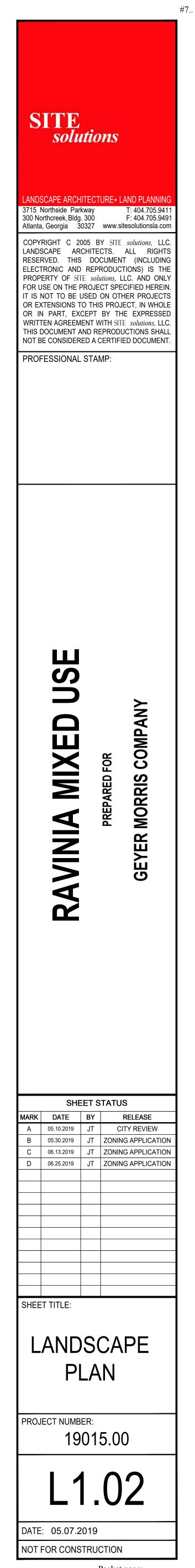
# Site: 11 Ravinia Parkway



| PLANT_SCHEDULE |     |                                                                          |  |
|----------------|-----|--------------------------------------------------------------------------|--|
| TREES          | QTY | BOTANICAL NAME / COMMON NAME                                             |  |
| CC             | 15  | Carpinus betulus `Columnaris` / Columnar European Hornbeam               |  |
| CD             | 13  | Cedrus deodara / Deodar Cedar                                            |  |
| CJ             | 23  | Cryptomeria japonica / Japanese Cedar                                    |  |
| IF             | 10  | llex x attenuata `Fosteri` / Foster`s Holly                              |  |
| LS2            | 3   | Lagerstroemia x `Sarah`s Favorite` / Sarah`s Favorite White Crape Myrtle |  |
| LT             | 3   | Liriodendron tulipifera / Tulip Tree                                     |  |
| MS             | 1   | Magnolia virginiana / Sweet Bay                                          |  |
| PK             | 4   | Pistacia chinensis `Keith Davey` / Keith Davey Chinese Pistache          |  |
| QP             | 23  | Quercus phellos / Willow Oak                                             |  |
| UP             | 3   | Ulmus americana `Princeton` / American Elm                               |  |
| TOTAL          | 118 |                                                                          |  |







#### PERIMETER CENTER

#### Vision/Intent

Perimeter Center will be a visitor friendly "livable" regional center with first-class office, retail, entertainment, hotels, and high-end restaurants in a pedestrian and bicycle-oriented environment. The area will serve as a regional example of high quality design standards. The City of Dunwoody works in partnership with the Perimeter Community Improvement Districts (PCIDs) and adjacent communities to implement and compliment the framework plan and projects identified in the Perimeter Center Livable Centers Initiative study (LCI) and its current and future updates.

In the future, the area should add public gathering space and pocket parks, venues for live music and entertainment and continue to create transportation alternatives, mitigate congestion, and reduce remaining excessive surface parking. The area creates the conditions of possible true "live-work" environment. All future development continues to emphasize high quality design standards and building materials and incorporates the current national best practices on energy efficiency, where possible.

The City of Dunwoody recognizes the value of creating mixed-use, transit-oriented development within walking distance of public transit stations. However, the City has concerns about the impact of such development on the City's infrastructure and schools.

#### **Future Development**

The Perimeter Center Character Area will be divided into four subareas (PC-1, PC-2, PC-3, and PC-4) which match the draft proposed overlay district outline that the City is reviewing as part of the Perimeter Center Zoning Code. This area was the subject of a previous LCI Study. The cities of Dunwoody, Sandy Springs, and Brookhaven work in partnership with the Perimeter Community Improvement Districts (PCIDs) to implement and complement the framework plan and projects identified in the Perimeter Center Livable Centers Initiative study (LCI) and its current and future updates.

For specific recommendations on height, density and use refer to the provisions of the Perimeter Center Overlay District and Zoning, available from the Dunwoody Community Development Department.



FIGURE 13: Perimeter Center Character Area Map

PC-1: Intended to apply to the central core area of Perimeter Center, including the area directly surrounding the Dunwoody MARTA train station. This district allows for the highest intensity of buildings, a high level of employment uses, and active ground story uses and design that support pedestrian mobility.

PC-2: Made up primarily of employment uses and limited shop front retail, residential, and services.

PC-3: A smaller scale, less intensive commercial district, permitting both shop front and office buildings.

PC-4: Made up primarily of residential uses at a scale that provides a transition between the intensity of Perimeter Center and the surrounding single-family residential neighborhoods.

#### Action Items







A Housing in Perimeter Center

- New development will include amenities and provide public functional green space.
- New development will be mindful of school capacity issues and applicants will work with Board of Education and City for better resolution of school issues.
- Reduce surface parking and promote livable centers in the immediate areas surrounding MARTA station.
- Encourage hotel and convention development near MARTA in order to foster commerce along the mass transportation route.
- Achieve a lifelong-community for residents who can age in place with safe access to medical, recreational and other necessary services.
- Create bicycle, pedestrian and non-auto related transportation options to connect with the rest of the City of Dunwoody.
- The 2012 PCID Commuter Trail System Master Plan proposed a network of commuter trails connecting to the MARTA station.
- The 2012 PCID Perimeter Circulator Implementation report recommended circulator transit to provide first/ last mile connectivity for commuters and reduction in CID area congestion.
- The PCIDs have proposed Perimeter Park at the Dunwoody MARTA Station.
- Work with the Perimeter Transportation Management Association (TMA) to actively reduce automobile dependency and emerge as a leader in alternative transportation for the region.
- Work to strengthen Board of Education relationship for creative solutions to school capacity.
- Work with the PCIDs' boards to implement vision.
- Coordinate with the City of Sandy Springs for LCI Updates and implementation.
- Coordinate with the Atlanta Regional Commission (ARC) for implementation of future LCI study updates.
- Coordinate with MARTA regarding Bus Rapid Transit (BRT) (or other regional service) and urban design surrounding all transit stations.
- Look for ways to encourage live entertainment for the benefit of visitors and residents.

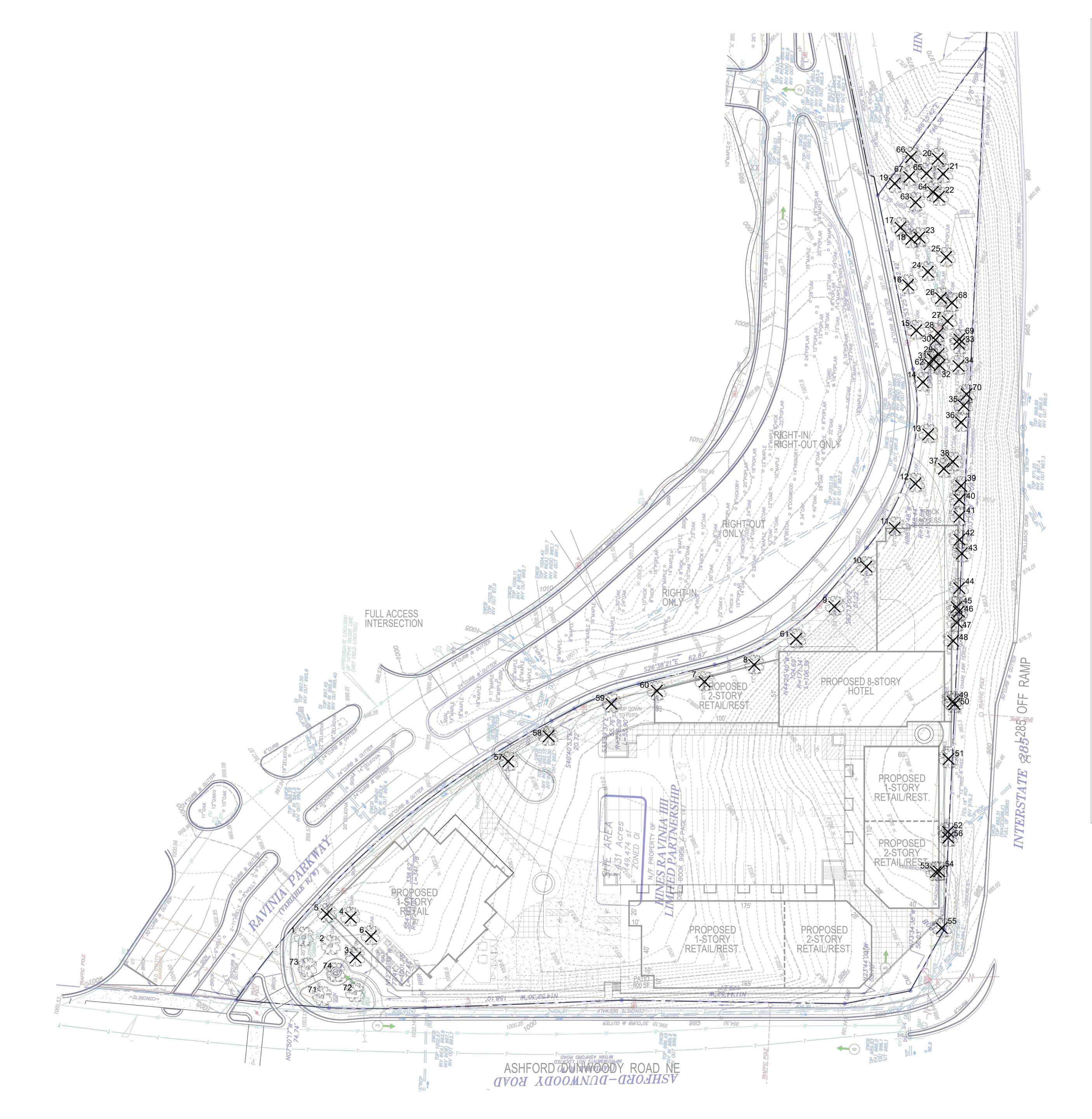
# COMMUNITY IMPROVEMENT DISTRICT (CID)

A Community Improvement District (CID) is an authorized self-taxing district dedicated to Infrastructure improvements within its boundaries. The PCIDs are governed by two boards – one each for Fulton and DeKalb. The PCIDs spent or leveraged public funds to invest \$55 million in Dunwoody alone; over \$7 million from ARC's LCI program was directed to the PCIDs. This makes it one of the most, if not the most, successful CIDs in the region. The PCIDs' mission focuses exclusively on transportation improvements:

To work continuously to develop efficient transportation services, with an emphasis on access, mobility, diversification and modernization.



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| TO BE RE |    |           |
|----------|----|-----------|
| TAG DBH  |    | TREE      |
| 3        |    | Oak       |
| 4        |    | Oak       |
| 5        |    | Oak       |
| 6        |    | Oak       |
| 7        |    | Oak       |
| 8        |    | Oak       |
| 9        |    | Oak       |
| 10       |    | Oak       |
| 11       |    | Oak       |
| 12       |    | Oak       |
| 13       |    | Oak       |
| 14       |    | Oak       |
| 15       |    | Oak       |
| 16       | 20 | Oak       |
| 17       | 16 | Beech     |
| 18       | 16 | Pine      |
| 19       | 8  | Tree      |
| 20       | 10 | Pine      |
| 21       | 20 | Oak       |
| 22       | 14 | Sweetgum  |
| 23       | 12 | Plne      |
| 24       | 18 | Beech     |
| 25       | 9  | Poplar    |
| 26       | 14 | Poplar    |
| 27       | 14 | Poplar    |
| 28       | 8  | Pine      |
| 29       | 14 | Oak       |
| 30       | 10 | Pine      |
| 31       | 18 | Poplar    |
| 32       | 12 | Pine      |
| 33       | 16 | Oak       |
| 34       | 22 | Pine      |
| 35       | 12 | Pine      |
| 36       | 20 | Oak       |
| 37       | 10 | Poplar    |
| 38       | 12 | Hardwood  |
| 39       | 11 | Oak       |
| 40       | 10 | Hardwood  |
| 41       | 10 | Tree      |
| 42       | 8  | Maple     |
| 43       | 17 | Pine      |
| 44       | 19 | Pine      |
| 45       | 20 | Pine      |
| 46       | 17 | Pine      |
| 47       | 20 | Pine      |
| 48       | 13 | Pine      |
| 49       | 9  | Tree      |
| 50       | 22 | Pine      |
| 51       | 20 | Pine      |
| 52       | 10 | Tree      |
| 53       | 9  | Pine      |
| 54       | 15 | Hackberry |
| 55       | 9  | Hackberry |
| 56       | 20 | Pine      |
|          |    |           |

| TO BE REMOVED                                         |                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DBH SPECIMEN TREE                                     | UNIT                                                                                                                                                                                                                                                                                                                                                                               |
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| 8 Dogwood                                             |                                                                                                                                                                                                                                                                                                                                                                                    |
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| TING SPECIAL                                          |                                                                                                                                                                                                                                                                                                                                                                                    |
| TING SPECIAL<br>S TO BE SAVED                         |                                                                                                                                                                                                                                                                                                                                                                                    |
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| S TO BE SAVED<br>DBH SPECIAL TREE<br>20 Oak           | UNIT                                                                                                                                                                                                                                                                                                                                                                               |
| S TO BE SAVED<br>DBH SPECIAL TREE<br>20 Oak<br>22 Oak | UNIT                                                                                                                                                                                                                                                                                                                                                                               |
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| S TO BE SAVED<br>DBH SPECIAL TREE<br>20 Oak<br>22 Oak | UNIT                                                                                                                                                                                                                                                                                                                                                                               |
|                                                       | DBH SPECIMEN TREE<br>30 Oak<br>30 Oak<br>32 Oak<br>32 Oak<br>24 Oak<br>25 Oak<br>14 Dogwood<br>24 Oak<br>34 Oak<br>26 Oak<br>30 Oak<br>24 Oak<br>30 Oak<br>24 Oak<br>40 Oak<br>34 Oak<br>34 Oak<br>8 Dogwood<br>375 caliper inches<br>3 Specimen trees remove<br>ING SPECIMEN<br>STO BE SAVED<br>DBH SPECIMEN TREE<br>26 Oak<br>24 Oak<br>50 caliper inches<br>Specimen tree saved |

838 caliper inches 55 tree removed

TREE CALCULATIONS

TREE DENSITY FACTOR (TDF) 6.5 ACRES X 20 TREE UNITS = 130.0 TREE UNITS REQUIRED

REMAINING TREE FACTOR (RTF) (SPECIMEN + SPECIAL TREES) X 2 = RTF (13.6 + 14.0) X 2 = 55.2 UNITS PROVIDED

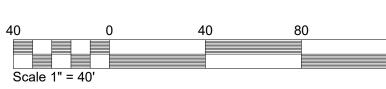
REQUIRED REPLACEMENT DENSITY (RRD) TDF - RTF = RRD

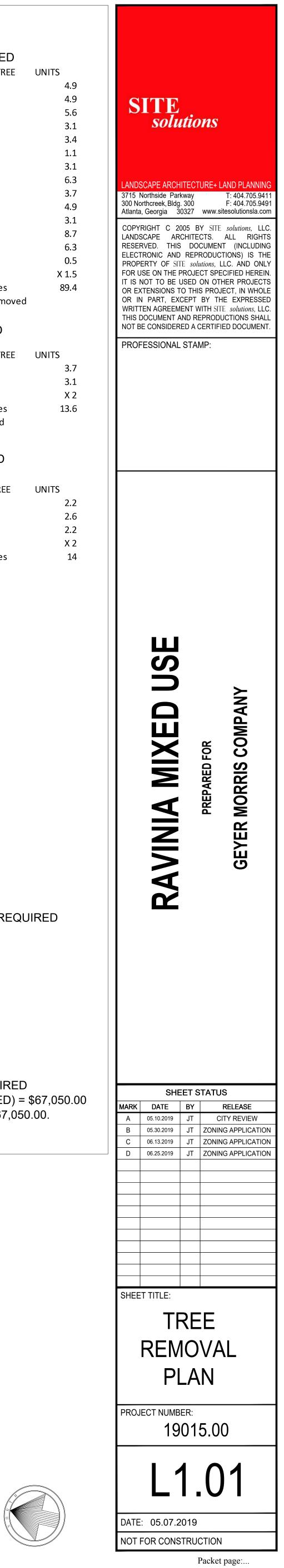
130.0 - 55.2 = 74.8 UNITS REQUIRED

SPECIMEN RECOMPENSE:

89.4 UNITS REMOVED 89.4 / 0.6 UNITS (3" CAL. TREE) = 149 TREES REQUIRED 149 3" CAL. TREES X \$450.00 PER TREE (ESTIMATED) = \$67,050.00 SPECIMEN TREE RECOMPENSE ESTIMATED AT \$67,050.00.







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Traffic Impact Study

Proposed Ravinia Multi-Use Development City of Dunwoody, Georgia

July 29, 2019



MARC R. ACAMPORA, PE, LLC Traffic Engineering

Traffic Impact Study

Proposed Ravinia Multi-Use Development City of Dunwoody, Georgia

study prepared for:

Geyer Morris Company One Buckhead Plaza 3060 Peachtree Road NW, Suite 1050 Atlanta, Georgia 30305

July 29, 2019



#### MARC R. ACAMPORA, PE, LLC TRAFFIC ENGINEERING

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#### Introduction

This study assesses the traffic impact of a proposed multi-use development in the City of Dunwoody, Georgia. The site is located on the south side of Ravinia Parkway east of Ashford Dunwoody Road and north of the Interstate 285 westbound off-ramp, as shown in the location map in Figure 1. The site will be developed with a 275 key hotel, 12,500 square feet of retail shops, and 30,000 square feet of restaurants. Access will be provided at one full-movement driveway, right-in and right-out (RIRO) driveways for the hotel drop-off/pick-up, and a RIRO truck service driveway, all along the south side of Ravinia Parkway.

The purpose of this traffic impact study is to determine existing traffic operating conditions in the vicinity of the proposed multi-use development, project future traffic volumes, assess the impact of the subject development, then develop conclusions and recommendations to mitigate the project traffic impact and ensure safe and efficient existing and future traffic conditions in the vicinity of the project.

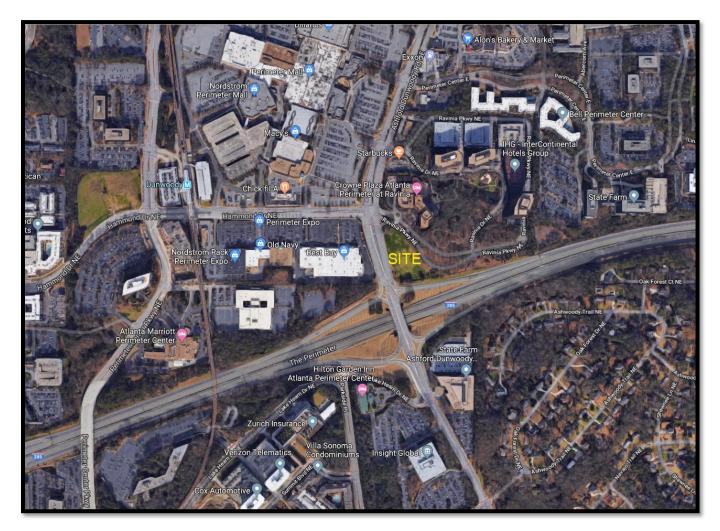


Figure 1 – Site Location Map

Ravinia Multi-Use Development Traffic Impact Study

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#### Existing Traffic Conditions

Existing traffic operating conditions in the vicinity of the proposed multi-use development were assessed. The following is a description of existing transportation facilities, traffic volumes, and intersection operations.

#### Description of Existing Roadways

Ashford Dunwoody Road is an urban minor arterial (Georgia DOT designation) with a north/south orientation. The road begins at Mount Vernon Road, passes the subject site, has a diverging diamond interchange (DDI) with Interstate 285, then continues to the south, terminating at Peachtree Road. Adjacent to the site, the road has four through lanes per direction, with exclusive left and right turn lanes at most major intersections. At Hammond Drive / Ravinia Parkway, there are two southbound left turn lanes and one right turn lane and two northbound left turn lanes but just a right turn flare on Ashford Dunwoody Road. Land uses along Ashford Dunwoody Road include a regional shopping mall, other retail centers, office parks, and accesses to multi-family developments. The terrain along the adjacent segment of Ashford Dunwoody Road is level to gently rolling. In 2018 (the latest year for which data was available at the time of this study) the Georgia Department of Transportation (Georgia DOT) recorded an Annual Average Daily Traffic (AADT) volume of 49,300 vehicles per day (vpd) on Ashford Dunwoody Road north of Hammond Drive.

Hammond Drive is an urban minor arterial (Georgia DOT designation) with an east/west orientation. The road begins at Mount Vernon Highway, has a half diamond interchange to/from the north on Georgia 400, then changes name to Ravinia Parkway at Ashford Dunwoody Road and passes the subject site and makes a loop through the Ravinia office park to the north and east of the site. West of Ashford Dunwoody Road, Hammond Drive has two through lanes per direction. Eastbound at Ashford Dunwoody Road, Hammond Drive has a left turn lane and a shared left/through lane, and two right turn lanes. Westbound Ravinia Parkway has two left turn lanes, a through lane, and a right turn lane. However, these lanes are only designated with turn arrows on the brick pavers, with no lane line striping. In the vicinity of the site Hammond Drive serves a regional shopping mall, and other retail uses. Ravinia Parkway serves office buildings, hotels, and small retail uses. The terrain along Hammond Drive is level while Ravinia Parkway is winding with rolling terrain. In 2018 the Georgia DOT recorded an AADT volume of 18,700 vpd on Hammond Drive west of Ashford Dunwoody Road.

#### Pedestrian, Bicycle, and Transit Accessibility

There is sidewalk along both sides of Ashford Dunwoody Road and Hammond Drive. There is a narrow sidewalk along the north side of Ravinia Parkway for a very short segment to the driveway to the Crowne Plaza hotel. There is no sidewalk along the subject site frontage on Ravinia Parkway. There are crosswalks and pedestrian signals on all approaches at the Ashford Dunwoody / Hammond / Ravinia Parkway intersection. The width of Ashford Dunwoody Road requires pedestrian crossing in two steps, with a stop at the median and a second pedestrian countdown for the second half of the crossing. The pedestrian refuge area in the medians are very

Ravinia Multi-Use Development Traffic Impact Study

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small. There are no designated bicycle lanes in the vicinity of the site. There is regularly scheduled MARTA bus service adjacent to the site. The MARTA Dunwoody rail station is a modest walk from the site.

Photographs 1 through 4 show the existing conditions at the intersection of Ashford Dunwoody Road at Hammond Drive / Ravinia Parkway.



Photograph 1 – Ashford Dunwoody Road Facing South at Ravinia Parkway

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Photograph 2 – Narrow Sidewalk and Lack of Lane Striping in Northeast Corner of Ashford Dunwoody at Ravinia



Photograph 3 – Two-Stage Pedestrian Crossing of Ashford Dunwoody on North Side of Ravinia

Ravinia Multi-Use Development Traffic Impact Study

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Photograph 4 – Pedestrians Crossing Against the Don't Walk Signal and Conflicting with Left Turning Traffic

#### Existing Traffic Volumes

The City has requested an operational analysis of the intersection of Ashford Dunwoody Road at Hammond Drive / Ravinia Parkway (South). Due to the fact that this intersection is coordinated with the adjacent signals, this traffic study models the subject intersection and the immediately-adjacent intersections along Ashford Dunwoody Road. However, the statistics of intersection operations are only presented for the subject intersection. Full turning movement traffic volume count data was provided by the City for the weekday a.m. and p.m. peak hours. Mid-day counts were collected for this study. The data was provided, or collected, at the following intersections in the vicinity of the proposed development:

- 1. Ashford Dunwoody Road at Ravinia Parkway (North) / Perimeter Mall Access
- 2. Ashford Dunwoody Road at Ravinia Parkway (South) / Hammond Drive
- 3. Ashford Dunwoody Road at Interstate 285 Westbound Ramps
- 4. Ashford Dunwoody Road at Interstate 285 Eastbound Ramps

The counts provided by the City were collected on Tuesday and Wednesday, January 8 and 9, 2019 at the Interstate 285 ramps and on Tuesday and Wednesday, January 15 and 16, 2019 at the first two intersections. The data for the two days was averaged and the peak hour was identified from the averages at each intersection. Mid-day full turning movement counts were collected at each intersection on Thursday, July 10, 2019, from 11:30 a.m. to 1:30 p.m. From all the count data, the highest four consecutive 15-minute interval volumes at each

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intersection, during each time period, were determined. These volumes make up the typical weekday a.m., midday, and p.m. peak hour traffic volumes at that intersection. Area schools were in standard session on the days of the City counts but were not on the day of the mid-day counts. The existing a.m., mid-day, and p.m. peak hour turning movement volumes are shown for the study intersection of Ashford Dunwoody at Hammond Drive / Ravinia Parkway in Figure 2. The raw count data is found in Appendix A. It is again noted that, while the count data and the subsequent analysis is only reported for the one study intersection, the modeling includes the adjacent intersections on Ashford Dunwoody Road.

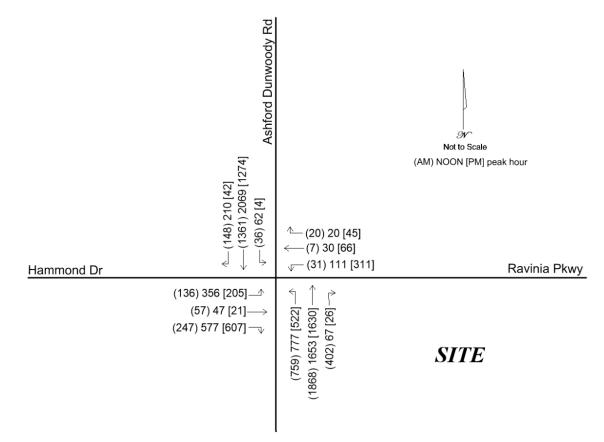


Figure 2 – Existing Weekday A.M., Mid-Day, and P.M. Peak Hour Traffic Volumes

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Georgia DOT AADT volume counts were also obtained on nearby roadways for the five years from 2014 to 2018 (the latest year for which volumes are available). Table 1 presents the historic Georgia DOT counts and the annual growth rates between the counts.

| Year          | Ash<br>Dunwoody<br>N of<br>Hammond | Annual<br>Growth | Hammond<br>W of<br>Ash<br>Dunwoody | Annual<br>Growth | Perim Ctr W<br>E of<br>Perim Ctr<br>Pky | Annual<br>Growth | I-285 WB<br>Off Ramp | Annual<br>Growth | I-285 EB<br>Off Ramp | Annual<br>Growth |
|---------------|------------------------------------|------------------|------------------------------------|------------------|-----------------------------------------|------------------|----------------------|------------------|----------------------|------------------|
| Station ID    | 089-3586                           |                  | 089-7170                           |                  | 089-4069                                |                  | 089-R701             |                  | 089-R101             |                  |
| 2014          | 49,400                             |                  | 17,000                             |                  | 28,500                                  |                  | 21,000               |                  | 21,000               |                  |
| 2015          | 49,400                             | 0.0%             | 16,300                             | -4.1%            | 28,500                                  | 0.0%             | 21,700               | 3.3%             | 21,700               | 3.3%             |
| 2016          | 49,400                             | 0.0%             | 16,800                             | 3.1%             | 28,500                                  | 0.0%             | 22,500               | 3.7%             | 22,500               | 3.7%             |
| 2017          | 49,400                             | 0.0%             | 17,800                             | 6.0%             | 28,500                                  | 0.0%             | 23,600               | 4.9%             | 23,600               | 4.9%             |
| 2018          | 49,300                             | -0.2%            | 18,700                             | 5.1%             | 28,500                                  | 0.0%             | 19,800               | -16.1%           | 20,100               | -14.8%           |
| avg<br>growth |                                    | -0.1%            |                                    | 2.4%             |                                         | 0.0%             |                      | -1.5%            |                      | -1.1%            |

# Table 1 – Historic Georgia DOT Traffic Volume Counts and Annual Growth Rates

Growth in the area has been generally positive and moderate, with Ashford Dunwoody near the site seeing a very slight decrease in the last year. The I-285 ramps have seen stronger decreases in the last year.

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# Existing Intersection Operations

Existing traffic operations were analyzed at the intersection of Ashford Dunwoody Road at Hammond Drive / Ravinia Parkway using Synchro software, version 10, in accordance with the methodology presented in the Transportation Research Board's 2016 *Highway Capacity Manual (HCM 6)*. This methodology is presented in Appendix B. The results of the analysis are shown in Table 2. Computer printouts containing detailed results of the existing analysis are located in Appendix C. Levels of service and delays are provided for the overall intersection and for each controlled approach or movement. Locations that operate unacceptably (below LOS D) are presented in bold type.

|                                                              | A.M. P | eak Hour         | Mid-Day | Peak Hour        | P.M. Pe | eak Hour         |
|--------------------------------------------------------------|--------|------------------|---------|------------------|---------|------------------|
| Intersection / Approach                                      | LOS    | Delay<br>(s/veh) | LOS     | Delay<br>(s/veh) | LOS     | Delay<br>(s/veh) |
| 1. Ashford Dunwoody Rd at Hammond Drive /<br>Ravinia Parkway | D      | 53.7             | F       | 102.5            | D       | 45.4             |
| northbound approach                                          | С      | 27.6             | D       | 36.3             | С       | 25.7             |
| southbound approach                                          | F      | 94.5             | F       | 193.7            | Ε       | 62.3             |
| eastbound approach                                           | Ε      | 55.2             | E       | 62.1             | D       | 52.3             |
| westbound approach                                           | D      | 48.4             | Ε       | 70.6             | Ε       | 78.1             |

| Table 2 – Existing Ir | ntersection Operations |
|-----------------------|------------------------|
|-----------------------|------------------------|

The existing analysis reveals high delays on certain approaches during all time periods. The overall intersection operates acceptably in the a.m. and p.m. peaks, but fails in the mid-day peak. Observations reveal that some of the delays incurred at this intersection are a result of vehicles spilling back from adjacent intersections.

The intersection design is highly built-out. Additional northbound and southbound through capacity on Ashford Dunwoody Road would help operations, but would require a major road widening through this corridor. This was not evaluated due to lack of feasibility for the near-term.

The northbound right turn volume on Ashford Dunwoody turning into Ravinia Parkway is substantial in the morning peak hour (402), which justifies a full right turn lane rather than the short flare currently provided. The addition of this right turn lane is justified in the existing condition and is therefore considered a system improvement.

The southbound left turn volume is relatively low and does not necessitate dual left turn lanes. The second left turn lane could be eliminated with minimal adverse impact to intersection operations. Elimination of the second southbound left turn lane would create additional room to expand the pedestrian refuge area in the median and this improvement is recommended. The phasing for the southbound left turn should remain protected-only due to the number of opposing lanes and heavy volumes on northbound Ashford Dunwoody Road. This improvement is justified based on existing conditions and is therefore considered a system improvement.

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It would also be beneficial to widen the sidewalk at the northeast corner of the intersection and along the north side of Ravinia Parkway. It is recognized that topography may constrain the sidewalk width and this widening may not be feasible. This improvement is a system improvement and should be implemented, if feasible, whether or not the proposed development is built.

The signal timing at this intersection is nearly three minutes; reducing that timing could potentially reduce delays at this intersection, and in this corridor. Since the signals in this corridor operate interactively, changes in cycle length would impact this entre corridor, and could potentially benefit all intersections. A comprehensive evaluation of corridor signal timing is beyond the scope of this traffic impact study.

Lane lines should be striped exiting Ravinia Parkway (westbound). This would identify the lanes for queued vehicles before they reach the intersection. This is particularly important for the dual left turn lanes. While many of the motorists on this approach are from the offices in Ravinia and are familiar with the lane configuration, motorists from the existing hotel are likely not familiar with the lane usage. The proposed development will introduce a new hotel and customers to the retail and restaurants who will be unfamiliar with these lanes and, therefore, this striping will be beneficial now and even more so in the near future.

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# No-Build Traffic Conditions

A 2024 no-build condition was developed. This represents the traffic conditions that will exist in the future at the anticipated date of the build-out of the proposed multi-use development, but not including the project's trips. The purpose of the analysis of this condition is to isolate the traffic impacts of the proposed development from background growth in volumes that are expected to occur in the area while the development is under construction.

# No-Build Traffic Volume Projections

In order to develop no-build volumes, a background growth factor was developed using the historic Georgia DOT 24-hour traffic counts that were presented previously in this report, in Table 1. Based on the growth trends identified in Table 1, a 1.0% annual growth factor was applied to the existing volumes when projecting the future no-build volumes. The growth factor was applied for five years, for a total of 5.1% growth that will occur while the proposed development is under construction. The text after Table 1 noted that growth was low near the site and even decreased in the past year at several locations. This area is seeing a significant level of new development proposed, under construction, or coming online soon. Therefore, it is reasonable to expect growth in traffic volumes to remain positive into the future. However, 1) the volumes at the study intersections are very high, which means small growth rates still equate to solid increases in volumes, 2) as congestion increases in this area it is anticipated that the peaks will get longer, as trips become increasingly scheduled to avoid the highest peaking, and 3) the urbanization of this area may see a shift of some trips to alternative modes including more pedestrian trips between uses and higher transit ridership. This was all considered in choosing a growth factor that reflects recent trends, includes strong future development, and accounts for adaptation of driver behavior and trip type.

The existing traffic volumes were increased by the 5.1% growth factor. The results are the 2024 no-build traffic volumes that will be on the roadway network in the future when the proposed development is completely operational, but excluding the development's trips.

# No-Build Intersection Operations

The no-build condition includes the no-build traffic volumes, as described above. These were entered into the Synchro model and the 2024 no-build traffic operations were analyzed at the study intersection using Synchro 10 software in accordance with the HCM 6 methodology. The results of the no-build analysis are shown in Table 3. Computer printouts containing detailed results of the no-build analysis are located in Appendix D. Levels of service and delays are provided for the overall intersection and for each controlled approach or movement. Locations that operate unacceptably are presented in bold type.

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|                                                              | A.M. P | eak Hour         | Mid-Day | Peak Hour        | P.M. Pe | eak Hour         |
|--------------------------------------------------------------|--------|------------------|---------|------------------|---------|------------------|
| Intersection / Approach                                      | LOS    | Delay<br>(s/veh) | LOS     | Delay<br>(s/veh) | LOS     | Delay<br>(s/veh) |
| 1. Ashford Dunwoody Rd at Hammond Drive /<br>Ravinia Parkway | Ε      | 59.9             | F       | 113.4            | D       | 46.8             |
| northbound approach                                          | С      | 28.6             | D       | 38.2             | С       | 27.1             |
| southbound approach                                          | F      | 110.7            | F       | 219.2            | Ε       | 64.5             |
| eastbound approach                                           | Ε      | 55.7             | E       | 62.8             | D       | 53.5             |
| westbound approach                                           | D      | 48.4             | E       | 71.0             | Е       | 77.9             |

# Table 3 – No-Build Intersection Operations

The no-build analysis reveals increases in delays at the study intersection. The improvements discussed in the existing operations section continue to be applicable to the no-build condition. No additional mitigation is identified for the no-build condition.

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# Project Traffic Characteristics

This section describes the anticipated traffic characteristics of the proposed multi-use development, including a site description, how much traffic the project will generate, and where that traffic will travel.

# Project Description

The site will be developed with a 275 key hotel, 12,500 square feet of retail shops, and 30,000 square feet of restaurants. Access will be provided at one full-movement driveway, right-in and right-out (RIRO) driveways for the hotel drop-off/pick-up, and a RIRO truck service driveway, all along the south side of Ravinia Parkway. The site plan is presented in Figure 3.

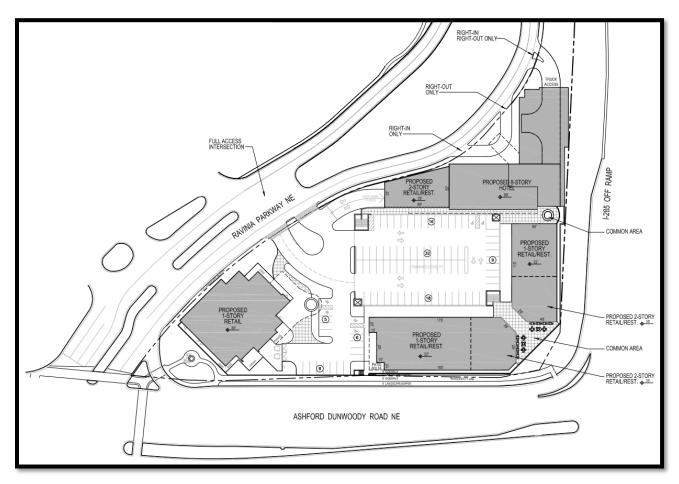


Figure 3 – Site Plan for Proposed Ravinia Multi-Use Development

Ravinia Multi-Use Development Traffic Impact Study

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# Trip Generation

Trip generation is an estimate of the number of entering and exiting vehicular trips that will be generated by the proposed development. The volume of traffic that will be generated by each land use was calculated using the equations and rates in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10<sup>th</sup> Edition. ITE Land Use 310 – Hotel was selected for the hotel. The commercial component will be a mix retail and restaurants. ITE Land Use 820 – Shopping Center was chosen as representative of the commercial space. Trip data for each use is limited for the weekday mid-day peak hour. Therefore, for each use, the weekday a.m. peak hour of the generator was used to represent the mid-day peak.

Multi-use adjustments were made according to the methodology in the ITE *Trip Generation Handbook*, 3<sup>rd</sup> Edition, which is based on NCHRP Report 684. These adjustments account for trips that will occur between compatible uses within the project. These trips will remain internal to the project and will not travel on adjacent roadways.

There is transit availability in the vicinity of the subject site, though it is expected that transit ridership to the subject site will be somewhat low. However, this area does contain a significant amount of trip attractors that will likely attract some pedestrian activity from the site. These attractors include Perimeter Mall, directly across Ashford Dunwoody Road, as well as other retail shopping, restaurants, hotels, and office buildings in a modest walking distance from the site and the sidewalks and pedestrian crossing signals facilitate walking to and from the subject development. Therefore, a modest 10% pedestrian/transit adjustment was applied to the trip generation.

The retail and restaurant trips were also adjusted to reflect the effect of pass-by trips. These are trips that are already passing the site enroute to their final destination, but will turn into the site for dining or retail purposes, then continue on to their original destination. These trips will enter and exit the site main driveway and will turn to and from Ashford Dunwoody Road and Hammond Drive, but they will not be new trips on those roads. Based on the ITE *Trip Generation Handbook*, 3<sup>rd</sup> Edition, the pass-by percentages selected for the retail/restaurants were 24% in the a.m., 34% in the p.m., and 24% for a 24-hour weekday. The mid-day peak was assumed to be the same at the p.m. peak – 34%. Table 4 summarizes the trip generation calculations for the proposed development.

Ravinia Multi-Use Development Traffic Impact Study

MARC R ACAMPORA, PE, LLC

| 1                             | ITE  | <b>C</b> 1-1           | A.N        | И. Peak    | Hour       | Mid-       | Day Peal   | k Hour     | P.N       | /I. Peak I | lour       | 24 Hour |
|-------------------------------|------|------------------------|------------|------------|------------|------------|------------|------------|-----------|------------|------------|---------|
| Land Use                      | Code | Size                   | In         | Out        | Total      | In         | Out        | Total      | In        | Out        | Total      | 2-Way   |
| Hotel                         | 310  | 275 keys               | 78         | 54         | 132        | 78         | 66         | 144        | 92        | 88         | 180        | 2,678   |
| multi-use adjustment          |      |                        | -0         | -5         | -5         | -0         | -5         | -5         | 0         | -8         | -8         | -80*    |
| ped/transit adjustment        |      |                        | <u>-8</u>  | <u>-5</u>  | <u>-13</u> | -8         | <u>-6</u>  | <u>-14</u> | <u>-9</u> | <u>-8</u>  | <u>-17</u> | -260    |
| Hotel New Trips               |      |                        | 70         | 44         | 114        | 70         | 55         | 125        | 83        | 72         | 155        | 2,338   |
| Retail / Restaurants          | 820  | 42,500 ft <sup>2</sup> | 107        | 66         | 173        | 105        | 90         | 195        | 138       | 150        | 288        | 3,360   |
| multi-use adjustment          |      |                        | -5         | 0          | -5         | -5         | 0          | -5         | -8        | 0          | -8         | -80*    |
| ped/transit adjustment        |      |                        | -10        | -7         | -17        | -10        | -9         | -19        | -13       | -15        | -28        | -358    |
| pass-by adjustment            |      |                        | -22        | -14        | -36        | <u>-31</u> | <u>-28</u> | -59        | -40       | -46        | -86        | -700    |
| Retail / Restaurant New Trips |      |                        | 70         | 45         | 115        | 59         | 53         | 112        | 77        | 89         | 166        | 2,222   |
|                               |      |                        | P          | roject S   | ummary     |            |            |            |           |            |            |         |
| Total Gross Trips             |      |                        | 185        | 120        | 305        | 183        | 156        | 339        | 230       | 238        | 468        | 6,038   |
| total multi-use               |      |                        | -5         | -5         | -10        | -5         | -5         | -10        | -8        | -8         | -16        | -160    |
| total ped/transit             |      |                        | -18        | -12        | -30        | -18        | -15        | -33        | -22       | -23        | -45        | -618    |
| total pass-by                 |      |                        | <u>-22</u> | <u>-14</u> | -36        | <u>-31</u> | <u>-28</u> | <u>-59</u> | -40       | -46        | <u>-86</u> | -700    |
| Total New Trips               |      |                        | 140        | 89         | 229        | 129        | 108        | 237        | 160       | 161        | 321        | 4,560   |

Table 4 – Ravinia Multi-Use Development Trip Generation

\*24 hour multi-use adjustment estimated as 10 times p.m. peak adjustment

# Trip Distribution and Assignment

The trip distribution percentages indicate what proportion of the project's trips will travel to and from various directions. Separate distributions were developed for the hotel and retail/restaurant uses. The new trips generated by each land use, shown in Table 4, were assigned to the roadway network based on the distribution percentages. The trip distribution percentages and the a.m., mid-day, and p.m. peak hour trips expected to be generated by the development are shown in Figure 4. The traffic volume worksheets in Appendix A show the trips at each intersection (this includes the adjacent intersections on Ashford Dunwoody Road that were included in the model) by each land use.

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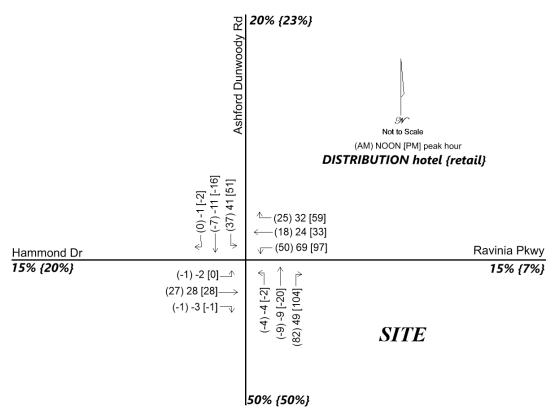


Figure 4 – Weekday A.M. and P.M. Peak Hour Site Trips and Distribution Percentages

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# Future Traffic Conditions

The future volumes consist of the no-build volumes plus the trips that will be generated by the proposed multiuse development. The future volumes are shown in Figure 5.

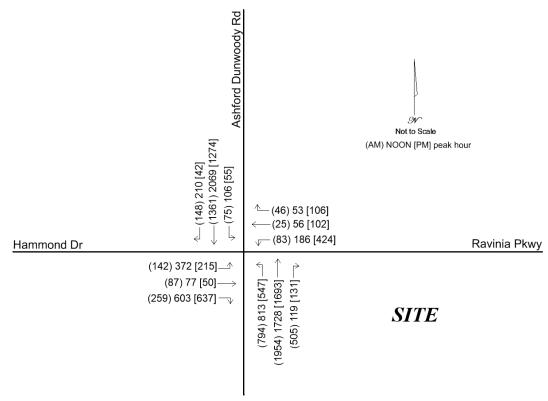


Figure 5 – Future Weekday A.M. and P.M. Peak Hour Volumes

Future Intersection Operations

An operational analysis was performed for the anticipated future project build-out at the study intersection. Table 5 presents the results of the future analysis. Computer printouts containing detailed results of the future analysis are located in Appendix E. Levels of service and delays are provided for the overall intersection and for each controlled approach or movement. Locations that operate unacceptably are presented in bold type.

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|                                                              | A.M. P | eak Hour         | Mid-Day | Peak Hour        | P.M. Pe | eak Hour         |
|--------------------------------------------------------------|--------|------------------|---------|------------------|---------|------------------|
| Intersection / Approach                                      | LOS    | Delay<br>(s/veh) | LOS     | Delay<br>(s/veh) | LOS     | Delay<br>(s/veh) |
| 1. Ashford Dunwoody Rd at Hammond Drive /<br>Ravinia Parkway | Ε      | 61.7             | F       | 112.6            | D       | 51.7             |
| northbound approach                                          | С      | 32.7             | D       | 42.1             | D       | 35.2             |
| southbound approach                                          | F      | 108.7            | F       | 214.7            | Ε       | 64.7             |
| eastbound approach                                           | Е      | 59.1             | E       | 65.7             | Е       | 57.5             |
| westbound approach                                           | Ε      | 56.1             | E       | 69.3             | Е       | 75.2             |

# Table 5 – Future Intersection Operations

The future analysis reveals intersection operations comparable to the no-build condition, with a modest project traffic impact. The system improvements identified in the existing condition will continue to be applicable into the future, with the addition of the site trips. The elimination of the second southbound left turn lane will continue to only have minimal impact on intersection operations, even with the addition of the site trips to this left turn movement. No additional mitigation is identified at the study intersection for the proposed Ravinia multi-use development.

Sidewalk / pedestrian connectivity should be provided from the southeast corner of Ashford Dunwoody Road / Ravinia Parkway into the site. This connectivity is included in the proposed site plan.

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This traffic impact study evaluates the impact of a proposed multi-use development in the City of Dunwoody. The site is located on the south side of Ravinia Parkway east of Ashford Dunwoody Road and north of the Interstate 285 westbound off-ramp. The site will be developed with a 275 key hotel, 12,500 square feet of retail shops, and 30,000 square feet of restaurants. Access will be provided at one full-movement driveway, a right-in and a right-out (RIRO) driveway for the hotel drop-off/pick-up, and a RIRO truck service driveway, all along the south side of Ravinia Parkway. The following are the findings and recommendations of this study:

- 1. The analysis of existing conditions reveals congestion and delays at the Ashford Dunwoody / Hammond / Ravinia intersection during peak times. The following is a summary of conclusions and recommendations based on the existing analysis:
  - a. In order to achieve acceptable operations on all approaches at all time periods, widening of Ashford Dunwoody may become necessary. However, this was not considered feasible within the near-term scope of this traffic impact study and was not evaluated in detail. Other recommendations are made recognizing that this intersection and corridor will continue to incur notable delays, depending on approach, during peak times.
  - b. Some of the delays at the Ashford Dunwoody / Hammond / Ravinia intersection are due to spillback queuing from adjacent intersections which cannot be mitigated at this intersection.
  - c. Shortening the cycle length in the Ashford Dunwoody corridor could produce "snappier" operations which may reduce queuing and delays. It is suggested that shorter timings could be tested, but a comprehensive signal timing analysis for this corridor is beyond the scope of this traffic impact study.
  - d. The northbound right turn volume on Ashford Dunwoody turning into Ravinia is significant enough in the a.m. peak hour to justify an exclusive right turn lane. Adding this lane would increase the distance across the south leg of Ashford Dunwoody Road that would be traversed by pedestrians. This could partially offset the operational benefit of providing this lane. This lane is justified in the existing condition and is therefore considered a system improvement.
  - e. The second southbound left turn on Ashford Dunwoody can be eliminated with minimal adverse impact to intersection operations and the median and pedestrian refuge area can be increased. The southbound left turn phasing should remain protected-only. This improvement is justified in the existing condition and is therefore considered a system improvement.
  - f. Lane lines should be striped on the westbound approach of Ravinia Parkway.
  - g. If feasible, the sidewalk should be widened in the northeast corner of the intersection and along the north side of Ravinia Parkway. This would also be a system improvement.

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- 2. The no-build analysis reveals operations comparable to the existing condition. The discussion presented above continues to be applicable for the no-build. No additional mitigation is identified for the no-build.
- 3. The proposed multi-use development will generate 229 new a.m. peak hour trips, 237 new mid-day peak hour trips, 321 new p.m. peak hour trips, and 4,560 new weekday trips. The multi-use design will internally capture a small number of trips, reducing the number of new trips the project will generate. In addition, the availability of transit and the proximity of other development density, coupled with the walkability of the area, will also reduce the number of automobile trips than may have been generated at another location.
- 4. With the addition of the project's trips, future operations will be comparable to the existing and no-build and the recommendations made in the existing analysis are still applicable. The project will add additional trips to the northbound right turn from Ashford Dunwoody, further justifying the northbound right turn lane identified in the existing analysis. The proposed development will add some trips to the southbound left turn from Ashford Dunwoody, but the volume will continue to be low enough that elimination of the second left turn lane will continue to only have minimal adverse impact to intersection operations.
- 5. Sidewalk / pedestrian connectivity should be provided from the southeast corner of Ashford Dunwoody Road / Ravinia Parkway into the site. This connectivity is included in the proposed site plan.

Appendix A

Traffic Count Data and Volume Worksheets

MARC R ACAMPORA, PE, LLC

### Ravinia Multi-Use Development Traffic Impact Study

City of Dunwoody, Georgia

#### July 2019

#### Intersection: 1. Ashford Dunwoody Road at Ravinia Parkway (North) / Perimeter Mall Access

| Weekday A.M. Peak Hour                                     | Northbo | ound Ashfo | rd Dunwoc | ody Road | Southbo | ound Ashfo | rd Dunwoo | dy Road | Eastb | ound Perin | neter Mall A | Access | Westbo | und Ravin | nia Parkway | (North) |
|------------------------------------------------------------|---------|------------|-----------|----------|---------|------------|-----------|---------|-------|------------|--------------|--------|--------|-----------|-------------|---------|
|                                                            | L       | т          | R         | Tot      | L       | т          | R         | Tot     | L     | т          | R            | Tot    | L      | Т         | R           | Tot     |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 7:45-8:45) | 28      | 1657       | 330       | 2015     | 296     | 1463       | 26        | 1785    | 10    | 17         | 10           | 37     | 54     | 3         | 83          | 140     |
| Total Annual Background Growth                             | 5.1%    | 5.1%       | 5.1%      |          | 5.1%    | 5.1%       | 5.1%      |         | 5.1%  | 5.1%       | 5.1%         |        | 5.1%   | 5.1%      | 5.1%        | P       |
| No-Build Volumes                                           | 29      | 1742       | 347       | 2118     | 311     | 1538       | 27        | 1876    | 11    | 18         | 11           | 39     | 57     | 3         | 87          | 147     |
| Hotel New Trips                                            | 2       | 7          | 0         | 9        | 0       | 11         | 0         | 11      | 0     | 0          | 3            | 3      | 0      | 0         | 0           | 0       |
| Retail/Restaurant New Trips                                | 1       | 9          | 0         | 10       | 0       | 14         | 0         | 14      | 0     | 0          | 2            | 2      | 0      | 0         | 0           | 0       |
| Retail/Restaurant Pass-by Trips                            | 0       | 0          | 0         | 0        | 0       | 0          | 0         | 0       | 0     | 0          | 0            | 0      | 0      | 0         | 0           | 0       |
| Total Site Trips                                           | 3       | 16         | 0         | 19       | 0       | 25         | 0         | 25      | 0     | 0          | 5            | 5      | 0      | 0         | 0           | 0       |
| Build Volumes                                              | 32      | 1758       | 347       | 2137     | 311     | 1563       | 27        | 1901    | 11    | 18         | 16           | 44     | 57     | 3         | 87          | 147     |

| Weekday Mid-Day Peak Hour                                  | Northbo | und Ashfo | rd Dunwoo | dy Road | Southbo | und Ashfo | rd Dunwoo | dy Road | Eastb | ound Perim | eter Mall A | ccess | Westbo | und Ravin | ia Parkway | (North) |
|------------------------------------------------------------|---------|-----------|-----------|---------|---------|-----------|-----------|---------|-------|------------|-------------|-------|--------|-----------|------------|---------|
|                                                            | L       | Т         | R         | Tot     | L       | Т         | R         | Tot     | L     | Т          | R           | Tot   | L      | Т         | R          | Tot     |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 7:45-8:45) | 211     | 1710      | 117       | 2038    | 211     | 2100      | 12        | 2323    | 55    | 41         | 128         | 224   | 118    | 27        | 86         | 231     |
|                                                            |         |           |           |         |         |           |           |         |       |            |             |       |        |           |            |         |
| Total Annual Background Growth                             | 5.1%    | 5.1%      | 5.1%      |         | 5.1%    | 5.1%      | 5.1%      |         | 5.1%  | 5.1%       | 5.1%        |       | 5.1%   | 5.1%      | 5.1%       |         |
| No-Build Volumes                                           | 222     | 1797      | 123       | 2142    | 222     | 2207      | 13        | 2441    | 58    | 43         | 135         | 235   | 124    | 28        | 90         | 243     |
|                                                            |         | •         |           |         |         |           | •         |         |       | •          |             |       |        | •         | •          |         |
| Hotel New Trips                                            | 3       | 8         | 0         | 11      | 0       | 11        | 0         | 11      | 0     | 0          | 4           | 4     | 0      | 0         | 0          | 0       |
| Retail/Restaurant New Trips                                | 2       | 11        | 0         | 13      | 0       | 12        | 0         | 12      | 0     | 0          | 2           | 2     | 0      | 0         | 0          | 0       |
| Retail/Restaurant Pass-by Trips                            | 0       | 0         | 0         | 0       | 0       | 0         | 0         | 0       | 0     | 0          | 0           | 0     | 0      | 0         | 0          | 0       |
| Total Site Trips                                           | 5       | 19        | 0         | 24      | 0       | 23        | 0         | 23      | 0     | 0          | 6           | 6     | 0      | 0         | 0          | 0       |
|                                                            |         |           |           |         |         |           |           |         |       |            |             |       |        |           |            |         |
| Build Volumes                                              | 227     | 1816      | 123       | 2166    | 222     | 2230      | 13        | 2464    | 58    | 43         | 141         | 241   | 124    | 28        | 90         | 243     |

| Weekday P.M. Peak Hour                                     | Northbo | und Ashfo | rd Dunwoo | ody Road | Southbo | ound Ashfo   | rd Dunwoo | dy Road | Eastb | ound Perin | neter Mall A | Access | Westbo | ound Ravin | ia Parkway | (North) |
|------------------------------------------------------------|---------|-----------|-----------|----------|---------|--------------|-----------|---------|-------|------------|--------------|--------|--------|------------|------------|---------|
|                                                            | L       | Т         | R         | Tot      | L       | т            | R         | Tot     | L     | т          | R            | Tot    | L      | Т          | R          | Tot     |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 5:05-6:05) | 151     | 1710      | 48        | 1909     | 41      | 969          | 11        | 1021    | 42    | 16         | 89           | 147    | 236    | 67         | 306        | 609     |
| Total Annual Deckground Crowth                             | 5.1%    | 5.1%      | 5.1%      |          | 5.1%    | 5.1%         | 5.1%      |         | 5.1%  | 5.1%       | 5.1%         |        | 5.1%   | 5.1%       | 5.1%       | 1       |
| Total Annual Background Growth                             |         |           |           | 2000     |         | 5.1%<br>1018 |           | 4072    |       | 5.1%<br>17 |              | 454    |        |            |            | 640     |
| No-Build Volumes                                           | 159     | 1797      | 50        | 2006     | 43      | 1010         | 12        | 1073    | 44    | 17         | 94           | 154    | 248    | 70         | 322        | 640     |
| Hotel New Trips                                            | 4       | 11        | 0         | 15       | 0       | 12           | 0         | 12      | 0     | 0          | 4            | 4      | 0      | 0          | 0          | 0       |
| Retail/Restaurant New Trips                                | 3       | 18        | 0         | 21       | 0       | 15           | 0         | 15      | 0     | 0          | 2            | 2      | 0      | 0          | 0          | 0       |
| Retail/Restaurant Pass-by Trips                            | 0       | 0         | 0         | 0        | 0       | 0            | 0         | 0       | 0     | 0          | 0            | 0      | 0      | 0          | 0          | 0       |
| Total Site Trips                                           | 7       | 29        | 0         | 36       | 0       | 27           | 0         | 27      | 0     | 0          | 6            | 6      | 0      | 0          | 0          | 0       |
|                                                            | 1       |           |           |          |         |              |           |         |       |            |              |        |        |            |            |         |
| Build Volumes                                              | 166     | 1826      | 50        | 2042     | 43      | 1045         | 12        | 1100    | 44    | 17         | 100          | 160    | 248    | 70         | 322        | 640     |

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#### Ravinia Multi-Use Development Traffic Impact Study

City of Dunwoody, Georgia

### July 2019

#### Intersection: 2. Ashford Dunwoody Road at Ravinia Parkway (South) / Hammond Drive

| Weekday A.M. Peak Hour                                     | Northbo | und Ashfo | rd Dunwoo | dy Road | Southbo | ound Ashfo | rd Dunwoo | dy Road | Eas  | stbound Ha | ammond Di | rive | Westbo | und Ravini | ia Parkway | (South) |
|------------------------------------------------------------|---------|-----------|-----------|---------|---------|------------|-----------|---------|------|------------|-----------|------|--------|------------|------------|---------|
|                                                            | L       | т         | R         | Tot     | L       | т          | R         | Tot     | L    | т          | R         | Tot  | L      | т          | R          | Tot     |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 7:45-8:45) | 759     | 1868      | 402       | 3029    | 36      | 1361       | 148       | 1545    | 136  | 57         | 247       | 440  | 31     | 7          | 20         | 58      |
| Total Annual Background Growth                             | 5.1%    | 5.1%      | 5.1%      |         | 5.1%    | 5.1%       | 5.1%      |         | 5.1% | 5.1%       | 5.1%      |      | 5.1%   | 5.1%       | 5.1%       |         |
| No-Build Volumes                                           | 798     | 1963      | 423       | 3183    | 38      | 1430       | 156       | 1624    | 143  | 60         | 260       | 462  | 33     | 7          | 21         | 61      |
| Hotel New Trips                                            | 0       | 0         | 34        | 34      | 14      | 0          | 0         | 14      | 0    | 11         | 0         | 11   | 21     | 7          | 9          | 37      |
| Retail/Restaurant New Trips                                | 0       | 0         | 35        | 35      | 16      | 0          | 0         | 16      | 0    | 14         | 0         | 14   | 23     | 9          | 10         | 42      |
| Retail/Restaurant Pass-by Trips                            | -4      | -9        | 13        | 0       | 7       | -7         | 0         | 0       | -1   | 2          | -1        | 0    | 6      | 2          | 6          | 14      |
| Total Site Trips                                           | -4      | -9        | 82        | 69      | 37      | -7         | 0         | 30      | -1   | 27         | -1        | 25   | 50     | 18         | 25         | 93      |
| Build Volumes                                              | 794     | 1954      | 505       | 3252    | 75      | 1423       | 156       | 1654    | 142  | 87         | 259       | 487  | 83     | 25         | 46         | 154     |

| Weekday Mid-Day Peak Hour                                  | Northbo | und Ashfo | rd Dunwoo | ody Road | Southbo | ound Ashfo | rd Dunwoo | ody Road | Ea   | stbound Ha | ammond D | rive | Westbo | und Ravin | ia Parkway | (South) |
|------------------------------------------------------------|---------|-----------|-----------|----------|---------|------------|-----------|----------|------|------------|----------|------|--------|-----------|------------|---------|
|                                                            | L       | т         | R         | Tot      | L       | т          | R         | Tot      | L    | т          | R        | Tot  | L      | т         | R          | Tot     |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 7:45-8:45) | 777     | 1653      | 67        | 2497     | 62      | 2069       | 210       | 2341     | 356  | 47         | 577      | 980  | 111    | 30        | 20         | 161     |
| Total Annual Background Growth                             | 5.1%    | 5.1%      | 5.1%      |          | 5.1%    | 5.1%       | 5.1%      |          | 5.1% | 5.1%       | 5.1%     |      | 5.1%   | 5.1%      | 5.1%       |         |
| No-Build Volumes                                           | 817     | 1737      | 70        | 2624     | 65      | 2175       | 221       | 2460     | 374  | 49         | 606      | 1030 | 117    | 32        | 21         | 169     |
| Hotel New Trips                                            | 0       | 0         | 33        | 33       | 15      | 0          | 0         | 15       | 0    | 11         | 0        | 11   | 28     | 8         | 11         | 47      |
| Retail/Restaurant New Trips                                | 0       | 0         | 29        | 29       | 14      | 0          | 0         | 14       | 0    | 12         | 0        | 12   | 26     | 11        | 13         | 50      |
| Retail/Restaurant Pass-by Trips                            | -4      | -9        | -13       | -26      | 12      | -11        | -1        | 0        | -2   | 5          | -3       | 0    | 15     | 5         | 8          | 28      |
| Total Site Trips                                           | -4      | -9        | 49        | 36       | 41      | -11        | -1        | 29       | -2   | 28         | -3       | 23   | 69     | 24        | 32         | 125     |
| Build Volumes                                              | 813     | 1728      | 119       | 2660     | 106     | 2164       | 220       | 2489     | 372  | 77         | 603      | 1053 | 186    | 56        | 53         | 294     |

| Weekday P.M. Peak Hour                                     | Northbo | und Ashfo | rd Dunwoo | ody Road | Southbo | und Ashfo | rd Dunwoo | dy Road | Ea   | stbound Ha | ammond Di | rive | Westbo | und Ravini | a Parkway | (South) |
|------------------------------------------------------------|---------|-----------|-----------|----------|---------|-----------|-----------|---------|------|------------|-----------|------|--------|------------|-----------|---------|
|                                                            | L       | т         | R         | Tot      | L       | т         | R         | Tot     | L    | т          | R         | Tot  | L      | т          | R         | Tot     |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 4:40-5:40) | 522     | 1630      | 26        | 2178     | 4       | 1274      | 42        | 1320    | 205  | 21         | 607       | 833  | 311    | 66         | 45        | 422     |
| Total Annual Background Growth                             | 5.1%    | 5.1%      | 5.1%      |          | 5.1%    | 5.1%      | 5.1%      |         | 5.1% | 5.1%       | 5.1%      |      | 5.1%   | 5.1%       | 5.1%      |         |
| No-Build Volumes                                           | 549     | 1713      | 27        | 2289     | 4       | 1339      | 44        | 1387    | 215  | 22         | 638       | 875  | 327    | 69         | 47        | 444     |
| Hotel New Trips                                            | 0       | 0         | 43        | 43       | 16      | 0         | 0         | 16      | 0    | 12         | 0         | 12   | 35     | 11         | 15        | 61      |
| Retail/Restaurant New Trips                                | 0       | 0         | 39        | 39       | 17      | 0         | 0         | 17      | 0    | 15         | 0         | 15   | 44     | 18         | 21        | 83      |
| Retail/Restaurant Pass-by Trips                            | -2      | -20       | 22        | 0        | 18      | -16       | -2        | 0       | 0    | 1          | -1        | 0    | 18     | 4          | 23        | 45      |
| Total Site Trips                                           | -2      | -20       | 104       | 82       | 51      | -16       | -2        | 33      | 0    | 28         | -1        | 27   | 97     | 33         | 59        | 189     |
| Build Volumes                                              | 547     | 1693      | 131       | 2371     | 55      | 1323      | 42        | 1420    | 215  | 50         | 637       | 902  | 424    | 102        | 106       | 633     |

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#### Ravinia Multi-Use Development Traffic Impact Study

City of Dunwoody, Georgia

### July 2019

#### Intersection: 4. Ashford Dunwoody Road at Interstate 285 Westbound Ramps

| Weekday A.M. Peak Hour                                     | Northbo | und Ashford | d Dunwoody Road | Southbound Ashfe | ord Dunwoo | ody Road | Eastbound Hammond Drive | Westbound I 285 Off-Ramp |      |      |  |
|------------------------------------------------------------|---------|-------------|-----------------|------------------|------------|----------|-------------------------|--------------------------|------|------|--|
|                                                            | L       | т           | Tot             | Т                | R          | Tot      |                         | L                        | R    | Tot  |  |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 7:50-8:50) | 511     | 1626        | 2137            | 844              | 621        | 1465     |                         | 400                      | 1399 | 1799 |  |
| Total Annual Background Growth                             | 5.1%    | 5.1%        |                 | 5.1%             | 5.1%       |          |                         | 5.1%                     | 5.1% |      |  |
| No-Build Volumes                                           | 537     | 1709        | 2246            | 887              | 653        | 1540     |                         | 420                      | 1470 | 1891 |  |
|                                                            |         |             |                 |                  |            |          |                         |                          |      |      |  |
| Hotel New Trips                                            | 0       | 24          | 24              | 10               | 11         | 21       |                         | 0                        | 11   | 11   |  |
| Retail/Restaurant New Trips                                | 0       | 23          | 23              | 14               | 9          | 23       |                         | 0                        | 12   | 12   |  |
| Retail/Restaurant Pass-by Trips                            | 0       | 0           | 0               | 0                | 0          | 0        |                         | 0                        | 0    | 0    |  |
| Total Site Trips                                           | 0       | 47          | 47              | 24               | 20         | 44       |                         | 0                        | 23   | 23   |  |
| Build Volumes                                              | 537     | 1756        | 2293            | 911              | 673        | 1584     |                         | 420                      | 1493 | 1914 |  |

| Weekday Mid-Day Peak Hour                                  | Northbo | und Ashfor | d Dunwoody Road | Southbound Ashfo | ord Dunwoo   | dy Road | Eastbound Hammond Drive | Eastbound Hammond Drive Westboun |              |      |
|------------------------------------------------------------|---------|------------|-----------------|------------------|--------------|---------|-------------------------|----------------------------------|--------------|------|
|                                                            | L       | т          | Tot             | Т                | R            | Tot     |                         | L                                | R            | Tot  |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 7:45-8:45) | 436     | 1514       | 1950            | 1707             | 1044         | 2751    |                         | 242                              | 968          | 1210 |
|                                                            | E 40/   | = 40/      |                 | <b>5</b> 40/     | <b>5</b> 40/ |         |                         | <b>5</b> 40/                     | <b>5</b> 40/ |      |
| Total Annual Background Growth                             | 5.1%    | 5.1%       |                 | 5.1%             | 5.1%         |         |                         | 5.1%                             | 5.1%         |      |
| No-Build Volumes                                           | 458     | 1591       | 2049            | 1794             | 1097         | 2891    |                         | 254                              | 1017         | 1272 |
| Hotel New Trips                                            | 0       | 24         | 24              | 15               | 13           | 28      |                         | 0                                | 11           | 11   |
| Retail/Restaurant New Trips                                | 0       | 20         | 20              | 16               | 10           | 26      |                         | 0                                | 9            | 9    |
| Retail/Restaurant Pass-by Trips                            | 0       | 0          | 0               | 0                | 0            | 0       |                         | 0                                | 0            | 0    |
| Total Site Trips                                           | 0       | 44         | 44              | 31               | 23           | 54      |                         | 0                                | 20           | 20   |
|                                                            |         |            |                 |                  |              |         |                         |                                  |              |      |
| Build Volumes                                              | 458     | 1635       | 2093            | 1825             | 1120         | 2945    |                         | 254                              | 1037         | 1292 |

| Weekday P.M. Peak Hour                                     | Northbo | Northbound Ashford Dunwoody Road So |      | Southbound Ashfo | ord Dunwoo | ody Road | West | Westbound I 285 Off-Ram |      |
|------------------------------------------------------------|---------|-------------------------------------|------|------------------|------------|----------|------|-------------------------|------|
|                                                            | L       | т                                   | Tot  | Т                | R          | Tot      | L    | R                       | Tot  |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 4:00-5:00) | 650     | 1097                                | 1747 | 1734             | 725        | 2459     | 156  | 961                     | 1117 |
| Total Annual Background Growth                             | 5.1%    | 5.1%                                |      | 5.1%             | 5.1%       |          | 5.1% | 5.1%                    |      |
| No-Build Volumes                                           | 683     | 1153                                | 1836 | 1822             | 762        | 2584     | 164  | 1010                    | 1174 |
| Hotel New Trips                                            | 0       | 28                                  | 28   | 18               | 17         | 35       | 0    | 13                      | 13   |
| Retail/Restaurant New Trips                                | 0       | 26                                  | 26   | 27               | 17         | 44       | 0    | 13                      | 13   |
| Retail/Restaurant Pass-by Trips                            | 0       | 0                                   | 0    | 0                | 0          | 0        | 0    | 0                       | 0    |
| Total Site Trips                                           | 0       | 54                                  | 54   | 45               | 34         | 79       | 0    | 26                      | 26   |
| Build Volumes                                              | 683     | 1207                                | 1890 | 1867             | 796        | 2663     | 164  | 1036                    | 1200 |

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# Ravinia Multi-Use Development Traffic Impact Study City of Dunwoody, Georgia

### July 2019

#### Intersection: 5. Ashford Dunwoody Road at Interstate 285 Eastbound Ramps

| Weekday A.M. Peak Hour                                     | Northbound Ashfo | ord Dunwoo | ody Road | Southbound Ashford Dunwoody Road |      |      | Eastbound I 285 Off-Ramp |      |      |
|------------------------------------------------------------|------------------|------------|----------|----------------------------------|------|------|--------------------------|------|------|
|                                                            | Т                | R          | Tot      | L                                | Т    | Tot  | L                        | R    | Tot  |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 7:50-8:50) | 887              | 111        | 998      | 515                              | 762  | 1277 | 1280                     | 840  | 2120 |
|                                                            |                  |            |          |                                  |      |      |                          |      |      |
| Total Annual Background Growth                             | 5.1%             | 5.1%       |          | 5.1%                             | 5.1% |      | 5.1%                     | 5.1% |      |
| No-Build Volumes                                           | 932              | 117        | 1049     | 541                              | 801  | 1342 | 1345                     | 883  | 2228 |
|                                                            |                  |            |          |                                  |      |      |                          |      |      |
| Hotel New Trips                                            | 7                | 0          | 7        | 6                                | 4    | 10   | 17                       | 0    | 17   |
| Retail/Restaurant New Trips                                | 10               | 0          | 10       | 7                                | 7    | 14   | 13                       | 0    | 13   |
| Retail/Restaurant Pass-by Trips                            | 0                | 0          | 0        | 0                                | 0    | 0    | 0                        | 0    | 0    |
| Total Site Trips                                           | 17               | 0          | 17       | 13                               | 11   | 24   | 30                       | 0    | 30   |
|                                                            |                  |            |          |                                  |      |      |                          |      |      |
| Build Volumes                                              | 949              | 117        | 1066     | 554                              | 812  | 1366 | 1375                     | 883  | 2258 |

| Weekday Mid-Day Peak Hour                                  | Northbound Ashfo | rd Dunwo | ody Road | Southbo  | Southbound Ashford Dunwoody Road |      |      | ound I 285 Off-Ram | р    |  |
|------------------------------------------------------------|------------------|----------|----------|----------|----------------------------------|------|------|--------------------|------|--|
|                                                            | Т                | R        | Tot      | L        | т                                | Tot  | L    | R                  | Tot  |  |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 7:45-8:45) | 894              | 142      | 1036     | 952      | 1001                             | 1953 | 1046 | 336                | 1382 |  |
|                                                            |                  |          |          |          |                                  |      |      |                    |      |  |
| Total Annual Background Growth                             | 5.1%             | 5.1%     |          | 5.1%     | 5.1%                             |      | 5.1% | 5.1%               |      |  |
| No-Build Volumes                                           | 940              | 149      | 1089     | 1001     | 1052                             | 2053 | 1099 | 353                | 1452 |  |
|                                                            | -                |          | _        | <u> </u> |                                  |      | 47   | 0                  |      |  |
| Hotel New Trips                                            | 1                | 0        | /        | 9        | 6                                | 15   | 17   | 0                  | 17   |  |
| Retail/Restaurant New Trips                                | 9                | 0        | 9        | 8        | 8                                | 16   | 11   | 0                  | 11   |  |
| Retail/Restaurant Pass-by Trips                            | 0                | 0        | 0        | 0        | 0                                | 0    | 0    | 0                  | 0    |  |
| Total Site Trips                                           | 16               | 0        | 16       | 17       | 14                               | 31   | 28   | 0                  | 28   |  |
|                                                            |                  |          |          |          |                                  |      |      |                    |      |  |
| Build Volumes                                              | 956              | 149      | 1105     | 1018     | 1066                             | 2084 | 1127 | 353                | 1480 |  |

| Weekday P.M. Peak Hour                                     | Northbound Ashford Dunwoody Road |      |      | Southbo | Southbound Ashford Dunwoody Road |      |      | ound I 285 Off-Ramp | )    |   |
|------------------------------------------------------------|----------------------------------|------|------|---------|----------------------------------|------|------|---------------------|------|---|
|                                                            | Т                                | R    | Tot  | L       | Т                                | Tot  | L    | R                   | Tot  |   |
| Counted Volumes (Tues/Wed, January 15/16, 2019, 4:05-5:05) | 916                              | 397  | 1313 | 1396    | 543                              | 1939 | 897  | 453                 | 1350 |   |
|                                                            |                                  |      |      |         |                                  |      |      |                     |      |   |
| Total Annual Background Growth                             | 5.1%                             | 5.1% |      | 5.1%    | 5.1%                             |      | 5.1% | 5.1%                |      |   |
| No-Build Volumes                                           | 963                              | 417  | 1380 | 1467    | 571                              | 2038 | 943  | 476                 | 1419 |   |
| Hotel New Trips                                            | 8                                | 0    | 8    | 11      | 7                                | 18   | 20   | 0                   | 20   |   |
| Retail/Restaurant New Trips                                | 12                               | 0    | 12   | 14      | 13                               | 27   | 14   | 0                   | 14   |   |
| Retail/Restaurant Pass-by Trips                            | 0                                | 0    | 0    | 0       | 0                                | 0    | 0    | 0                   | 0    |   |
| Total Site Trips                                           | 20                               | 0    | 20   | 25      | 20                               | 45   | 34   | 0                   | 34   |   |
|                                                            |                                  |      |      |         |                                  |      |      |                     |      |   |
| Build Volumes                                              | 983                              | 417  | 1400 | 1492    | 591                              | 2083 | 977  | 476                 | 1453 | l |

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Appendix B

Intersection Analysis Methodology

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# Intersection Analysis Methodology

The methodology used for evaluating traffic operations at intersections is presented in the Transportation Research Board's *Highway Capacity Manual*, 2016 edition (HCM 6). Synchro 10 software, which emulates the HCM 6 methodology, was used for all analyses. The following is an overview of the methodology employed for the analysis of signalized intersections and roundabouts and stop-sign controlled (unsignalized) intersections. Levels of service (LOS) are assigned letters A through F. LOS A indicates operations with very low control delay while LOS F describes operations with high control delay. LOS F is considered to be unacceptable by most drivers, while LOS E is typically considered to be the limit of acceptable delay.

**Signalized Intersections and Roundabouts** – Level of service for a signalized intersection and a roundabout is defined in terms of control delay per vehicle. For signalized intersections and roundabouts, a composite intersection level of service is determined. The thresholds for each level of service are higher for signalized intersections and roundabouts than for unsignalized intersections. This is attributable to a variety of factors including expectation and acceptance of higher delays at signals/roundabouts, and the fact that drivers can relax when waiting at a signal as opposed to having to remain attentive as they proceed through the unsignalized intersection. The level of service criteria for signalized intersections and roundabouts are shown in Table A.

| Control Delay (s/veh) | LOS |
|-----------------------|-----|
| ≤ 10                  | A   |
| $>$ 10 and $\leq$ 20  | В   |
| $>$ 20 and $\leq$ 35  | С   |
| $>$ 35 and $\leq$ 55  | D   |
| $>$ 55 and $\leq$ 80  | E   |
| > 80                  | F   |

Table A – Level of Service Criteria for Signalized Intersections and Roundabouts

Source: Highway Capacity Manual 6

**Unsignalized Intersections** – Level of service for an unsignalized intersection is defined in terms of control delay per vehicle. Control delay is that portion of delay attributable to the control device and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The delays at unsignalized intersections are based on gap acceptance theory, factoring in availability of gaps, usefulness of the gaps, and the priority of right-of-way given to each traffic stream. The level of service criteria for unsignalized intersections are presented in Table B.

| Control Delay (s/veh) | LOS |
|-----------------------|-----|
| 0 - 10                | A   |
| > 10 and ≤ 15         | В   |
| $>$ 15 and $\leq$ 25  | С   |
| $>$ 25 and $\leq$ 35  | D   |
| $>$ 35 and $\leq$ 50  | E   |
| > 50                  | F   |

Table B – Level of Service Criteria for Unsignalized Intersections

Source: Highway Capacity Manual 6

Ravinia Multi-Use Development Traffic Impact Study

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Appendix C

Existing Intersection Operational Analysis

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Ravinia Multi-Use Development Traffic Impact Study

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Ravinia Multi-Use Development 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

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|                               | ,          |       | / (011101     |       |          | •     |           |           | _     |       |         | <u> </u> |
|-------------------------------|------------|-------|---------------|-------|----------|-------|-----------|-----------|-------|-------|---------|----------|
|                               | ٦          | -     | $\rightarrow$ | 1     | -        | •     | 1         | Ť         | 1     | •     | Ŧ       | -        |
| Lane Group                    | EBL        | EBT   | EBR           | WBL   | WBT      | WBR   | NBL       | NBT       | NBR   | SBL   | SBT     | SBR      |
| Lane Configurations           | ሻ          | - କୀ  | 77            | ካካ    | <b>†</b> | 1     | ካካ        | 4111      |       | ካካ    | 1111    | 1        |
| Traffic Volume (vph)          | 136        | 57    | 247           | 31    | 7        | 20    | 759       | 1868      | 402   | 36    | 1361    | 148      |
| Future Volume (vph)           | 136        | 57    | 247           | 31    | 7        | 20    | 759       | 1868      | 402   | 36    | 1361    | 148      |
| Ideal Flow (vphpl)            | 1900       | 1900  | 1900          | 1900  | 1900     | 1900  | 1900      | 1900      | 1900  | 1900  | 1900    | 1900     |
| Grade (%)                     |            | 3%    |               |       | 3%       |       |           | 2%        |       |       | 0%      |          |
| Storage Length (ft)           | 150        |       | 0             | 0     |          | 140   | 225       |           | 0     | 150   |         | 220      |
| Storage Lanes                 | 1          |       | 0             | 2     |          | 2     | 2         |           | 0     | 2     |         | 1        |
| Taper Length (ft)             | 25         |       |               | 25    |          |       | 150       |           |       | 125   |         |          |
| Lane Util. Factor             | 0.95       | 0.95  | 0.88          | 0.97  | 1.00     | 1.00  | 0.97      | 0.86      | 0.86  | 0.97  | 0.86    | 1.00     |
| Ped Bike Factor               | 0.97       | 0.99  |               |       |          | 0.96  | 1.00      |           |       |       |         | 0.99     |
| Frt                           |            |       | 0.850         |       |          | 0.850 |           | 0.973     |       |       |         | 0.850    |
| Flt Protected                 | 0.950      | 0.980 |               | 0.950 |          |       | 0.950     |           |       | 0.950 |         |          |
| Satd. Flow (prot)             | 1656       | 1708  | 2745          | 3382  | 1835     | 1560  | 3399      | 6172      | 0     | 3433  | 6408    | 1583     |
| Flt Permitted                 | 0.950      | 0.980 |               | 0.950 |          |       | 0.950     |           |       | 0.950 |         |          |
| Satd. Flow (perm)             | 1614       | 1690  | 2745          | 3382  | 1835     | 1502  | 3398      | 6172      | 0     | 3433  | 6408    | 1562     |
| Right Turn on Red             |            |       | No            | 0002  |          | Yes   | 0070      | 0.72      | Yes   | 0.00  | 0.00    | Yes      |
| Satd. Flow (RTOR)             |            |       |               |       |          | 196   |           | 40        |       |       |         | 151      |
| Link Speed (mph)              |            | 35    |               |       | 25       | 170   |           | 40        |       |       | 40      | 101      |
| Link Distance (ft)            |            | 479   |               |       | 540      |       |           | 552       |       |       | 596     |          |
| Travel Time (s)               |            | 9.3   |               |       | 14.7     |       |           | 9.4       |       |       | 10.2    |          |
| Confl. Peds. (#/hr)           | 13         | 7.0   |               |       | 17.7     | 13    | 1         | 7.4       |       |       | 10.2    | 1        |
| Peak Hour Factor              | 0.85       | 0.85  | 0.85          | 0.79  | 0.79     | 0.79  | 0.96      | 0.96      | 0.96  | 0.77  | 0.77    | 0.77     |
| Adj. Flow (vph)               | 160        | 67    | 291           | 39    | 9        | 25    | 791       | 1946      | 419   | 47    | 1768    | 192      |
| Shared Lane Traffic (%)       | 30%        | 07    | 271           | 57    | ,        | 25    | ,,,       | 1740      | 117   | 1     | 1700    | 172      |
| Lane Group Flow (vph)         | 112        | 115   | 291           | 39    | 9        | 25    | 791       | 2365      | 0     | 47    | 1768    | 192      |
| Enter Blocked Intersection    | No         | No    | No            | No    | No       | No    | No        | No        | No    | No    | No      | No       |
| Lane Alignment                | Left       | Left  | Right         | Left  | Left     | Right | Left      | Left      | Right | Left  | Left    | Right    |
| Median Width(ft)              | Lon        | 24    | Right         | Lon   | 40       | Right | Lon       | 34        | Right | Lon   | 34      | Ngn      |
| Link Offset(ft)               |            | 0     |               |       | 40<br>0  |       |           | 0         |       |       | 0       |          |
| Crosswalk Width(ft)           |            | 16    |               |       | 16       |       |           | 16        |       |       | 16      |          |
| Two way Left Turn Lane        |            | 10    |               |       | 10       |       |           | 10        |       |       | 10      |          |
| Headway Factor                | 1.02       | 1.02  | 1.02          | 1.02  | 1.02     | 1.02  | 1.01      | 1.01      | 1.01  | 1.00  | 1.00    | 1.00     |
| Turning Speed (mph)           | 1.02       | 1.02  | 9             | 1.02  | 1.02     | 9     | 1.01      | 1.01      | 9     | 1.00  | 1.00    | 9        |
| Number of Detectors           | 1          | 1     | 1             | 13    | 1        | 1     | 1         | 1         | ,     | 13    | 1       | , 1      |
| Detector Template             | 1          |       |               |       |          | I     | •         |           |       | •     |         | 1        |
| Leading Detector (ft)         | 50         | 50    | 50            | 50    | 50       | 50    | 50        | 50        |       | 50    | 50      | 50       |
| Trailing Detector (ft)        | 0          | 0     | 0             | 0     | 0        | 0     | 0         | 0         |       | 0     | 0       | 0        |
| Detector 1 Position(ft)       | 0          | 0     | 0             | 0     | 0        | 0     | 0         | 0         |       | 0     | 0       | 0        |
| Detector 1 Size(ft)           | 50         | 50    | 50            | 50    | 50       | 50    | 50        | 50        |       | 50    | 50      | 50       |
| Detector 1 Type               | CI+Ex      | CI+Ex | CI+Ex         | CI+Ex | CI+Ex    | CI+Ex | CI+Ex     | CI+Ex     |       | CI+Ex | CI+Ex   | CI+Ex    |
| Detector 1 Channel            |            |       |               |       |          |       |           |           |       |       |         |          |
| Detector 1 Extend (s)         | 0.0        | 0.0   | 0.0           | 0.0   | 0.0      | 0.0   | 0.0       | 0.0       |       | 0.0   | 0.0     | 0.0      |
| Detector 1 Queue (s)          | 0.0        | 0.0   | 0.0           | 0.0   | 0.0      | 0.0   | 0.0       | 0.0       |       | 0.0   | 0.0     | 0.0      |
| Detector 1 Delay (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<br>NA |       |       |         |          |
| Turn Type<br>Protected Phases | Split<br>4 |       | custom        | Split | NA<br>2  | Perm  | Prot<br>1 |           |       | Prot  | NA<br>2 | Perm     |
| Protected Phases              | 4          | 4     | 17            | 3     | 3        | n     | 1         | 6         |       | 5     | 2       | 2        |
| Permitted Phases              | 1          | 4     | 17            | 2     | 2        | 3     | 1         | 1         |       | г     | 2       | 2        |
| Detector Phase                | 4          | 4     | 17            | 3     | 3        | 3     | 1         | 6         |       | 5     | 2       | 2        |
| Switch Phase                  |            |       |               |       |          |       |           |           |       |       |         |          |

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| Lane Group                 | Ø7 | Ø8 |  |
|----------------------------|----|----|--|
| Lane Configurations        |    |    |  |
| Traffic Volume (vph)       |    |    |  |
| Future Volume (vph)        |    |    |  |
| Ideal Flow (vphpl)         |    |    |  |
| Grade (%)                  |    |    |  |
| Storage Length (ft)        |    |    |  |
| Storage Lanes              |    |    |  |
| Taper Length (ft)          |    |    |  |
| Lane Util. Factor          |    |    |  |
| Ped Bike Factor            |    |    |  |
| Frt                        |    |    |  |
| Flt Protected              |    |    |  |
| Satd. Flow (prot)          |    |    |  |
| Flt Permitted              |    |    |  |
| Satd. Flow (perm)          |    |    |  |
| Right Turn on Red          |    |    |  |
| Satd. Flow (RTOR)          |    |    |  |
| Link Speed (mph)           |    |    |  |
| Link Distance (ft)         |    |    |  |
| Travel Time (s)            |    |    |  |
| Confl. Peds. (#/hr)        |    |    |  |
| Peak Hour Factor           |    |    |  |
| Adj. Flow (vph)            |    |    |  |
| Shared Lane Traffic (%)    |    |    |  |
| Lane Group Flow (vph)      |    |    |  |
| Enter Blocked Intersection |    |    |  |
| Lane Alignment             |    |    |  |
| Median Width(ft)           |    |    |  |
| Link Offset(ft)            |    |    |  |
| Crosswalk Width(ft)        |    |    |  |
| Two way Left Turn Lane     |    |    |  |
| Headway Factor             |    |    |  |
| Turning Speed (mph)        |    |    |  |
| Number of Detectors        |    |    |  |
| Detector Template          |    |    |  |
| Leading Detector (ft)      |    |    |  |
| Trailing Detector (ft)     |    |    |  |
| Detector 1 Position(ft)    |    |    |  |
| Detector 1 Size(ft)        |    |    |  |
| Detector 1 Type            |    |    |  |
| Detector 1 Channel         |    |    |  |
| Detector 1 Extend (s)      |    |    |  |
| Detector 1 Queue (s)       |    |    |  |
| Detector 1 Delay (s)       |    |    |  |
| Turn Type                  |    |    |  |
| Protected Phases           | 7  | 8  |  |
| Permitted Phases           |    |    |  |
| Detector Phase             |    |    |  |
| Switch Phase               |    |    |  |

Synchro 10 Report

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# Ravinia Multi-Use Development

|                              | ٦            | -                      | $\mathbf{i}$ | *     | +        | •         | •     | 1     | 1   | 1     | ţ     | ~     |
|------------------------------|--------------|------------------------|--------------|-------|----------|-----------|-------|-------|-----|-------|-------|-------|
| Lane Group                   | EBL          | EBT                    | EBR          | WBL   | WBT      | WBR       | NBL   | NBT   | NBR | SBL   | SBT   | SBR   |
| Minimum Initial (s)          | 8.0          | 8.0                    |              | 8.0   | 8.0      | 8.0       | 8.0   | 10.0  |     | 8.0   | 10.0  | 10.0  |
| Minimum Split (s)            | 31.5         | 31.5                   |              | 33.8  | 33.8     | 33.8      | 16.3  | 45.2  |     | 15.7  | 49.2  | 49.2  |
| Total Split (s)              | 38.0         | 38.0                   |              | 35.0  | 35.0     | 35.0      | 46.0  | 80.0  |     | 17.0  | 51.0  | 51.0  |
| Total Split (%)              | 22.3%        | 22.3%                  |              | 20.5% | 20.5%    | 20.5%     | 27.0% | 46.9% |     | 10.0% | 29.9% | 29.9% |
| Maximum Green (s)            | 30.5         | 30.5                   |              | 27.2  | 27.2     | 27.2      | 37.7  | 72.8  |     | 9.3   | 43.8  | 43.8  |
| Yellow Time (s)              | 4.5          | 4.5                    |              | 4.8   | 4.8      | 4.8       | 5.3   | 4.5   |     | 4.7   | 4.5   | 4.5   |
| All-Red Time (s)             | 3.0          | 3.0                    |              | 3.0   | 3.0      | 3.0       | 3.0   | 2.7   |     | 3.0   | 2.7   | 2.7   |
| 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)          | 7.5          | 7.5                    |              | 7.8   | 7.8      | 7.8       | 8.3   | 7.2   |     | 7.7   | 7.2   | 7.2   |
| Lead/Lag                     |              |                        |              |       |          |           | Lead  | Lead  |     | Lag   | Lag   | Lag   |
| Lead-Lag Optimize?           |              |                        |              |       |          |           |       |       |     |       |       |       |
| Vehicle Extension (s)        | 1.0          | 1.0                    |              | 1.0   | 1.0      | 1.0       | 4.0   | 5.0   |     | 2.0   | 5.0   | 5.0   |
| Recall Mode                  | None         | None                   |              | None  | None     | None      | Max   | Max   |     | None  | C-Max | C-Max |
| Walk Time (s)                | 4.0          | 4.0                    |              | 4.0   | 4.0      | 4.0       |       | 7.0   |     |       | 7.0   | 7.0   |
| Flash Dont Walk (s)          | 20.0         | 20.0                   |              | 22.0  | 22.0     | 22.0      |       | 31.0  |     |       | 35.0  | 35.0  |
| Pedestrian Calls (#/hr)      | 0            | 0                      |              | 7     | 7        | 7         |       | 0     |     |       | 1     | 1     |
| Act Effct Green (s)          | 16.7         | 16.7                   | 90.6         | 11.6  | 11.6     | 11.6      | 70.7  | 109.2 |     | 9.0   | 43.8  | 43.8  |
| Actuated g/C Ratio           | 0.10         | 0.10                   | 0.53         | 0.07  | 0.07     | 0.07      | 0.41  | 0.64  |     | 0.05  | 0.26  | 0.26  |
| v/c Ratio                    | 0.69         | 0.69                   | 0.20         | 0.17  | 0.07     | 0.09      | 0.56  | 0.60  |     | 0.26  | 1.07  | 0.37  |
| Control Delay                | 94.3         | 93.3                   | 25.1         | 73.8  | 71.1     | 0.6       | 42.4  | 22.3  |     | 81.1  | 103.5 | 15.0  |
| Queue Delay                  | 0.0          | 0.0                    | 0.0          | 0.0   | 0.0      | 0.0       | 0.0   | 0.3   |     | 0.0   | 0.0   | 0.0   |
| Total Delay                  | 94.3         | 93.3                   | 25.1         | 73.8  | 71.1     | 0.6       | 42.4  | 22.6  |     | 81.1  | 103.5 | 15.0  |
| LOS                          | F            | F                      | С            | E     | E        | А         | D     | С     |     | F     | F     | В     |
| Approach Delay               |              | 55.2                   |              |       | 48.4     |           |       | 27.6  |     |       | 94.5  |       |
| Approach LOS                 |              | E                      |              |       | D        |           |       | С     |     |       | F     |       |
| Intersection Summary         |              |                        |              |       |          |           |       |       |     |       |       |       |
| Area Type:                   | Other        |                        |              |       |          |           |       |       |     |       |       |       |
| Cycle Length: 170.5          |              |                        |              |       |          |           |       |       |     |       |       |       |
| Actuated Cycle Length: 17    | 0.5          |                        |              |       |          |           |       |       |     |       |       |       |
| Offset: 0 (0%), Referenced   | d to phase 2 | :SBT, Sta              | rt of Yell   | OW    |          |           |       |       |     |       |       |       |
| Natural Cycle: 150           |              |                        |              |       |          |           |       |       |     |       |       |       |
| Control Type: Actuated-Co    | ordinated    |                        |              |       |          |           |       |       |     |       |       |       |
| Maximum v/c Ratio: 1.07      |              |                        |              |       |          |           |       |       |     |       |       |       |
| Intersection Signal Delay:   |              | .7 Intersection LOS: D |              |       |          |           |       |       |     |       |       |       |
| Intersection Capacity Utiliz | ation 88.6%  | ,<br>)                 |              | [(    | CU Level | of Servic | еE    |       |     |       |       |       |
| Analysis Period (min) 15     |              |                        |              |       |          |           |       |       |     |       |       |       |

Splits and Phases: 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

| <b>A</b> Ø1 | Ø2 (R) |      | <b>★</b> ø3 | <b>4</b> <sub>Ø4</sub> |             |
|-------------|--------|------|-------------|------------------------|-------------|
| 46 s        | 51 s   |      | 35 s        | 38 s                   |             |
| ¶ø6         |        | Ø5   |             | ≹ik <sub>Ø8</sub>      | <b>→</b> Ø7 |
| 80 s        | 1      | 17 s |             | 23 s                   | 15.5 s      |

existing a.m.

| Lane Group              | Ø7   | Ø8   |
|-------------------------|------|------|
| Minimum Initial (s)     | 8.0  | 1.0  |
| Minimum Split (s)       | 15.5 | 22.0 |
| Total Split (s)         | 15.5 | 23.0 |
| Total Split (%)         | 9%   | 13%  |
| Maximum Green (s)       | 8.0  | 20.0 |
| Yellow Time (s)         | 4.5  | 3.0  |
| All-Red Time (s)        | 3.0  | 0.0  |
| Lost Time Adjust (s)    |      |      |
| Total Lost Time (s)     |      |      |
| Lead/Lag                | Lag  | Lead |
| Lead-Lag Optimize?      | Ū    |      |
| Vehicle Extension (s)   | 1.0  | 2.0  |
| Recall Mode             | None | None |
| Walk Time (s)           |      | 4.0  |
| Flash Dont Walk (s)     |      | 15.0 |
| Pedestrian Calls (#/hr) |      | 7    |
| Act Effct Green (s)     |      |      |
| Actuated g/C Ratio      |      |      |
| v/c Ratio               |      |      |
| Control Delay           |      |      |
| Queue Delay             |      |      |
| Total Delay             |      |      |
| LOS                     |      |      |
| Approach Delay          |      |      |
| Approach LOS            |      |      |
| Intersection Summary    |      |      |

existing a.m.

# Ravinia Multi-Use Development

1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

|                                      | ۶          | +       | 7            | 4          | +         | *      | •         | 1       | 1      | 1         | ţ         | ~      |
|--------------------------------------|------------|---------|--------------|------------|-----------|--------|-----------|---------|--------|-----------|-----------|--------|
| Lane Group                           | EBL        | EBT     | EBR          | WBL        | WBT       | WBR    | NBL       | NBT     | NBR    | SBL       | SBT       | SBR    |
| Lane Configurations                  | 1          | र्भ     | 77           | ካካ         | •         | *      | ኘኘ        | 4111    |        | ካካ        | 1111      | 1      |
| Traffic Volume (vph)                 | 356        | 47      | 577          | 111        | 30        | 20     | 777       | 1653    | 67     | 62        | 2069      | 210    |
| Future Volume (vph)                  | 356        | 47      | 577          | 111        | 30        | 20     | 777       | 1653    | 67     | 62        | 2069      | 210    |
| Ideal Flow (vphpl)                   | 1900       | 1900    | 1900         | 1900       | 1900      | 1900   | 1900      | 1900    | 1900   | 1900      | 1900      | 1900   |
| Grade (%)                            |            | 3%      |              |            | 3%        |        |           | 2%      |        |           | 0%        |        |
| Storage Length (ft)                  | 150        |         | 0            | 0          |           | 140    | 225       |         | 0      | 150       |           | 220    |
| Storage Lanes                        | 1          |         | 0            | 2          |           | 2      | 2         |         | 0      | 2         |           | 1      |
| Taper Length (ft)                    | 25         |         |              | 25         |           |        | 150       |         |        | 125       |           |        |
| Lane Util. Factor                    | 0.95       | 0.95    | 0.88         | 0.97       | 1.00      | 1.00   | 0.97      | 0.86    | 0.86   | 0.97      | 0.86      | 1.00   |
| Ped Bike Factor                      | 0.98       | 0.98    |              |            |           | 0.96   | 1.00      |         |        |           |           | 0.99   |
| Frt                                  |            |         | 0.850        |            |           | 0.850  |           | 0.994   |        |           |           | 0.850  |
| Flt Protected                        | 0.950      | 0.963   | 01000        | 0.950      |           | 01000  | 0.950     | 01771   |        | 0.950     |           | 01000  |
| Satd. Flow (prot)                    | 1656       | 1679    | 2745         | 3382       | 1835      | 1560   | 3399      | 6306    | 0      | 3433      | 6408      | 1583   |
| Flt Permitted                        | 0.950      | 0.963   | 27.10        | 0.950      |           |        | 0.950     |         |        | 0.950     | 0100      | 1000   |
| Satd. Flow (perm)                    | 1616       | 1647    | 2745         | 3382       | 1835      | 1502   | 3398      | 6306    | 0      | 3433      | 6408      | 1562   |
| Right Turn on Red                    | 1010       | 1017    | No           | 0002       | 1000      | Yes    | 0070      | 0000    | Yes    | 0100      | 0100      | Yes    |
| Satd. Flow (RTOR)                    |            |         | 110          |            |           | 196    |           | 6       | 100    |           |           | 151    |
| Link Speed (mph)                     |            | 35      |              |            | 25        | 170    |           | 40      |        |           | 40        | 101    |
| Link Distance (ft)                   |            | 479     |              |            | 540       |        |           | 552     |        |           | 596       |        |
| Travel Time (s)                      |            | 9.3     |              |            | 14.7      |        |           | 9.4     |        |           | 10.2      |        |
| Confl. Peds. (#/hr)                  | 13         | 7.0     |              |            | 1 1.7     | 13     | 1         | 7.1     |        |           | 10.2      | 1      |
| Peak Hour Factor                     | 0.90       | 0.90    | 0.90         | 0.84       | 0.84      | 0.84   | 0.91      | 0.91    | 0.91   | 0.92      | 0.92      | 0.92   |
| Adj. Flow (vph)                      | 396        | 52      | 641          | 132        | 36        | 24     | 854       | 1816    | 74     | 67        | 2249      | 228    |
| Shared Lane Traffic (%)              | 44%        | 02      | 011          | 102        | 00        | 21     | 001       | 1010    | , 1    | 07        | 2217      | 220    |
| Lane Group Flow (vph)                | 222        | 226     | 641          | 132        | 36        | 24     | 854       | 1890    | 0      | 67        | 2249      | 228    |
| Enter Blocked Intersection           | No         | No      | No           | No         | No        | No     | No        | No      | No     | No        | No        | No     |
| Lane Alignment                       | Left       | Left    | Right        | Left       | Left      | Right  | Left      | Left    | Right  | Left      | Left      | Right  |
| Median Width(ft)                     | Lon        | 24      | Right        | Lon        | 40        | Right  | Lon       | 34      | rtight | Lon       | 34        | rtight |
| Link Offset(ft)                      |            | 0       |              |            | 0         |        |           | 0       |        |           | 0         |        |
| Crosswalk Width(ft)                  |            | 16      |              |            | 16        |        |           | 16      |        |           | 16        |        |
| Two way Left Turn Lane               |            | 10      |              |            | 10        |        |           | 10      |        |           | 10        |        |
| Headway Factor                       | 1.02       | 1.02    | 1.02         | 1.02       | 1.02      | 1.02   | 1.01      | 1.01    | 1.01   | 1.00      | 1.00      | 1.00   |
| Turning Speed (mph)                  | 15         | 1.02    | 9            | 15         | 1.02      | 9      | 15        | 1.01    | 9      | 15        | 1.00      | 9      |
| Number of Detectors                  | 10         | 1       | 1            | 10         | 1         | , 1    | 1         | 1       | ,      | 1         | 1         | 1      |
| Detector Template                    | •          |         |              |            |           | •      |           | •       |        |           |           |        |
| Leading Detector (ft)                | 50         | 50      | 50           | 50         | 50        | 50     | 50        | 50      |        | 50        | 50        | 50     |
| Trailing Detector (ft)               | 0          | 0       | 0            | 0          | 0         | 0      | 0         | 0       |        | 0         | 0         | 0      |
| Detector 1 Position(ft)              | 0          | 0       | 0            | 0          | 0         | 0      | 0         | 0       |        | 0         | 0         | 0      |
| Detector 1 Size(ft)                  | 50         | 50      | 50           | 50         | 50        | 50     | 50        | 50      |        | 50        | 50        | 50     |
| Detector 1 Type                      | CI+Ex      | CI+Ex   | CI+Ex        | CI+Ex      | CI+Ex     | CI+Ex  | CI+Ex     | CI+Ex   |        | CI+Ex     | CI+Ex     | CI+Ex  |
| Detector 1 Channel                   |            | OHEA    | OFLA         | OTLA       | OFLA      | OFFER  | OFFER     | OHEA    |        | OTLA      | OTLA      |        |
| Detector 1 Extend (s)                | 0.0        | 0.0     | 0.0          | 0.0        | 0.0       | 0.0    | 0.0       | 0.0     |        | 0.0       | 0.0       | 0.0    |
| Detector 1 Queue (s)                 | 0.0        | 0.0     | 0.0          | 0.0        | 0.0       | 0.0    | 0.0       | 0.0     |        | 0.0       | 0.0       | 0.0    |
| Detector 1 Delay (s)                 | 0.0        | 0.0     | 0.0          | 0.0        | 0.0       | 0.0    | 0.0       | 0.0     |        | 0.0       | 0.0       | 0.0    |
|                                      | Split      | NA      |              |            | 0.0<br>NA | Perm   | Prot      | NA      |        | Prot      | 0.0<br>NA | Perm   |
| Turn Type<br>Protected Phases        | Spiit<br>4 | NA<br>4 | cusiom<br>17 | Split<br>3 | NA<br>3   | Peilli | Prot<br>1 | NA<br>6 |        | Prot<br>5 | NA<br>2   | reiiii |
| Protected Phases<br>Permitted Phases | 4          | 4       | 17           | 3          | 3         | 3      | I         | 0       |        | 5         | 2         | C      |
|                                      | 1          | Δ       | 17           | 2          | 2         | 3      | 1         | L       |        | F         | 2         | 2<br>2 |
| Detector Phase                       | 4          | 4       | 17           | 3          | 3         | 3      | 1         | 6       |        | 5         | 2         | 2      |
| Switch Phase                         |            |         |              |            |           |        |           |         |        |           |           |        |

Synchro 10 Report

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existing mid-day

| Lane Group                 | Ø7 | Ø8 |  |
|----------------------------|----|----|--|
| LanetConfigurations        |    |    |  |
| Traffic Volume (vph)       |    |    |  |
| Future Volume (vph)        |    |    |  |
| Ideal Flow (vphpl)         |    |    |  |
| Grade (%)                  |    |    |  |
| Storage Length (ft)        |    |    |  |
| Storage Lanes              |    |    |  |
| Taper Length (ft)          |    |    |  |
| Lane Util. Factor          |    |    |  |
| Ped Bike Factor            |    |    |  |
| Frt                        |    |    |  |
| Flt Protected              |    |    |  |
|                            |    |    |  |
| Satd. Flow (prot)          |    |    |  |
| Flt Permitted              |    |    |  |
| Satd. Flow (perm)          |    |    |  |
| Right Turn on Red          |    |    |  |
| Satd. Flow (RTOR)          |    |    |  |
| Link Speed (mph)           |    |    |  |
| Link Distance (ft)         |    |    |  |
| Travel Time (s)            |    |    |  |
| Confl. Peds. (#/hr)        |    |    |  |
| Peak Hour Factor           |    |    |  |
| Adj. Flow (vph)            |    |    |  |
| Shared Lane Traffic (%)    |    |    |  |
| Lane Group Flow (vph)      |    |    |  |
| Enter Blocked Intersection |    |    |  |
| Lane Alignment             |    |    |  |
| Median Width(ft)           |    |    |  |
| Link Offset(ft)            |    |    |  |
| Crosswalk Width(ft)        |    |    |  |
| Two way Left Turn Lane     |    |    |  |
| Headway Factor             |    |    |  |
| Turning Speed (mph)        |    |    |  |
| Number of Detectors        |    |    |  |
| Detector Template          |    |    |  |
| Leading Detector (ft)      |    |    |  |
| Trailing Detector (ft)     |    |    |  |
| Detector 1 Position(ft)    |    |    |  |
| Detector 1 Size(ft)        |    |    |  |
| Detector 1 Type            |    |    |  |
| Detector 1 Channel         |    |    |  |
| Detector 1 Extend (s)      |    |    |  |
| Detector 1 Queue (s)       |    |    |  |
| Detector 1 Delay (s)       |    |    |  |
| Turn Type                  |    |    |  |
| Protected Phases           | 7  | 8  |  |
| Permitted Phases           |    | 0  |  |
| Detector Phase             |    |    |  |
| Switch Phase               |    |    |  |
|                            |    |    |  |

Synchro 10 Report

Marc R Acampora, PE, LLC

existing mid-day

# Ravinia Multi-Use Development

1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

|                              | ٦            | -         | $\mathbf{i}$ | *     | +        | •         | •     | 1     | 1   | 1     | ţ     | ~     |
|------------------------------|--------------|-----------|--------------|-------|----------|-----------|-------|-------|-----|-------|-------|-------|
| Lane Group                   | EBL          | EBT       | EBR          | WBL   | WBT      | WBR       | NBL   | NBT   | NBR | SBL   | SBT   | SBR   |
| Minimum Initial (s)          | 8.0          | 8.0       |              | 8.0   | 8.0      | 8.0       | 8.0   | 10.0  |     | 8.0   | 10.0  | 10.0  |
| Minimum Split (s)            | 31.5         | 31.5      |              | 33.8  | 33.8     | 33.8      | 16.3  | 45.2  |     | 15.7  | 49.2  | 49.2  |
| Total Split (s)              | 38.0         | 38.0      |              | 35.0  | 35.0     | 35.0      | 46.0  | 80.0  |     | 17.0  | 51.0  | 51.0  |
| Total Split (%)              | 22.3%        | 22.3%     |              | 20.5% | 20.5%    | 20.5%     | 27.0% | 46.9% |     | 10.0% | 29.9% | 29.9% |
| Maximum Green (s)            | 30.5         | 30.5      |              | 27.2  | 27.2     | 27.2      | 37.7  | 72.8  |     | 9.3   | 43.8  | 43.8  |
| Yellow Time (s)              | 4.5          | 4.5       |              | 4.8   | 4.8      | 4.8       | 5.3   | 4.5   |     | 4.7   | 4.5   | 4.5   |
| All-Red Time (s)             | 3.0          | 3.0       |              | 3.0   | 3.0      | 3.0       | 3.0   | 2.7   |     | 3.0   | 2.7   | 2.7   |
| 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)          | 7.5          | 7.5       |              | 7.8   | 7.8      | 7.8       | 8.3   | 7.2   |     | 7.7   | 7.2   | 7.2   |
| Lead/Lag                     |              |           |              |       |          |           | Lead  | Lead  |     | Lag   | Lag   | Lag   |
| Lead-Lag Optimize?           |              |           |              |       |          |           |       |       |     |       |       |       |
| Vehicle Extension (s)        | 1.0          | 1.0       |              | 1.0   | 1.0      | 1.0       | 4.0   | 5.0   |     | 2.0   | 5.0   | 5.0   |
| Recall Mode                  | None         | None      |              | None  | None     | None      | Max   | Мах   |     | None  | C-Max | C-Max |
| Walk Time (s)                | 4.0          | 4.0       |              | 4.0   | 4.0      | 4.0       |       | 7.0   |     |       | 7.0   | 7.0   |
| Flash Dont Walk (s)          | 20.0         | 20.0      |              | 22.0  | 22.0     | 22.0      |       | 31.0  |     |       | 35.0  | 35.0  |
| Pedestrian Calls (#/hr)      | 0            | 0         |              | 7     | 7        | 7         |       | 0     |     |       | 1     | 1     |
| Act Effct Green (s)          | 25.6         | 25.6      | 86.1         | 12.9  | 12.9     | 12.9      | 57.5  | 92.6  |     | 9.3   | 43.8  | 43.8  |
| Actuated g/C Ratio           | 0.15         | 0.15      | 0.50         | 0.08  | 0.08     | 0.08      | 0.34  | 0.54  |     | 0.05  | 0.26  | 0.26  |
| v/c Ratio                    | 0.90         | 0.90      | 0.46         | 0.52  | 0.26     | 0.08      | 0.75  | 0.55  |     | 0.36  | 1.37  | 0.44  |
| Control Delay                | 105.8        | 106.1     | 31.4         | 81.8  | 76.2     | 0.6       | 55.1  | 27.5  |     | 83.3  | 214.5 | 20.7  |
| Queue Delay                  | 0.0          | 0.0       | 0.0          | 0.0   | 0.0      | 0.0       | 0.0   | 0.3   |     | 0.0   | 0.0   | 0.0   |
| Total Delay                  | 105.8        | 106.1     | 31.4         | 81.8  | 76.2     | 0.6       | 55.1  | 27.8  |     | 83.3  | 214.5 | 20.7  |
| LOS                          | F            | F         | С            | F     | E        | А         | E     | С     |     | F     | F     | С     |
| Approach Delay               |              | 62.1      |              |       | 70.6     |           |       | 36.3  |     |       | 193.7 |       |
| Approach LOS                 |              | E         |              |       | E        |           |       | D     |     |       | F     |       |
| Intersection Summary         |              |           |              |       |          |           |       |       |     |       |       |       |
| Area Type:                   | Other        |           |              |       |          |           |       |       |     |       |       |       |
| Cycle Length: 170.5          |              |           |              |       |          |           |       |       |     |       |       |       |
| Actuated Cycle Length: 17    |              |           |              |       |          |           |       |       |     |       |       |       |
| Offset: 0 (0%), Referenced   | d to phase 2 | :SBT, Sta | rt of Yell   | OW    |          |           |       |       |     |       |       |       |
| Natural Cycle: 150           |              |           |              |       |          |           |       |       |     |       |       |       |
| Control Type: Actuated-Co    | pordinated   |           |              |       |          |           |       |       |     |       |       |       |
| Maximum v/c Ratio: 1.37      |              |           |              |       |          |           |       |       |     |       |       |       |
| Intersection Signal Delay:   |              |           |              |       |          |           |       |       |     |       |       |       |
| Intersection Capacity Utiliz | zation 94.1% | 0         |              | [(    | CU Level | of Servic | e F   |       |     |       |       |       |
| Analysis Period (min) 15     |              |           |              |       |          |           |       |       |     |       |       |       |

Splits and Phases: 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

| <b>A</b> Ø1 | Ø2 (R) |      | <b>₩</b> ø3 | <b>4</b> <sub>Ø4</sub> |             |
|-------------|--------|------|-------------|------------------------|-------------|
| 46 s        | 51 s   |      | 35 s        | 38 s                   |             |
| ¶ø6         |        | Ø5   |             | ≹ik <sub>Ø8</sub>      | <b>→</b> Ø7 |
| 80 s        | 1      | 17 s |             | 23 s                   | 15.5 s      |

existing mid-day

| Lane Group              | Ø7   | Ø8   |
|-------------------------|------|------|
| Minimum Initial (s)     | 8.0  | 1.0  |
| Minimum Split (s)       | 15.5 | 22.0 |
| Total Split (s)         | 15.5 | 23.0 |
| Total Split (%)         | 9%   | 13%  |
| Maximum Green (s)       | 8.0  | 20.0 |
| Yellow Time (s)         | 4.5  | 3.0  |
| All-Red Time (s)        | 3.0  | 0.0  |
| Lost Time Adjust (s)    |      |      |
| Total Lost Time (s)     |      |      |
| Lead/Lag                | Lag  | Lead |
| Lead-Lag Optimize?      |      |      |
| Vehicle Extension (s)   | 1.0  | 2.0  |
| Recall Mode             | None | None |
| Walk Time (s)           |      | 4.0  |
| Flash Dont Walk (s)     |      | 15.0 |
| Pedestrian Calls (#/hr) |      | 7    |
| Act Effct Green (s)     |      |      |
| Actuated g/C Ratio      |      |      |
| v/c Ratio               |      |      |
| Control Delay           |      |      |
| Queue Delay             |      |      |
| Total Delay             |      |      |
| LOS                     |      |      |
| Approach Delay          |      |      |
| Approach LOS            |      |      |
| Intersection Summary    |      |      |

existing mid-day

Ravinia Multi-Use Development 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

existing p.m.

|                            | ayntar     |       | ASIIIOI      |       | noouy    |        | a mai |       |         |       | chisting p.m. |        |  |  |
|----------------------------|------------|-------|--------------|-------|----------|--------|-------|-------|---------|-------|---------------|--------|--|--|
|                            | ۶          | -     | $\mathbf{r}$ | 4     | +        | *      | 1     | t     | ۲       | 1     | ŧ             | -      |  |  |
| Lane Group                 | EBL        | EBT   | EBR          | WBL   | WBT      | WBR    | NBL   | NBT   | NBR     | SBL   | SBT           | SBR    |  |  |
| Lane Configurations        | ۳          | र्स   | 77           | ሻሻ    | <b>†</b> | 1      | ሻሻ    | 4111  |         | ኘኘ    | 1111          | 1      |  |  |
| Traffic Volume (vph)       | 205        | 21    | 607          | 311   | 66       | 45     | 522   | 1630  | 26      | 4     | 1274          | 42     |  |  |
| Future Volume (vph)        | 205        | 21    | 607          | 311   | 66       | 45     | 522   | 1630  | 26      | 4     | 1274          | 42     |  |  |
| Ideal Flow (vphpl)         | 1900       | 1900  | 1900         | 1900  | 1900     | 1900   | 1900  | 1900  | 1900    | 1900  | 1900          | 1900   |  |  |
| Grade (%)                  |            | 3%    |              |       | 3%       |        |       | 2%    |         |       | 0%            |        |  |  |
| Storage Length (ft)        | 150        |       | 0            | 0     |          | 140    | 225   |       | 0       | 150   |               | 220    |  |  |
| Storage Lanes              | 1          |       | 0            | 2     |          | 2      | 2     |       | 0       | 2     |               | 1      |  |  |
| Taper Length (ft)          | 25         |       |              | 25    |          |        | 150   |       |         | 125   |               |        |  |  |
| Lane Util. Factor          | 0.95       | 0.95  | 0.88         | 0.97  | 1.00     | 1.00   | 0.97  | 0.86  | 0.86    | 0.97  | 0.86          | 1.00   |  |  |
| Ped Bike Factor            | 0.98       | 0.98  |              |       |          | 0.96   | 1.00  |       |         |       |               | 0.99   |  |  |
| Frt                        |            |       | 0.850        |       |          | 0.850  |       | 0.998 |         |       |               | 0.850  |  |  |
| Flt Protected              | 0.950      | 0.961 |              | 0.950 |          |        | 0.950 |       |         | 0.950 |               |        |  |  |
| Satd. Flow (prot)          | 1656       | 1675  | 2745         | 3382  | 1835     | 1560   | 3399  | 6331  | 0       | 3433  | 6408          | 1583   |  |  |
| Flt Permitted              | 0.950      | 0.961 |              | 0.950 |          |        | 0.950 |       |         | 0.950 |               |        |  |  |
| Satd. Flow (perm)          | 1618       | 1643  | 2745         | 3382  | 1835     | 1502   | 3398  | 6331  | 0       | 3433  | 6408          | 1562   |  |  |
| Right Turn on Red          |            |       | No           |       |          | Yes    |       |       | Yes     |       |               | Yes    |  |  |
| Satd. Flow (RTOR)          |            |       |              |       |          | 196    |       | 2     |         |       |               | 151    |  |  |
| Link Speed (mph)           |            | 35    |              |       | 25       | 170    |       | 40    |         |       | 40            |        |  |  |
| Link Distance (ft)         |            | 479   |              |       | 540      |        |       | 552   |         |       | 596           |        |  |  |
| Travel Time (s)            |            | 9.3   |              |       | 14.7     |        |       | 9.4   |         |       | 10.2          |        |  |  |
| Confl. Peds. (#/hr)        | 13         | 7.0   |              |       | 1 1.7    | 13     | 1     | 7.1   |         |       | 10.2          | 1      |  |  |
| Peak Hour Factor           | 0.94       | 0.94  | 0.94         | 0.92  | 0.92     | 0.92   | 0.96  | 0.96  | 0.96    | 0.95  | 0.95          | 0.95   |  |  |
| Adj. Flow (vph)            | 218        | 22    | 646          | 338   | 72       | 49     | 544   | 1698  | 27      | 4     | 1341          | 44     |  |  |
| Shared Lane Traffic (%)    | 45%        | 22    | 010          | 000   | 12       | 17     | 011   | 1070  | 21      |       | 1011          |        |  |  |
| Lane Group Flow (vph)      | 120        | 120   | 646          | 338   | 72       | 49     | 544   | 1725  | 0       | 4     | 1341          | 44     |  |  |
| Enter Blocked Intersection | No         | No    | No           | No    | No       | No     | No    | No    | No      | No    | No            | No     |  |  |
| Lane Alignment             | Left       | Left  | Right        | Left  | Left     | Right  | Left  | Left  | Right   | Left  | Left          | Right  |  |  |
| Median Width(ft)           | Lon        | 24    | rtight       | Lon   | 40       | rtight | Lon   | 34    | rtigitt | Lon   | 34            | rtight |  |  |
| Link Offset(ft)            |            | 0     |              |       | 0        |        |       | 0     |         |       | 0             |        |  |  |
| Crosswalk Width(ft)        |            | 16    |              |       | 16       |        |       | 16    |         |       | 16            |        |  |  |
| Two way Left Turn Lane     |            | 10    |              |       | 10       |        |       | 10    |         |       | 10            |        |  |  |
| Headway Factor             | 1.02       | 1.02  | 1.02         | 1.02  | 1.02     | 1.02   | 1.01  | 1.01  | 1.01    | 1.00  | 1.00          | 1.00   |  |  |
| Turning Speed (mph)        | 15         | 1.02  | 9            | 15    | 1.02     | 9      | 15    | 1.01  | 9       | 1.00  | 1.00          | 9      |  |  |
| Number of Detectors        | 1          | 1     | 1            | 1     | 1        | , 1    | 1     | 1     | ,       | 1     | 1             | 1      |  |  |
| Detector Template          | •          | •     | •            | •     |          | •      | •     | •     |         |       | •             | •      |  |  |
| Leading Detector (ft)      | 50         | 50    | 50           | 50    | 50       | 50     | 50    | 50    |         | 50    | 50            | 50     |  |  |
| Trailing Detector (ft)     | 0          | 0     | 0            | 0     | 0        | 0      | 0     | 0     |         | 0     | 0             | 0      |  |  |
| Detector 1 Position(ft)    | 0          | 0     | 0            | 0     | 0        | 0      | 0     | 0     |         | 0     | 0             | 0      |  |  |
| Detector 1 Size(ft)        | 50         | 50    | 50           | 50    | 50       | 50     | 50    | 50    |         | 50    | 50            | 50     |  |  |
| Detector 1 Type            | CI+Ex      | CI+Ex | CI+Ex        | CI+Ex | CI+Ex    | CI+Ex  | CI+Ex | CI+Ex |         | CI+Ex | CI+Ex         | CI+Ex  |  |  |
| Detector 1 Channel         |            | OTTER | OTTER        | OTTER | OTTEX    | ONEX   | OTTEX | OTTEX |         | OTTEX | OTTEX         | OTTER  |  |  |
| Detector 1 Extend (s)      | 0.0        | 0.0   | 0.0          | 0.0   | 0.0      | 0.0    | 0.0   | 0.0   |         | 0.0   | 0.0           | 0.0    |  |  |
| Detector 1 Queue (s)       | 0.0        | 0.0   | 0.0          | 0.0   | 0.0      | 0.0    | 0.0   | 0.0   |         | 0.0   | 0.0           | 0.0    |  |  |
| Detector 1 Delay (s)       | 0.0        | 0.0   | 0.0          | 0.0   | 0.0      | 0.0    | 0.0   | 0.0   |         | 0.0   | 0.0           | 0.0    |  |  |
| Turn Type                  | Split      | NA    |              | Split | NA       | Perm   | Prot  | NA    |         | Prot  | NA            | Perm   |  |  |
| Protected Phases           | 3piit<br>4 | 4     | 17           | 3     | 3        | i onn  | 1     | 6     |         | 5     | 2             | 1 UIII |  |  |
| Permitted Phases           | т          | +     | 17           | 5     | 5        | 3      | 1     | U     |         | J     | 2             | 2      |  |  |
| Detector Phase             | 4          | 4     | 17           | 3     | 3        | 3      | 1     | 6     |         | 5     | 2             | 2      |  |  |
| Switch Phase               | 7          | 4     | 17           | 5     | J        | J      |       | 0     |         | J     | 2             | 2      |  |  |
|                            |            |       |              |       |          |        |       |       |         |       |               |        |  |  |

Synchro 10 Report

Marc R Acampora, PE, LLC

| Lane Group                 | Ø7 | Ø8 |  |
|----------------------------|----|----|--|
| LaneConfigurations         |    |    |  |
| Traffic Volume (vph)       |    |    |  |
| Future Volume (vph)        |    |    |  |
| Ideal Flow (vphpl)         |    |    |  |
| Grade (%)                  |    |    |  |
| Storage Length (ft)        |    |    |  |
| Storage Lanes              |    |    |  |
| Taper Length (ft)          |    |    |  |
| Lane Util. Factor          |    |    |  |
| Ped Bike Factor            |    |    |  |
| Frt                        |    |    |  |
| Flt Protected              |    |    |  |
| Satd. Flow (prot)          |    |    |  |
| Flt Permitted              |    |    |  |
| Satd. Flow (perm)          |    |    |  |
| Right Turn on Red          |    |    |  |
| Satd. Flow (RTOR)          |    |    |  |
| Link Speed (mph)           |    |    |  |
| Link Distance (ft)         |    |    |  |
| Travel Time (s)            |    |    |  |
| Confl. Peds. (#/hr)        |    |    |  |
| Peak Hour Factor           |    |    |  |
| Adj. Flow (vph)            |    |    |  |
| Shared Lane Traffic (%)    |    |    |  |
| Lane Group Flow (vph)      |    |    |  |
| Enter Blocked Intersection |    |    |  |
| Lane Alignment             |    |    |  |
| Median Width(ft)           |    |    |  |
| Link Offset(ft)            |    |    |  |
| Crosswalk Width(ft)        |    |    |  |
| Two way Left Turn Lane     |    |    |  |
| Headway Factor             |    |    |  |
| Turning Speed (mph)        |    |    |  |
| Number of Detectors        |    |    |  |
| Detector Template          |    |    |  |
| Leading Detector (ft)      |    |    |  |
| Trailing Detector (ft)     |    |    |  |
| Detector 1 Position(ft)    |    |    |  |
| Detector 1 Size(ft)        |    |    |  |
| Detector 1 Type            |    |    |  |
| Detector 1 Channel         |    |    |  |
| Detector 1 Extend (s)      |    |    |  |
| Detector 1 Queue (s)       |    |    |  |
| Detector 1 Delay (s)       |    |    |  |
| Turn Type                  |    |    |  |
| Protected Phases           | 7  | 8  |  |
| Permitted Phases           |    |    |  |
| Detector Phase             |    |    |  |
| Switch Phase               |    |    |  |

Synchro 10 Report

Marc R Acampora, PE, LLC

existing p.m.

# Ravinia Multi-Use Development

| 1: Ashford Dunwoody Rd #1 #2/Ashford Dun | woody Rd #1 & Hammond Dr |
|------------------------------------------|--------------------------|
|------------------------------------------|--------------------------|

|                              | ٦            | -         | $\mathbf{i}$ | *     | +          | •         | •     | 1     | 1   | 1     | ţ     | ~     |
|------------------------------|--------------|-----------|--------------|-------|------------|-----------|-------|-------|-----|-------|-------|-------|
| Lane Group                   | EBL          | EBT       | EBR          | WBL   | WBT        | WBR       | NBL   | NBT   | NBR | SBL   | SBT   | SBR   |
| Minimum Initial (s)          | 8.0          | 8.0       |              | 8.0   | 8.0        | 8.0       | 8.0   | 10.0  |     | 8.0   | 10.0  | 10.0  |
| Minimum Split (s)            | 31.5         | 31.5      |              | 33.8  | 33.8       | 33.8      | 16.3  | 45.2  |     | 15.7  | 49.2  | 49.2  |
| Total Split (s)              | 38.0         | 38.0      |              | 35.0  | 35.0       | 35.0      | 46.0  | 80.0  |     | 17.0  | 51.0  | 51.0  |
| Total Split (%)              | 22.3%        | 22.3%     |              | 20.5% | 20.5%      | 20.5%     | 27.0% | 46.9% |     | 10.0% | 29.9% | 29.9% |
| Maximum Green (s)            | 30.5         | 30.5      |              | 27.2  | 27.2       | 27.2      | 37.7  | 72.8  |     | 9.3   | 43.8  | 43.8  |
| Yellow Time (s)              | 4.5          | 4.5       |              | 4.8   | 4.8        | 4.8       | 5.3   | 4.5   |     | 4.7   | 4.5   | 4.5   |
| All-Red Time (s)             | 3.0          | 3.0       |              | 3.0   | 3.0        | 3.0       | 3.0   | 2.7   |     | 3.0   | 2.7   | 2.7   |
| 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)          | 7.5          | 7.5       |              | 7.8   | 7.8        | 7.8       | 8.3   | 7.2   |     | 7.7   | 7.2   | 7.2   |
| Lead/Lag                     |              |           |              |       |            |           | Lead  | Lead  |     | Lag   | Lag   | Lag   |
| Lead-Lag Optimize?           |              |           |              |       |            |           |       |       |     |       |       |       |
| Vehicle Extension (s)        | 1.0          | 1.0       |              | 1.0   | 1.0        | 1.0       | 4.0   | 5.0   |     | 2.0   | 5.0   | 5.0   |
| Recall Mode                  | None         | None      |              | None  | None       | None      | Max   | Мах   |     | None  | C-Max | C-Max |
| Walk Time (s)                | 4.0          | 4.0       |              | 4.0   | 4.0        | 4.0       |       | 7.0   |     |       | 7.0   | 7.0   |
| Flash Dont Walk (s)          | 20.0         | 20.0      |              | 22.0  | 22.0       | 22.0      |       | 31.0  |     |       | 35.0  | 35.0  |
| Pedestrian Calls (#/hr)      | 0            | 0         |              | 7     | 7          | 7         |       | 0     |     |       | 1     | 1     |
| Act Effct Green (s)          | 17.3         | 17.3      | 78.5         | 20.5  | 20.5       | 20.5      | 58.1  | 106.8 |     | 8.3   | 43.8  | 43.8  |
| Actuated g/C Ratio           | 0.10         | 0.10      | 0.46         | 0.12  | 0.12       | 0.12      | 0.34  | 0.63  |     | 0.05  | 0.26  | 0.26  |
| v/c Ratio                    | 0.71         | 0.71      | 0.51         | 0.83  | 0.33       | 0.14      | 0.47  | 0.43  |     | 0.02  | 0.81  | 0.09  |
| Control Delay                | 95.5         | 94.6      | 36.4         | 90.7  | 71.6       | 0.8       | 47.7  | 18.8  |     | 77.2  | 64.3  | 0.3   |
| 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                  | 95.5         | 94.6      | 36.4         | 90.7  | 71.6       | 0.8       | 47.7  | 18.8  |     | 77.2  | 64.3  | 0.3   |
| LOS<br>Annual Dalar          | F            | F         | D            | F     | E          | А         | D     | B     |     | E     | E     | A     |
| Approach Delay               |              | 52.3      |              |       | 78.1       |           |       | 25.7  |     |       | 62.3  |       |
| Approach LOS                 |              | D         |              |       | E          |           |       | С     |     |       | E     |       |
| Intersection Summary         |              |           |              |       |            |           |       |       |     |       |       |       |
| Area Type:                   | Other        |           |              |       |            |           |       |       |     |       |       |       |
| Cycle Length: 170.5          |              |           |              |       |            |           |       |       |     |       |       |       |
| Actuated Cycle Length: 17    |              |           |              |       |            |           |       |       |     |       |       |       |
| Offset: 0 (0%), Reference    | d to phase 2 | :SBT, Sta | rt of Yell   | OW    |            |           |       |       |     |       |       |       |
| Natural Cycle: 150           |              |           |              |       |            |           |       |       |     |       |       |       |
| Control Type: Actuated-Co    | pordinated   |           |              |       |            |           |       |       |     |       |       |       |
| Maximum v/c Ratio: 0.83      |              |           |              |       |            |           |       |       |     |       |       |       |
| Intersection Signal Delay:   |              | ,         |              |       | ntersectio |           |       |       |     |       |       |       |
| Intersection Capacity Utiliz | zation 89.0% | 0         |              | ](    | CU Level   | of Servic | еŁ    |       |     |       |       |       |
| Analysis Period (min) 15     |              |           |              |       |            |           |       |       |     |       |       |       |

Splits and Phases: 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

| <b>1</b> Ø1 |      |    | ₹ø3  | <b>4</b> <sub>Ø4</sub> |             |
|-------------|------|----|------|------------------------|-------------|
| 46 s        | 51 s |    | 35 s | 38 s                   |             |
| ¶ø6         |      | Ø5 |      | ₽<br>₽ø8               | <b>→</b> Ø7 |
| 80 s        | 17   | 's |      | 23 s                   | 15.5 s      |

#7..

| Lane Group              | Ø7   | Ø8   |
|-------------------------|------|------|
| Minimum Initial (s)     | 8.0  | 1.0  |
| Minimum Split (s)       | 15.5 | 22.0 |
| Total Split (s)         | 15.5 | 23.0 |
| Total Split (%)         | 9%   | 13%  |
| Maximum Green (s)       | 8.0  | 20.0 |
| Yellow Time (s)         | 4.5  | 3.0  |
| All-Red Time (s)        | 3.0  | 0.0  |
| Lost Time Adjust (s)    |      |      |
| Total Lost Time (s)     |      |      |
| Lead/Lag                | Lag  | Lead |
| Lead-Lag Optimize?      |      |      |
| Vehicle Extension (s)   | 1.0  | 2.0  |
| Recall Mode             | None | None |
| Walk Time (s)           |      | 4.0  |
| Flash Dont Walk (s)     |      | 15.0 |
| Pedestrian Calls (#/hr) |      | 7    |
| Act Effct Green (s)     |      |      |
| Actuated g/C Ratio      |      |      |
| v/c Ratio               |      |      |
| Control Delay           |      |      |
| Queue Delay             |      |      |
| Total Delay             |      |      |
| LOS                     |      |      |
| Approach Delay          |      |      |
| Approach LOS            |      |      |
| Intersection Summary    |      |      |

existing p.m.

Appendix D

No-Build Intersection Operational Analysis

MARC R ACAMPORA, PE, LLC

#7..

Ravinia Multi-Use Development 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

no-build a.m.

|                                      | ayitai       |       |              |              | noouy    |       |             |       |       |             |       |         |
|--------------------------------------|--------------|-------|--------------|--------------|----------|-------|-------------|-------|-------|-------------|-------|---------|
|                                      | ۶            | -     | $\mathbf{i}$ | 4            | +        | •     | 1           | Ť     | 1     | 1           | ţ     | ~       |
| Lane Group                           | EBL          | EBT   | EBR          | WBL          | WBT      | WBR   | NBL         | NBT   | NBR   | SBL         | SBT   | SBR     |
| Lane Configurations                  | 5            | र्स   | 77           | ሻሻ           | <b>†</b> | 1     | ሻሻ          | 4111  |       | ሻሻ          | 1111  | 1       |
| Traffic Volume (vph)                 | 143          | 60    | 260          | 33           | 7        | 21    | 798         | 1963  | 423   | 38          | 1430  | 156     |
| Future Volume (vph)                  | 143          | 60    | 260          | 33           | 7        | 21    | 798         | 1963  | 423   | 38          | 1430  | 156     |
| Ideal Flow (vphpl)                   | 1900         | 1900  | 1900         | 1900         | 1900     | 1900  | 1900        | 1900  | 1900  | 1900        | 1900  | 1900    |
| Grade (%)                            | 1700         | 3%    | 1700         | 1700         | 3%       | 1700  | 1700        | 2%    | 1,00  | 1700        | 0%    | 1700    |
| Storage Length (ft)                  | 150          | 070   | 0            | 0            | 070      | 140   | 225         | 270   | 0     | 150         | 070   | 220     |
| Storage Lanes                        | 1            |       | 0            | 2            |          | 2     | 2           |       | 0     | 2           |       | 1       |
| Taper Length (ft)                    | 25           |       | Ű            | 25           |          | -     | 150         |       | Ű     | 125         |       | · · · · |
| Lane Util. Factor                    | 0.95         | 0.95  | 0.88         | 0.97         | 1.00     | 1.00  | 0.97        | 0.86  | 0.86  | 0.97        | 0.86  | 1.00    |
| Ped Bike Factor                      | 0.97         | 0.99  | 0.00         | 0.77         | 1.00     | 0.96  | 1.00        | 0.00  | 0.00  | 0.77        | 0.00  | 0.99    |
| Frt                                  | 0.77         | 0.77  | 0.850        |              |          | 0.850 |             | 0.973 |       |             |       | 0.850   |
| Flt Protected                        | 0.950        | 0.980 | 01000        | 0.950        |          | 01000 | 0.950       | 01770 |       | 0.950       |       | 01000   |
| Satd. Flow (prot)                    | 1656         | 1708  | 2745         | 3382         | 1835     | 1560  | 3399        | 6172  | 0     | 3433        | 6408  | 1583    |
| Flt Permitted                        | 0.950        | 0.980 | 27.10        | 0.950        |          |       | 0.950       | 0.72  |       | 0.950       | 0.00  | 1000    |
| Satd. Flow (perm)                    | 1614         | 1690  | 2745         | 3382         | 1835     | 1502  | 3398        | 6172  | 0     | 3433        | 6408  | 1562    |
| Right Turn on Red                    |              | 1070  | No           | 0001         |          | Yes   | 0070        | 0.72  | Yes   | 0.00        | 0.00  | Yes     |
| Satd. Flow (RTOR)                    |              |       |              |              |          | 196   |             | 40    | 100   |             |       | 151     |
| Link Speed (mph)                     |              | 35    |              |              | 25       |       |             | 40    |       |             | 40    |         |
| Link Distance (ft)                   |              | 479   |              |              | 540      |       |             | 552   |       |             | 596   |         |
| Travel Time (s)                      |              | 9.3   |              |              | 14.7     |       |             | 9.4   |       |             | 10.2  |         |
| Confl. Peds. (#/hr)                  | 13           |       |              |              |          | 13    | 1           |       |       |             |       | 1       |
| Peak Hour Factor                     | 0.85         | 0.85  | 0.85         | 0.79         | 0.79     | 0.79  | 0.96        | 0.96  | 0.96  | 0.77        | 0.77  | 0.77    |
| Adj. Flow (vph)                      | 168          | 71    | 306          | 42           | 9        | 27    | 831         | 2045  | 441   | 49          | 1857  | 203     |
| Shared Lane Traffic (%)              | 30%          |       |              |              |          |       |             |       |       |             |       |         |
| Lane Group Flow (vph)                | 118          | 121   | 306          | 42           | 9        | 27    | 831         | 2486  | 0     | 49          | 1857  | 203     |
| Enter Blocked Intersection           | No           | No    | No           | No           | No       | No    | No          | No    | No    | No          | No    | No      |
| Lane Alignment                       | Left         | Left  | Right        | Left         | Left     | Right | Left        | Left  | Right | Left        | Left  | Right   |
| Median Width(ft)                     |              | 24    |              |              | 40       |       |             | 34    |       |             | 34    |         |
| Link Offset(ft)                      |              | 0     |              |              | 0        |       |             | 0     |       |             | 0     |         |
| Crosswalk Width(ft)                  |              | 16    |              |              | 16       |       |             | 16    |       |             | 16    |         |
| Two way Left Turn Lane               |              |       |              |              |          |       |             |       |       |             |       |         |
| Headway Factor                       | 1.02         | 1.02  | 1.02         | 1.02         | 1.02     | 1.02  | 1.01        | 1.01  | 1.01  | 1.00        | 1.00  | 1.00    |
| Turning Speed (mph)                  | 15           |       | 9            | 15           |          | 9     | 15          |       | 9     | 15          |       | 9       |
| Number of Detectors                  | 1            | 1     | 1            | 1            | 1        | 1     | 1           | 1     |       | 1           | 1     | 1       |
| Detector Template                    |              |       |              |              |          |       |             |       |       |             |       |         |
| Leading Detector (ft)                | 50           | 50    | 50           | 50           | 50       | 50    | 50          | 50    |       | 50          | 50    | 50      |
| Trailing Detector (ft)               | 0            | 0     | 0            | 0            | 0        | 0     | 0           | 0     |       | 0           | 0     | 0       |
| Detector 1 Position(ft)              | 0            | 0     | 0            | 0            | 0        | 0     | 0           | 0     |       | 0           | 0     | 0       |
| Detector 1 Size(ft)                  | 50           | 50    | 50           | 50           | 50       | 50    | 50          | 50    |       | 50          | 50    | 50      |
| Detector 1 Type                      | CI+Ex        | CI+Ex | CI+Ex        | CI+Ex        | CI+Ex    | CI+Ex | CI+Ex       | CI+Ex |       | CI+Ex       | CI+Ex | CI+Ex   |
| Detector 1 Channel                   |              |       |              |              |          |       |             |       |       |             |       | 0.0     |
| Detector 1 Extend (s)                | 0.0          | 0.0   | 0.0          | 0.0          | 0.0      | 0.0   | 0.0         | 0.0   |       | 0.0         | 0.0   | 0.0     |
| Detector 1 Queue (s)                 | 0.0          | 0.0   | 0.0          | 0.0          | 0.0      | 0.0   | 0.0         | 0.0   |       | 0.0         | 0.0   | 0.0     |
| Detector 1 Delay (s)                 | 0.0<br>Split | 0.0   | 0.0          | 0.0<br>Split | 0.0      | 0.0   | 0.0<br>Drot | 0.0   |       | 0.0<br>Drot | 0.0   | 0.0     |
| Turn Type                            | Split        |       | custom       | Split        | NA       | Perm  | Prot        | NA    |       | Prot        | NA    | Perm    |
| Protected Phases<br>Permitted Phases | 4            | 4     | 17           | 3            | 3        | n     | 1           | 6     |       | 5           | 2     | ີ<br>ງ  |
| Detector Phase                       | 4            | 4     | 17           | 3            | 3        | 3     | 1           | 6     |       | 5           | 2     | 2<br>2  |
| Switch Phase                         | 4            | 4     | 17           | 3            | 3        | 3     |             | 0     |       | C           | 2     | Z       |
|                                      |              |       |              |              |          |       |             |       |       |             |       |         |

Synchro 10 Report

Marc R Acampora, PE, LLC

| Lane Group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ø7 | Ø8 |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|--|
| LaneConfigurations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |    |  |
| Traffic Volume (vph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |  |
| Future Volume (vph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |    |  |
| Ideal Flow (vphpl)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |    |  |
| Grade (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |    |  |
| Storage Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |    |  |
| Storage Lanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |    |  |
| Taper Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |    |  |
| Lane Util. Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |    |  |
| Ped Bike Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |  |
| Frt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |    |  |
| Flt Protected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |    |  |
| Satd. Flow (prot)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |    |  |
| Flt Permitted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |    |  |
| Satd. Flow (perm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |    |  |
| Right Turn on Red                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |    |  |
| Satd. Flow (RTOR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |    |  |
| Link Speed (mph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |    |  |
| Link Distance (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |    |  |
| Travel Time (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |  |
| Confl. Peds. (#/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |    |  |
| Peak Hour Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |    |  |
| Adj. Flow (vph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |  |
| Shared Lane Traffic (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |    |    |  |
| Lane Group Flow (vph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |    |  |
| Enter Blocked Intersection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |    |  |
| Lane Alignment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |    |  |
| Median Width(ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |    |  |
| Link Offset(ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |  |
| Crosswalk Width(ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |    |  |
| Two way Left Turn Lane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |    |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |  |
| Detector Template                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |    |  |
| Leading Detector (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |    |  |
| Trailing Detector (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |    |  |
| Detector 1 Position(ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |    |    |  |
| Detector 1 Size(ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |    |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |  |
| Detector 1 Extend (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |    |  |
| Detector 1 Queue (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |  |
| Detector 1 Delay (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |  |
| Turn Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |    |  |
| Protected Phases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7  | 8  |  |
| Permitted Phases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |    |  |
| Detector Phase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |    |  |
| Switch Phase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |    |  |
| Right Turn on Red<br>Satd. Flow (RTOR)<br>Link Speed (mph)<br>Link Distance (ft)<br>Travel Time (s)<br>Confl. Peds. (#/hr)<br>Peak Hour Factor<br>Adj. Flow (vph)<br>Shared Lane Traffic (%)<br>Lane Group Flow (vph)<br>Enter Blocked Intersection<br>Lane Alignment<br>Median Width(ft)<br>Link Offset(ft)<br>Crosswalk Width(ft)<br>Two way Left Turn Lane<br>Headway Factor<br>Turning Speed (mph)<br>Number of Detectors<br>Detector Template<br>Leading Detector (ft)<br>Trailing Detector (ft)<br>Detector 1 Size(ft)<br>Detector 1 Size(ft)<br>Detector 1 Size(ft)<br>Detector 1 Channel<br>Detector 1 Delay (s)<br>Turn Type<br>Protected Phases<br>Permitted Phases<br>Detector Phase | 7  | 8  |  |

Synchro 10 Report

Marc R Acampora, PE, LLC

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| 1: Ashford Dunwoody Rd #1 #2/A | Ashford Dunwoody Rd #1 & Hammond Dr |
|--------------------------------|-------------------------------------|
|--------------------------------|-------------------------------------|

|                              | ٦            | -         | $\mathbf{F}$ | 4     | +          | •         | 1     | 1     | 1   | 1     | ţ     | ~     |
|------------------------------|--------------|-----------|--------------|-------|------------|-----------|-------|-------|-----|-------|-------|-------|
| Lane Group                   | EBL          | EBT       | EBR          | WBL   | WBT        | WBR       | NBL   | NBT   | NBR | SBL   | SBT   | SBR   |
| Minimum Initial (s)          | 8.0          | 8.0       |              | 8.0   | 8.0        | 8.0       | 8.0   | 10.0  |     | 8.0   | 10.0  | 10.0  |
| Minimum Split (s)            | 31.5         | 31.5      |              | 33.8  | 33.8       | 33.8      | 16.3  | 45.2  |     | 15.7  | 49.2  | 49.2  |
| Total Split (s)              | 38.0         | 38.0      |              | 35.0  | 35.0       | 35.0      | 46.0  | 80.0  |     | 17.0  | 51.0  | 51.0  |
| Total Split (%)              | 22.3%        | 22.3%     |              | 20.5% | 20.5%      | 20.5%     | 27.0% | 46.9% |     | 10.0% | 29.9% | 29.9% |
| Maximum Green (s)            | 30.5         | 30.5      |              | 27.2  | 27.2       | 27.2      | 37.7  | 72.8  |     | 9.3   | 43.8  | 43.8  |
| Yellow Time (s)              | 4.5          | 4.5       |              | 4.8   | 4.8        | 4.8       | 5.3   | 4.5   |     | 4.7   | 4.5   | 4.5   |
| All-Red Time (s)             | 3.0          | 3.0       |              | 3.0   | 3.0        | 3.0       | 3.0   | 2.7   |     | 3.0   | 2.7   | 2.7   |
| 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)          | 7.5          | 7.5       |              | 7.8   | 7.8        | 7.8       | 8.3   | 7.2   |     | 7.7   | 7.2   | 7.2   |
| Lead/Lag                     |              |           |              |       |            |           | Lead  | Lead  |     | Lag   | Lag   | Lag   |
| Lead-Lag Optimize?           |              |           |              |       |            |           |       |       |     |       |       |       |
| Vehicle Extension (s)        | 1.0          | 1.0       |              | 1.0   | 1.0        | 1.0       | 4.0   | 5.0   |     | 2.0   | 5.0   | 5.0   |
| Recall Mode                  | None         | None      |              | None  | None       | None      | Max   | Мах   |     | None  | C-Max | C-Max |
| Walk Time (s)                | 4.0          | 4.0       |              | 4.0   | 4.0        | 4.0       |       | 7.0   |     |       | 7.0   | 7.0   |
| Flash Dont Walk (s)          | 20.0         | 20.0      |              | 22.0  | 22.0       | 22.0      |       | 31.0  |     |       | 35.0  | 35.0  |
| Pedestrian Calls (#/hr)      | 0            | 0         |              | 7     | 7          | 7         |       | 0     |     |       | 1     | 1     |
| Act Effct Green (s)          | 17.2         | 17.2      | 90.6         | 11.6  | 11.6       | 11.6      | 70.3  | 108.8 |     | 9.0   | 43.8  | 43.8  |
| Actuated g/C Ratio           | 0.10         | 0.10      | 0.53         | 0.07  | 0.07       | 0.07      | 0.41  | 0.64  |     | 0.05  | 0.26  | 0.26  |
| v/c Ratio                    | 0.71         | 0.70      | 0.21         | 0.18  | 0.07       | 0.09      | 0.59  | 0.63  |     | 0.27  | 1.13  | 0.40  |
| Control Delay                | 95.2         | 94.2      | 25.2         | 74.2  | 71.1       | 0.7       | 43.2  | 23.3  |     | 81.3  | 121.8 | 16.9  |
| Queue Delay                  | 0.0          | 0.0       | 0.0          | 0.0   | 0.0        | 0.0       | 0.0   | 0.4   |     | 0.0   | 0.0   | 0.0   |
| Total Delay                  | 95.2         | 94.2      | 25.2         | 74.2  | 71.1       | 0.7       | 43.2  | 23.7  |     | 81.3  | 121.8 | 16.9  |
| LOS                          | F            | F         | С            | E     | E          | А         | D     | С     |     | F     | F     | В     |
| Approach Delay               |              | 55.7      |              |       | 48.4       |           |       | 28.6  |     |       | 110.7 |       |
| Approach LOS                 |              | E         |              |       | D          |           |       | С     |     |       | F     |       |
| Intersection Summary         |              |           |              |       |            |           |       |       |     |       |       |       |
| Area Type:                   | Other        |           |              |       |            |           |       |       |     |       |       |       |
| Cycle Length: 170.5          |              |           |              |       |            |           |       |       |     |       |       |       |
| Actuated Cycle Length: 17    |              |           |              |       |            |           |       |       |     |       |       |       |
| Offset: 0 (0%), Referenced   | d to phase 2 | :SBT, Sta | rt of Yell   | OW    |            |           |       |       |     |       |       |       |
| Natural Cycle: 150           |              |           |              |       |            |           |       |       |     |       |       |       |
| Control Type: Actuated-Co    | oordinated   |           |              |       |            |           |       |       |     |       |       |       |
| Maximum v/c Ratio: 1.13      |              |           |              |       |            |           |       |       |     |       |       |       |
| Intersection Signal Delay:   |              |           |              |       | ntersectio |           |       |       |     |       |       |       |
| Intersection Capacity Utiliz | zation 89.7% | 0         |              | [(    | CU Level   | of Servic | еE    |       |     |       |       |       |
| Analysis Period (min) 15     |              |           |              |       |            |           |       |       |     |       |       |       |

Splits and Phases: 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

| <b>A</b> Ø1 | Ø2 (R) |      | <b>₩</b> ø3 | <b>4</b> <sub>Ø4</sub> |             |
|-------------|--------|------|-------------|------------------------|-------------|
| 46 s        | 51 s   |      | 35 s        | 38 s                   |             |
| ¶ø6         |        | Ø5   |             | ≹ik <sub>Ø8</sub>      | <b>→</b> Ø7 |
| 80 s        | 1      | 17 s |             | 23 s                   | 15.5 s      |

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| Lane Group              | Ø7   | Ø8   |
|-------------------------|------|------|
| Minimum Initial (s)     | 8.0  | 1.0  |
| Minimum Split (s)       | 15.5 | 22.0 |
| Total Split (s)         | 15.5 | 23.0 |
| Total Split (%)         | 9%   | 13%  |
| Maximum Green (s)       | 8.0  | 20.0 |
| Yellow Time (s)         | 4.5  | 3.0  |
| All-Red Time (s)        | 3.0  | 0.0  |
| Lost Time Adjust (s)    |      |      |
| Total Lost Time (s)     |      |      |
| Lead/Lag                | Lag  | Lead |
| Lead-Lag Optimize?      | Ū    |      |
| Vehicle Extension (s)   | 1.0  | 2.0  |
| Recall Mode             | None | None |
| Walk Time (s)           |      | 4.0  |
| Flash Dont Walk (s)     |      | 15.0 |
| Pedestrian Calls (#/hr) |      | 7    |
| Act Effct Green (s)     |      |      |
| Actuated g/C Ratio      |      |      |
| v/c Ratio               |      |      |
| Control Delay           |      |      |
| Queue Delay             |      |      |
| Total Delay             |      |      |
| LOS                     |      |      |
| Approach Delay          |      |      |
| Approach LOS            |      |      |
| Intersection Summary    |      |      |

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|  | #7 |  |
|--|----|--|
|  |    |  |

no-build mid-day

|                            | , , , , , , , , , , , , , , , , , , , |         |                |            |         |        |       |           |       |       |         |        |
|----------------------------|---------------------------------------|---------|----------------|------------|---------|--------|-------|-----------|-------|-------|---------|--------|
|                            | ٦                                     | -       | $\rightarrow$  | •          | -       | •      | 1     | T.        | 1     | 1     | Ŧ       | -      |
| Lane Group                 | EBL                                   | EBT     | EBR            | WBL        | WBT     | WBR    | NBL   | NBT       | NBR   | SBL   | SBT     | SBR    |
| Lane Configurations        | ۲<br>۲                                | ę       | 77             | ካካ         | •       | 1      | ካካ    | 4111      |       | ካካ    | 1111    | 1      |
| Traffic Volume (vph)       | 374                                   | 49      | 606            | 117        | 32      | 21     | 817   | 1737      | 70    | 65    | 2175    | 221    |
| Future Volume (vph)        | 374                                   | 49      | 606            | 117        | 32      | 21     | 817   | 1737      | 70    | 65    | 2175    | 221    |
| Ideal Flow (vphpl)         | 1900                                  | 1900    | 1900           | 1900       | 1900    | 1900   | 1900  | 1900      | 1900  | 1900  | 1900    | 1900   |
| Grade (%)                  |                                       | 3%      |                |            | 3%      |        |       | 2%        |       |       | 0%      |        |
| Storage Length (ft)        | 150                                   |         | 0              | 0          |         | 140    | 225   |           | 0     | 150   |         | 220    |
| Storage Lanes              | 1                                     |         | 0              | 2          |         | 2      | 2     |           | 0     | 2     |         | 1      |
| Taper Length (ft)          | 25                                    |         |                | 25         |         |        | 150   |           |       | 125   |         |        |
| Lane Util. Factor          | 0.95                                  | 0.95    | 0.88           | 0.97       | 1.00    | 1.00   | 0.97  | 0.86      | 0.86  | 0.97  | 0.86    | 1.00   |
| Ped Bike Factor            | 0.98                                  | 0.98    |                |            |         | 0.96   | 1.00  |           |       |       |         | 0.99   |
| Frt                        |                                       |         | 0.850          |            |         | 0.850  |       | 0.994     |       |       |         | 0.850  |
| Flt Protected              | 0.950                                 | 0.963   |                | 0.950      |         |        | 0.950 |           |       | 0.950 |         |        |
| Satd. Flow (prot)          | 1656                                  | 1679    | 2745           | 3382       | 1835    | 1560   | 3399  | 6306      | 0     | 3433  | 6408    | 1583   |
| Flt Permitted              | 0.950                                 | 0.963   |                | 0.950      |         |        | 0.950 |           |       | 0.950 |         |        |
| Satd. Flow (perm)          | 1616                                  | 1647    | 2745           | 3382       | 1835    | 1502   | 3398  | 6306      | 0     | 3433  | 6408    | 1562   |
| Right Turn on Red          |                                       |         | No             |            |         | Yes    |       |           | Yes   |       |         | Yes    |
| Satd. Flow (RTOR)          |                                       |         |                |            |         | 196    |       | 6         |       |       |         | 151    |
| Link Speed (mph)           |                                       | 35      |                |            | 25      |        |       | 40        |       |       | 40      |        |
| Link Distance (ft)         |                                       | 479     |                |            | 540     |        |       | 552       |       |       | 596     |        |
| Travel Time (s)            |                                       | 9.3     |                |            | 14.7    |        |       | 9.4       |       |       | 10.2    |        |
| Confl. Peds. (#/hr)        | 13                                    | 7.0     |                |            | 1 1.7   | 13     | 1     | 7.1       |       |       | 10.2    | 1      |
| Peak Hour Factor           | 0.90                                  | 0.90    | 0.90           | 0.84       | 0.84    | 0.84   | 0.91  | 0.91      | 0.91  | 0.92  | 0.92    | 0.92   |
| Adj. Flow (vph)            | 416                                   | 54      | 673            | 139        | 38      | 25     | 898   | 1909      | 77    | 71    | 2364    | 240    |
| Shared Lane Traffic (%)    | 44%                                   | 57      | 075            | 157        | 50      | 25     | 070   | 1707      | ,,    | 71    | 2304    | 240    |
| Lane Group Flow (vph)      | 233                                   | 237     | 673            | 139        | 38      | 25     | 898   | 1986      | 0     | 71    | 2364    | 240    |
| Enter Blocked Intersection | No                                    | No      | No             | No         | No      | No     | No    | No        | No    | No    | No      | No     |
| Lane Alignment             | Left                                  | Left    | Right          | Left       | Left    | Right  | Left  | Left      | Right | Left  | Left    | Right  |
| Median Width(ft)           | Lon                                   | 24      | Right          | Lon        | 40      | rtight | Lon   | 34        | Right | Lon   | 34      | Right  |
| Link Offset(ft)            |                                       | 0       |                |            | 40<br>0 |        |       | 0         |       |       | 0       |        |
| Crosswalk Width(ft)        |                                       | 16      |                |            | 16      |        |       | 16        |       |       | 16      |        |
| Two way Left Turn Lane     |                                       | 10      |                |            | 10      |        |       | 10        |       |       | 10      |        |
| Headway Factor             | 1.02                                  | 1.02    | 1.02           | 1.02       | 1.02    | 1.02   | 1.01  | 1.01      | 1.01  | 1.00  | 1.00    | 1.00   |
| Turning Speed (mph)        | 1.02                                  | 1.02    | 9              | 15         | 1.02    | 9      | 1.01  | 1.01      | 9     | 1.00  | 1.00    | 9      |
| Number of Detectors        | 13                                    | 1       | 1              | 13         | 1       | , 1    | 1     | 1         | ,     | 13    | 1       | , 1    |
| Detector Template          |                                       |         |                |            | 1       |        | 1     |           |       |       |         |        |
| Leading Detector (ft)      | 50                                    | 50      | 50             | 50         | 50      | 50     | 50    | 50        |       | 50    | 50      | 50     |
| Trailing Detector (ft)     | 0                                     | 0       | 0              | 0          | 0       | 0      | 0     | 0         |       | 0     | 0       | 0      |
| Detector 1 Position(ft)    | 0                                     | 0       | 0              | 0          | 0       | 0      | 0     | 0         |       | 0     | 0       | 0      |
| Detector 1 Size(ft)        | 50                                    | 50      | 50             | 50         | 50      | 50     | 50    | 50        |       | 50    | 50      | 50     |
| Detector 1 Type            | CI+Ex                                 | CI+Ex   | CI+Ex          | CI+Ex      | CI+Ex   | CI+Ex  | CI+Ex | CI+Ex     |       | CI+Ex | CI+Ex   | CI+Ex  |
| Detector 1 Channel         |                                       |         |                |            |         | OITLA  |       |           |       |       |         |        |
| Detector 1 Extend (s)      | 0.0                                   | 0.0     | 0.0            | 0.0        | 0.0     | 0.0    | 0.0   | 0.0       |       | 0.0   | 0.0     | 0.0    |
| Detector 1 Queue (s)       | 0.0                                   | 0.0     | 0.0            | 0.0        | 0.0     | 0.0    | 0.0   | 0.0       |       | 0.0   | 0.0     | 0.0    |
| Detector 1 Delay (s)       | 0.0                                   | 0.0     | 0.0            | 0.0        | 0.0     | 0.0    | 0.0   | 0.0       |       | 0.0   | 0.0     | 0.0    |
| Turn Type                  | Split                                 |         | custom         | Split      | NA      | Perm   | Prot  | 0.0<br>NA |       | Prot  | NA      | Perm   |
| Protected Phases           | Spiit<br>4                            | NA<br>4 | 20510111<br>17 | Spiit<br>3 | NA<br>3 | генн   | 1     | NA<br>6   |       | 5     | NA<br>2 | Fellil |
|                            | 4                                     | 4       | 1/             | 3          | 3       | n      |       | 0         |       | 5     | 2       | 2      |
| Permitted Phases           |                                       | 1       | 17             | 2          | 2       | 3      | 1     | 1         |       | F     | 2       | 2      |
| Detector Phase             | 4                                     | 4       | 17             | 3          | 3       | 3      | 1     | 6         |       | 5     | 2       | 2      |
| Switch Phase               |                                       |         |                |            |         |        |       |           |       |       |         |        |

Synchro 10 Report

Marc R Acampora, PE, LLC

| Lane Group                 | Ø7 | Ø8 |  |
|----------------------------|----|----|--|
| LaneConfigurations         |    |    |  |
| Traffic Volume (vph)       |    |    |  |
| Future Volume (vph)        |    |    |  |
| Ideal Flow (vphpl)         |    |    |  |
| Grade (%)                  |    |    |  |
| Storage Length (ft)        |    |    |  |
| Storage Lanes              |    |    |  |
| Taper Length (ft)          |    |    |  |
| Lane Util. Factor          |    |    |  |
| Ped Bike Factor            |    |    |  |
| Frt                        |    |    |  |
| Flt Protected              |    |    |  |
| Satd. Flow (prot)          |    |    |  |
| Flt Permitted              |    |    |  |
| Satd. Flow (perm)          |    |    |  |
| Right Turn on Red          |    |    |  |
| Satd. Flow (RTOR)          |    |    |  |
| Link Speed (mph)           |    |    |  |
| Link Distance (ft)         |    |    |  |
| Travel Time (s)            |    |    |  |
| Confl. Peds. (#/hr)        |    |    |  |
| Peak Hour Factor           |    |    |  |
| Adj. Flow (vph)            |    |    |  |
| Shared Lane Traffic (%)    |    |    |  |
| Lane Group Flow (vph)      |    |    |  |
| Enter Blocked Intersection |    |    |  |
| Lane Alignment             |    |    |  |
| Median Width(ft)           |    |    |  |
| Link Offset(ft)            |    |    |  |
| Crosswalk Width(ft)        |    |    |  |
| Two way Left Turn Lane     |    |    |  |
| Headway Factor             |    |    |  |
| Turning Speed (mph)        |    |    |  |
| Number of Detectors        |    |    |  |
| Detector Template          |    |    |  |
| Leading Detector (ft)      |    |    |  |
| Trailing Detector (ft)     |    |    |  |
| Detector 1 Position(ft)    |    |    |  |
| Detector 1 Size(ft)        |    |    |  |
| Detector 1 Type            |    |    |  |
| Detector 1 Channel         |    |    |  |
| Detector 1 Extend (s)      |    |    |  |
| Detector 1 Queue (s)       |    |    |  |
| Detector 1 Delay (s)       |    |    |  |
| Turn Type                  |    |    |  |
| Protected Phases           | 7  | 8  |  |
| Permitted Phases           |    |    |  |
| Detector Phase             |    |    |  |
| Switch Phase               |    |    |  |
|                            |    |    |  |

Marc R Acampora, PE, LLC

no-build mid-day

1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

|                              | ٦            | -        | $\mathbf{i}$ | *     | +          | *         | •     | 1     | 1   | 1     | ŧ     | ~     |
|------------------------------|--------------|----------|--------------|-------|------------|-----------|-------|-------|-----|-------|-------|-------|
| Lane Group                   | EBL          | EBT      | EBR          | WBL   | WBT        | WBR       | NBL   | NBT   | NBR | SBL   | SBT   | SBR   |
| Minimum Initial (s)          | 8.0          | 8.0      |              | 8.0   | 8.0        | 8.0       | 8.0   | 10.0  |     | 8.0   | 10.0  | 10.0  |
| Minimum Split (s)            | 31.5         | 31.5     |              | 33.8  | 33.8       | 33.8      | 16.3  | 45.2  |     | 15.7  | 49.2  | 49.2  |
| Total Split (s)              | 38.0         | 38.0     |              | 35.0  | 35.0       | 35.0      | 46.0  | 80.0  |     | 17.0  | 51.0  | 51.0  |
| Total Split (%)              | 22.3%        | 22.3%    |              | 20.5% | 20.5%      | 20.5%     | 27.0% | 46.9% |     | 10.0% | 29.9% | 29.9% |
| Maximum Green (s)            | 30.5         | 30.5     |              | 27.2  | 27.2       | 27.2      | 37.7  | 72.8  |     | 9.3   | 43.8  | 43.8  |
| Yellow Time (s)              | 4.5          | 4.5      |              | 4.8   | 4.8        | 4.8       | 5.3   | 4.5   |     | 4.7   | 4.5   | 4.5   |
| All-Red Time (s)             | 3.0          | 3.0      |              | 3.0   | 3.0        | 3.0       | 3.0   | 2.7   |     | 3.0   | 2.7   | 2.7   |
| 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)          | 7.5          | 7.5      |              | 7.8   | 7.8        | 7.8       | 8.3   | 7.2   |     | 7.7   | 7.2   | 7.2   |
| Lead/Lag                     |              |          |              |       |            |           | Lead  | Lead  |     | Lag   | Lag   | Lag   |
| Lead-Lag Optimize?           |              |          |              |       |            |           |       |       |     |       |       |       |
| Vehicle Extension (s)        | 1.0          | 1.0      |              | 1.0   | 1.0        | 1.0       | 4.0   | 5.0   |     | 2.0   | 5.0   | 5.0   |
| Recall Mode                  | None         | None     |              | None  | None       | None      | Max   | Мах   |     | None  | C-Max | C-Max |
| Walk Time (s)                | 4.0          | 4.0      |              | 4.0   | 4.0        | 4.0       |       | 7.0   |     |       | 7.0   | 7.0   |
| Flash Dont Walk (s)          | 20.0         | 20.0     |              | 22.0  | 22.0       | 22.0      |       | 31.0  |     |       | 35.0  | 35.0  |
| Pedestrian Calls (#/hr)      | 0            | 0        |              | 7     | 7          | 7         |       | 0     |     |       | 1     | 1     |
| Act Effct Green (s)          | 26.4         | 26.4     | 85.9         | 13.1  | 13.1       | 13.1      | 56.4  | 91.5  |     | 9.3   | 43.8  | 43.8  |
| Actuated g/C Ratio           | 0.15         | 0.15     | 0.50         | 0.08  | 0.08       | 0.08      | 0.33  | 0.54  |     | 0.05  | 0.26  | 0.26  |
| v/c Ratio                    | 0.91         | 0.91     | 0.49         | 0.54  | 0.27       | 0.08      | 0.80  | 0.59  |     | 0.38  | 1.44  | 0.47  |
| Control Delay                | 106.8        | 107.0    | 32.1         | 82.2  | 76.3       | 0.6       | 58.1  | 28.8  |     | 83.9  | 243.2 | 22.4  |
| Queue Delay                  | 0.0          | 0.0      | 0.0          | 0.0   | 0.0        | 0.0       | 0.0   | 0.4   |     | 0.0   | 0.0   | 0.0   |
| Total Delay                  | 106.8        | 107.0    | 32.1         | 82.2  | 76.3       | 0.6       | 58.1  | 29.2  |     | 83.9  | 243.2 | 22.4  |
| LOS                          | F            | F        | С            | F     | E          | А         | E     | С     |     | F     | F     | С     |
| Approach Delay               |              | 62.8     |              |       | 71.0       |           |       | 38.2  |     |       | 219.2 |       |
| Approach LOS                 |              | E        |              |       | E          |           |       | D     |     |       | F     |       |
| Intersection Summary         |              |          |              |       |            |           |       |       |     |       |       |       |
| Area Type:                   | Other        |          |              |       |            |           |       |       |     |       |       |       |
| Cycle Length: 170.5          |              |          |              |       |            |           |       |       |     |       |       |       |
| Actuated Cycle Length: 17    | 0.5          |          |              |       |            |           |       |       |     |       |       |       |
| Offset: 0 (0%), Referenced   | d to phase 2 | SBT, Sta | rt of Yell   | OW    |            |           |       |       |     |       |       |       |
| Natural Cycle: 150           |              |          |              |       |            |           |       |       |     |       |       |       |
| Control Type: Actuated-Co    | ordinated    |          |              |       |            |           |       |       |     |       |       |       |
| Maximum v/c Ratio: 1.44      |              |          |              |       |            |           |       |       |     |       |       |       |
| Intersection Signal Delay:   |              |          |              |       | ntersectio |           |       |       |     |       |       |       |
| Intersection Capacity Utiliz | ation 95.8%  | 6        |              | [(    | CU Level   | of Servic | e F   |       |     |       |       |       |
| Analysis Period (min) 15     |              |          |              |       |            |           |       |       |     |       |       |       |

Splits and Phases: 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

| <b>A</b> Ø1 | Ø2 (R) |      | <b>₩</b> ø3 | <b>4</b> <sub>Ø4</sub> |             |
|-------------|--------|------|-------------|------------------------|-------------|
| 46 s        | 51 s   |      | 35 s        | 38 s                   |             |
| ¶ø6         |        | Ø5   |             | ≹ik <sub>Ø8</sub>      | <b>→</b> Ø7 |
| 80 s        | 1      | 17 s |             | 23 s                   | 15.5 s      |

no-build mid-day

| Lane Group              | Ø7   | Ø8   |
|-------------------------|------|------|
| Minimum Initial (s)     | 8.0  | 1.0  |
| Minimum Split (s)       | 15.5 | 22.0 |
| Total Split (s)         | 15.5 | 23.0 |
| Total Split (%)         | 9%   | 13%  |
| Maximum Green (s)       | 8.0  | 20.0 |
| Yellow Time (s)         | 4.5  | 3.0  |
| All-Red Time (s)        | 3.0  | 0.0  |
| Lost Time Adjust (s)    |      |      |
| Total Lost Time (s)     |      |      |
| Lead/Lag                | Lag  | Lead |
| Lead-Lag Optimize?      |      |      |
| Vehicle Extension (s)   | 1.0  | 2.0  |
| Recall Mode             | None | None |
| Walk Time (s)           |      | 4.0  |
| Flash Dont Walk (s)     |      | 15.0 |
| Pedestrian Calls (#/hr) |      | 7    |
| Act Effct Green (s)     |      |      |
| Actuated g/C Ratio      |      |      |
| v/c Ratio               |      |      |
| Control Delay           |      |      |
| Queue Delay             |      |      |
| Total Delay             |      |      |
| LOS                     |      |      |
| Approach Delay          |      |      |
| Approach LOS            |      |      |
| Intersection Summary    |      |      |

no-build mid-day

| 7 | ¥ | 7 | • | • |  |
|---|---|---|---|---|--|
| ' | ' | ' |   |   |  |

no-build p.m.

|                                               | ay ittu i |       | ASINO         |       |          |       | <u>.</u> |         |       |       |         | <u>_</u> |
|-----------------------------------------------|-----------|-------|---------------|-------|----------|-------|----------|---------|-------|-------|---------|----------|
|                                               | ٦         | -     | $\rightarrow$ | 4     | +        | *     | 1        | 1       | 1     | 1     | ŧ       | ~        |
| Lane Group                                    | EBL       | EBT   | EBR           | WBL   | WBT      | WBR   | NBL      | NBT     | NBR   | SBL   | SBT     | SBR      |
| Lane Configurations                           | ሻ         | र्भ   | 77            | ካካ    | <b>↑</b> | 1     | ካካ       | 4111    |       | ካካ    | 1111    | 1        |
| Traffic Volume (vph)                          | 215       | 22    | 638           | 327   | 69       | 47    | 549      | 1713    | 27    | 4     | 1339    | 44       |
| Future Volume (vph)                           | 215       | 22    | 638           | 327   | 69       | 47    | 549      | 1713    | 27    | 4     | 1339    | 44       |
| Ideal Flow (vphpl)                            | 1900      | 1900  | 1900          | 1900  | 1900     | 1900  | 1900     | 1900    | 1900  | 1900  | 1900    | 1900     |
| Grade (%)                                     |           | 3%    |               |       | 3%       |       |          | 2%      |       |       | 0%      |          |
| Storage Length (ft)                           | 150       |       | 0             | 0     |          | 140   | 225      |         | 0     | 150   |         | 220      |
| Storage Lanes                                 | 1         |       | 0             | 2     |          | 2     | 2        |         | 0     | 2     |         | 1        |
| Taper Length (ft)                             | 25        |       |               | 25    |          |       | 150      |         |       | 125   |         |          |
| Lane Util. Factor                             | 0.95      | 0.95  | 0.88          | 0.97  | 1.00     | 1.00  | 0.97     | 0.86    | 0.86  | 0.97  | 0.86    | 1.00     |
| Ped Bike Factor                               | 0.98      | 0.98  |               |       |          | 0.96  | 1.00     |         |       |       |         | 0.99     |
| Frt                                           | 0170      | 0170  | 0.850         |       |          | 0.850 |          | 0.998   |       |       |         | 0.850    |
| Flt Protected                                 | 0.950     | 0.961 | 01000         | 0.950 |          | 01000 | 0.950    | 01770   |       | 0.950 |         | 01000    |
| Satd. Flow (prot)                             | 1656      | 1675  | 2745          | 3382  | 1835     | 1560  | 3399     | 6331    | 0     | 3433  | 6408    | 1583     |
| Flt Permitted                                 | 0.950     | 0.961 | 27.10         | 0.950 |          |       | 0.950    |         |       | 0.950 | 0.00    |          |
| Satd. Flow (perm)                             | 1618      | 1644  | 2745          | 3382  | 1835     | 1502  | 3398     | 6331    | 0     | 3433  | 6408    | 1562     |
| Right Turn on Red                             | 1010      | 1011  | No            | 0002  | 1000     | Yes   | 0070     | 0001    | Yes   | 0100  | 0100    | Yes      |
| Satd. Flow (RTOR)                             |           |       | 110           |       |          | 196   |          | 2       | 105   |       |         | 151      |
| Link Speed (mph)                              |           | 35    |               |       | 25       | 170   |          | 40      |       |       | 40      | 101      |
| Link Distance (ft)                            |           | 479   |               |       | 540      |       |          | 552     |       |       | 596     |          |
| Travel Time (s)                               |           | 9.3   |               |       | 14.7     |       |          | 9.4     |       |       | 10.2    |          |
| Confl. Peds. (#/hr)                           | 13        | 7.5   |               |       | 14.7     | 13    | 1        | 7.4     |       |       | 10.2    | 1        |
| Peak Hour Factor                              | 0.94      | 0.94  | 0.94          | 0.92  | 0.92     | 0.92  | 0.96     | 0.96    | 0.96  | 0.95  | 0.95    | 0.95     |
| Adj. Flow (vph)                               | 229       | 23    | 679           | 355   | 75       | 51    | 572      | 1784    | 28    | 4     | 1409    | 46       |
| Shared Lane Traffic (%)                       | 45%       | 23    | 079           | 300   | 75       | 51    | 572      | 1704    | 20    | 4     | 1409    | 40       |
| Lane Group Flow (vph)                         | 126       | 126   | 679           | 355   | 75       | 51    | 572      | 1812    | 0     | 4     | 1409    | 46       |
| Enter Blocked Intersection                    | No        | No    | No            | No    | No       | No    | No       | No      | No    | No    | No      | No       |
| Lane Alignment                                | Left      | Left  |               | Left  | Left     |       | Left     | Left    |       | Left  | Left    |          |
|                                               | Len       | 24    | Right         | Len   | 40       | Right | Leit     | 24      | Right | Leit  | 24      | Right    |
| Median Width(ft)<br>Link Offset(ft)           |           | 24    |               |       | 40       |       |          | 34<br>0 |       |       | 34<br>0 |          |
|                                               |           | 16    |               |       | 16       |       |          | 16      |       |       | 16      |          |
| Crosswalk Width(ft)<br>Two way Left Turn Lane |           | 10    |               |       | 10       |       |          | 10      |       |       | 10      |          |
|                                               | 1 0 0     | 1 00  | 1 00          | 1 0 0 | 1 0 2    | 1 0 0 | 1 01     | 1 01    | 1 01  | 1 00  | 1.00    | 1 00     |
| Headway Factor                                | 1.02      | 1.02  | 1.02          | 1.02  | 1.02     | 1.02  | 1.01     | 1.01    | 1.01  | 1.00  | 1.00    | 1.00     |
| Turning Speed (mph)                           | 15        | 1     | 9             | 15    | 1        | 9     | 15       | 1       | 9     | 15    | 1       | 9        |
| Number of Detectors                           | 1         | 1     | 1             | 1     | 1        | 1     | 1        | 1       |       | 1     | 1       | 1        |
| Detector Template                             | ГО        | FO    | ГО            | ГO    | ГО       | FO    | ГО       | FO      |       | ГО    | FO      | FO       |
| Leading Detector (ft)                         | 50        | 50    | 50            | 50    | 50       | 50    | 50       | 50      |       | 50    | 50      | 50       |
| Trailing Detector (ft)                        | 0         | 0     | 0             | 0     | 0        | 0     | 0        | 0       |       | 0     | 0       | 0        |
| Detector 1 Position(ft)                       | 0         | 0     | 0             | 0     | 0        | 0     | 0        | 0       |       | 0     | 0       | 0        |
| Detector 1 Size(ft)                           | 50        | 50    | 50            | 50    | 50       | 50    | 50       | 50      |       | 50    | 50      | 50       |
| Detector 1 Type                               | CI+Ex     | CI+Ex | CI+Ex         | CI+Ex | CI+Ex    | CI+Ex | CI+Ex    | CI+Ex   |       | CI+Ex | CI+Ex   | CI+Ex    |
| Detector 1 Channel                            |           |       |               |       |          |       |          |         |       |       |         |          |
| Detector 1 Extend (s)                         | 0.0       | 0.0   | 0.0           | 0.0   | 0.0      | 0.0   | 0.0      | 0.0     |       | 0.0   | 0.0     | 0.0      |
| Detector 1 Queue (s)                          | 0.0       | 0.0   | 0.0           | 0.0   | 0.0      | 0.0   | 0.0      | 0.0     |       | 0.0   | 0.0     | 0.0      |
| Detector 1 Delay (s)                          | 0.0       | 0.0   | 0.0           | 0.0   | 0.0      | 0.0   | 0.0      | 0.0     |       | 0.0   | 0.0     | 0.0      |
| Turn Type                                     | Split     | NA    | custom        | Split | NA       | Perm  | Prot     | NA      |       | Prot  | NA      | Perm     |
| Protected Phases                              | 4         | 4     | 17            | 3     | 3        |       | 1        | 6       |       | 5     | 2       |          |
| Permitted Phases                              |           |       |               |       |          | 3     |          |         |       |       |         | 2        |
| Detector Phase<br>Switch Phase                | 4         | 4     | 17            | 3     | 3        | 3     | 1        | 6       |       | 5     | 2       | 2        |
|                                               |           |       |               |       |          |       |          |         |       |       |         |          |

Synchro 10 Report

Marc R Acampora, PE, LLC

| Lane Group                 | Ø7 | Ø8 |  |
|----------------------------|----|----|--|
| LaneConfigurations         |    |    |  |
| Traffic Volume (vph)       |    |    |  |
| Future Volume (vph)        |    |    |  |
| Ideal Flow (vphpl)         |    |    |  |
| Grade (%)                  |    |    |  |
| Storage Length (ft)        |    |    |  |
| Storage Lanes              |    |    |  |
| Taper Length (ft)          |    |    |  |
| Lane Util. Factor          |    |    |  |
| Ped Bike Factor            |    |    |  |
| Frt                        |    |    |  |
| Flt Protected              |    |    |  |
| Satd. Flow (prot)          |    |    |  |
| Flt Permitted              |    |    |  |
| Satd. Flow (perm)          |    |    |  |
| Right Turn on Red          |    |    |  |
| Satd. Flow (RTOR)          |    |    |  |
| Link Speed (mph)           |    |    |  |
| Link Distance (ft)         |    |    |  |
| Travel Time (s)            |    |    |  |
| Confl. Peds. (#/hr)        |    |    |  |
| Peak Hour Factor           |    |    |  |
| Adj. Flow (vph)            |    |    |  |
| Shared Lane Traffic (%)    |    |    |  |
| Lane Group Flow (vph)      |    |    |  |
| Enter Blocked Intersection |    |    |  |
| Lane Alignment             |    |    |  |
| Median Width(ft)           |    |    |  |
| Link Offset(ft)            |    |    |  |
| Crosswalk Width(ft)        |    |    |  |
| Two way Left Turn Lane     |    |    |  |
| Headway Factor             |    |    |  |
| Turning Speed (mph)        |    |    |  |
| Number of Detectors        |    |    |  |
| Detector Template          |    |    |  |
| Leading Detector (ft)      |    |    |  |
| Trailing Detector (ft)     |    |    |  |
| Detector 1 Position(ft)    |    |    |  |
| Detector 1 Size(ft)        |    |    |  |
| Detector 1 Type            |    |    |  |
| Detector 1 Channel         |    |    |  |
| Detector 1 Extend (s)      |    |    |  |
| Detector 1 Queue (s)       |    |    |  |
| Detector 1 Delay (s)       |    |    |  |
| Turn Type                  |    |    |  |
| Protected Phases           | 7  | 8  |  |
| Permitted Phases           |    |    |  |
| Detector Phase             |    |    |  |
| Switch Phase               |    |    |  |
|                            |    |    |  |

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| 1: Ashford Dunwoody Rd #1 #2/A | Ashford Dunwoody Rd #1 & Hammond Dr |
|--------------------------------|-------------------------------------|
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|                              | ٦            | -        | $\mathbf{r}$ | 4     | +          | •         | •     | 1     | 1   | 1     | ţ     | ~     |
|------------------------------|--------------|----------|--------------|-------|------------|-----------|-------|-------|-----|-------|-------|-------|
| Lane Group                   | EBL          | EBT      | EBR          | WBL   | WBT        | WBR       | NBL   | NBT   | NBR | SBL   | SBT   | SBR   |
| Minimum Initial (s)          | 8.0          | 8.0      |              | 8.0   | 8.0        | 8.0       | 8.0   | 10.0  |     | 8.0   | 10.0  | 10.0  |
| Minimum Split (s)            | 31.5         | 31.5     |              | 33.8  | 33.8       | 33.8      | 16.3  | 45.2  |     | 15.7  | 49.2  | 49.2  |
| Total Split (s)              | 38.0         | 38.0     |              | 35.0  | 35.0       | 35.0      | 46.0  | 80.0  |     | 17.0  | 51.0  | 51.0  |
| Total Split (%)              | 22.3%        | 22.3%    |              | 20.5% | 20.5%      | 20.5%     | 27.0% | 46.9% |     | 10.0% | 29.9% | 29.9% |
| Maximum Green (s)            | 30.5         | 30.5     |              | 27.2  | 27.2       | 27.2      | 37.7  | 72.8  |     | 9.3   | 43.8  | 43.8  |
| Yellow Time (s)              | 4.5          | 4.5      |              | 4.8   | 4.8        | 4.8       | 5.3   | 4.5   |     | 4.7   | 4.5   | 4.5   |
| All-Red Time (s)             | 3.0          | 3.0      |              | 3.0   | 3.0        | 3.0       | 3.0   | 2.7   |     | 3.0   | 2.7   | 2.7   |
| 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)          | 7.5          | 7.5      |              | 7.8   | 7.8        | 7.8       | 8.3   | 7.2   |     | 7.7   | 7.2   | 7.2   |
| Lead/Lag                     |              |          |              |       |            |           | Lead  | Lead  |     | Lag   | Lag   | Lag   |
| Lead-Lag Optimize?           |              |          |              |       |            |           |       |       |     |       |       |       |
| Vehicle Extension (s)        | 1.0          | 1.0      |              | 1.0   | 1.0        | 1.0       | 4.0   | 5.0   |     | 2.0   | 5.0   | 5.0   |
| Recall Mode                  | None         | None     |              | None  | None       | None      | Max   | Мах   |     | None  | C-Max | C-Max |
| Walk Time (s)                | 4.0          | 4.0      |              | 4.0   | 4.0        | 4.0       |       | 7.0   |     |       | 7.0   | 7.0   |
| Flash Dont Walk (s)          | 20.0         | 20.0     |              | 22.0  | 22.0       | 22.0      |       | 31.0  |     |       | 35.0  | 35.0  |
| Pedestrian Calls (#/hr)      | 0            | 0        |              | 7     | 7          | 7         |       | 0     |     |       | 1     | 1     |
| Act Effct Green (s)          | 17.8         | 17.8     | 77.7         | 21.3  | 21.3       | 21.3      | 56.8  | 105.5 |     | 8.3   | 43.8  | 43.8  |
| Actuated g/C Ratio           | 0.10         | 0.10     | 0.46         | 0.12  | 0.12       | 0.12      | 0.33  | 0.62  |     | 0.05  | 0.26  | 0.26  |
| v/c Ratio                    | 0.73         | 0.72     | 0.54         | 0.84  | 0.33       | 0.14      | 0.51  | 0.46  |     | 0.02  | 0.86  | 0.09  |
| Control Delay                | 96.2         | 95.3     | 37.8         | 90.5  | 70.8       | 0.8       | 49.4  | 19.8  |     | 77.2  | 66.5  | 0.3   |
| Queue Delay                  | 0.0          | 0.0      | 0.0          | 0.0   | 0.0        | 0.0       | 0.0   | 0.2   |     | 0.0   | 0.0   | 0.0   |
| Total Delay                  | 96.2         | 95.3     | 37.8         | 90.5  | 70.8       | 0.8       | 49.4  | 20.1  |     | 77.2  | 66.5  | 0.3   |
| LOS                          | F            | F        | D            | F     | E          | А         | D     | С     |     | E     | E     | A     |
| Approach Delay               |              | 53.5     |              |       | 77.9       |           |       | 27.1  |     |       | 64.5  |       |
| Approach LOS                 |              | D        |              |       | E          |           |       | С     |     |       | E     |       |
| Intersection Summary         |              |          |              |       |            |           |       |       |     |       |       |       |
| Area Type:                   | Other        |          |              |       |            |           |       |       |     |       |       |       |
| Cycle Length: 170.5          |              |          |              |       |            |           |       |       |     |       |       |       |
| Actuated Cycle Length: 17    |              |          |              |       |            |           |       |       |     |       |       |       |
| Offset: 0 (0%), Referenced   | d to phase 2 | SBT, Sta | rt of Yell   | OW    |            |           |       |       |     |       |       |       |
| Natural Cycle: 150           |              |          |              |       |            |           |       |       |     |       |       |       |
| Control Type: Actuated-Co    | oordinated   |          |              |       |            |           |       |       |     |       |       |       |
| Maximum v/c Ratio: 0.86      |              |          |              |       |            |           |       |       |     |       |       |       |
| Intersection Signal Delay:   |              |          |              |       | ntersectio |           |       |       |     |       |       |       |
| Intersection Capacity Utiliz | zation 90.4% | 0        |              | [(    | CU Level   | of Servic | еE    |       |     |       |       |       |
| Analysis Period (min) 15     |              |          |              |       |            |           |       |       |     |       |       |       |

Splits and Phases: 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

| <b>A</b> Ø1 | Ø2 (R) |    | <b>₽</b> ø3 | <b>∠</b> <sub>Ø4</sub> |             |
|-------------|--------|----|-------------|------------------------|-------------|
| 46 s        | 51 s   |    | 35 s        | 38 s                   |             |
| ¶ø6         |        | Ø5 |             | A Nos                  | <b>→</b> Ø7 |
| 80 s        | 17     | 7s |             | 23 s                   | 15.5 s      |

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| Lane Group              | Ø7   | Ø8   |
|-------------------------|------|------|
| Minimum Initial (s)     | 8.0  | 1.0  |
| Minimum Split (s)       | 15.5 | 22.0 |
| Total Split (s)         | 15.5 | 23.0 |
| Total Split (%)         | 9%   | 13%  |
| Maximum Green (s)       | 8.0  | 20.0 |
| Yellow Time (s)         | 4.5  | 3.0  |
| All-Red Time (s)        | 3.0  | 0.0  |
| Lost Time Adjust (s)    |      |      |
| Total Lost Time (s)     |      |      |
| Lead/Lag                | Lag  | Lead |
| Lead-Lag Optimize?      |      |      |
| Vehicle Extension (s)   | 1.0  | 2.0  |
| Recall Mode             | None | None |
| Walk Time (s)           |      | 4.0  |
| Flash Dont Walk (s)     |      | 15.0 |
| Pedestrian Calls (#/hr) |      | 7    |
| Act Effct Green (s)     |      |      |
| Actuated g/C Ratio      |      |      |
| v/c Ratio               |      |      |
| Control Delay           |      |      |
| Queue Delay             |      |      |
| Total Delay             |      |      |
| LOS                     |      |      |
| Approach Delay          |      |      |
| Approach LOS            |      |      |
| Intersection Summary    |      |      |

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Appendix E

Future Intersection Operational Analysis

#7..

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future a.m.

|                            | uy i tu i |       |              |       | woody    |       | u nu  |       |       |       |            |       |
|----------------------------|-----------|-------|--------------|-------|----------|-------|-------|-------|-------|-------|------------|-------|
|                            | ٦         | -     | $\mathbf{i}$ | 4     | -        | •     | 1     | Ť     | ۲     | 1     | Ŧ          | ~     |
| Lane Group                 | EBL       | EBT   | EBR          | WBL   | WBT      | WBR   | NBL   | NBT   | NBR   | SBL   | SBT        | SBR   |
| Lane Configurations        | <b>5</b>  | र्स   | 77           | ካካ    | <b>†</b> | 1     | ሻሻ    | 4111  |       | ሻሻ    | 1111       | 1     |
| Traffic Volume (vph)       | 142       | 87    | 259          | 83    | 25       | 46    | 794   | 1954  | 505   | 75    | 1423       | 156   |
| Future Volume (vph)        | 142       | 87    | 259          | 83    | 25       | 46    | 794   | 1954  | 505   | 75    | 1423       | 156   |
| Ideal Flow (vphpl)         | 1900      | 1900  | 1900         | 1900  | 1900     | 1900  | 1900  | 1900  | 1900  | 1900  | 1900       | 1900  |
| Grade (%)                  | 1,00      | 3%    | 1700         | 1700  | 3%       | 1700  | 1700  | 2%    | 1,00  | 1,00  | 0%         | 1700  |
| Storage Length (ft)        | 150       | 070   | 0            | 0     | 070      | 140   | 225   | 270   | 0     | 150   | 070        | 220   |
| Storage Lanes              | 1         |       | 0            | 2     |          | 2     | 2     |       | 0     | 2     |            | 1     |
| Taper Length (ft)          | 25        |       | U            | 25    |          | 2     | 150   |       | U     | 125   |            |       |
| Lane Util. Factor          | 0.95      | 0.95  | 0.88         | 0.97  | 1.00     | 1.00  | 0.97  | 0.86  | 0.86  | 0.97  | 0.86       | 1.00  |
| Ped Bike Factor            | 0.98      | 0.99  | 0.00         | 0.77  | 1.00     | 0.96  | 1.00  | 0.00  | 0.00  | 0.77  | 0.00       | 0.99  |
| Frt                        | 0.70      | 0.77  | 0.850        |       |          | 0.850 | 1.00  | 0.969 |       |       |            | 0.850 |
| Flt Protected              | 0.950     | 0.987 | 0.000        | 0.950 |          | 0.000 | 0.950 | 0.707 |       | 0.950 |            | 0.000 |
| Satd. Flow (prot)          | 1656      | 1720  | 2745         | 3382  | 1835     | 1560  | 3399  | 6147  | 0     | 3433  | 6408       | 1583  |
| Flt Permitted              | 0.950     | 0.987 | 2745         | 0.950 | 1055     | 1500  | 0.950 | 0147  | 0     | 0.950 | 0400       | 1303  |
| Satd. Flow (perm)          | 1615      | 1710  | 2745         | 3382  | 1835     | 1502  | 3398  | 6147  | 0     | 3433  | 6408       | 1562  |
| Right Turn on Red          | 1015      | 1710  | Z745<br>No   | JJ02  | 1055     | Yes   | 3370  | 0147  | Yes   | 5455  | 0400       | Yes   |
| Satd. Flow (RTOR)          |           |       | NU           |       |          | 196   |       | 48    | 163   |       |            | 151   |
| Link Speed (mph)           |           | 35    |              |       | 25       | 170   |       | 40    |       |       | 40         | 151   |
| Link Distance (ft)         |           | 479   |              |       | 540      |       |       | 552   |       |       | 596        |       |
| Travel Time (s)            |           | 9.3   |              |       | 14.7     |       |       | 9.4   |       |       | 10.2       |       |
| .,                         | 13        | 9.5   |              |       | 14.7     | 13    | 1     | 9.4   |       |       | 10.2       | 1     |
| Confl. Peds. (#/hr)        | 0.85      | 0.05  | 0.05         | 0.70  | 0.70     | 0.79  | 1     | 0.07  | 0.07  | 0.77  | 0 77       |       |
| Peak Hour Factor           |           | 0.85  | 0.85         | 0.79  | 0.79     |       | 0.96  | 0.96  | 0.96  | 0.77  | 0.77       | 0.77  |
| Adj. Flow (vph)            | 167       | 102   | 305          | 105   | 32       | 58    | 827   | 2035  | 526   | 97    | 1848       | 203   |
| Shared Lane Traffic (%)    | 21%       | 107   | 205          | 105   | 22       | FO    | 007   | 25/1  | 0     | 07    | 1040       | 202   |
| Lane Group Flow (vph)      | 132       | 137   | 305          | 105   | 32       | 58    | 827   | 2561  | 0     | 97    | 1848<br>No | 203   |
| Enter Blocked Intersection | No        | No    | No           | No    | No       | No    | No    | No    | No    | No    | No         | No    |
| Lane Alignment             | Left      | Left  | Right        | Left  | Left     | Right | Left  | Left  | Right | Left  | Left       | Right |
| Median Width(ft)           |           | 24    |              |       | 40       |       |       | 34    |       |       | 34         |       |
| Link Offset(ft)            |           | 0     |              |       | 0        |       |       | 0     |       |       | 0          |       |
| Crosswalk Width(ft)        |           | 16    |              |       | 16       |       |       | 16    |       |       | 16         |       |
| Two way Left Turn Lane     | 1 00      | 1 00  | 1 00         | 1 0 0 | 1 00     | 1 0 0 | 1 01  | 1 01  | 1 01  | 1 00  | 1.00       | 1 00  |
| Headway Factor             | 1.02      | 1.02  | 1.02         | 1.02  | 1.02     | 1.02  | 1.01  | 1.01  | 1.01  | 1.00  | 1.00       | 1.00  |
| Turning Speed (mph)        | 15        | 1     | 9            | 15    | 1        | 9     | 15    | 1     | 9     | 15    | 1          | 9     |
| Number of Detectors        | 1         | 1     | 1            | 1     | 1        | 1     | 1     | 1     |       | 1     | 1          | 1     |
| Detector Template          | 50        | 50    | 50           | 50    | 50       | 50    | 50    | 50    |       | 50    | 50         | 50    |
| Leading Detector (ft)      | 50        | 50    | 50           | 50    | 50       | 50    | 50    | 50    |       | 50    | 50         | 50    |
| Trailing Detector (ft)     | 0         | 0     | 0            | 0     | 0        | 0     | 0     | 0     |       | 0     | 0          | 0     |
| Detector 1 Position(ft)    | 0         | 0     | 0            | 0     | 0        | 0     | 0     | 0     |       | 0     | 0          | 0     |
| Detector 1 Size(ft)        | 50        | 50    | 50           | 50    | 50       | 50    | 50    | 50    |       | 50    | 50         | 50    |
| Detector 1 Type            | CI+Ex     | CI+Ex | CI+Ex        | CI+Ex | CI+Ex    | CI+Ex | CI+Ex | CI+Ex |       | CI+Ex | CI+Ex      | CI+Ex |
| Detector 1 Channel         |           |       |              |       |          |       |       |       |       |       |            |       |
| Detector 1 Extend (s)      | 0.0       | 0.0   | 0.0          | 0.0   | 0.0      | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0        | 0.0   |
| Detector 1 Queue (s)       | 0.0       | 0.0   | 0.0          | 0.0   | 0.0      | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0        | 0.0   |
| Detector 1 Delay (s)       | 0.0       | 0.0   | 0.0          | 0.0   | 0.0      | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0        | 0.0   |
| Turn Type                  | Split     |       | custom       | Split | NA       | Perm  | Prot  | NA    |       | Prot  | NA         | Perm  |
| Protected Phases           | 4         | 4     | 17           | 3     | 3        |       | 1     | 6     |       | 5     | 2          |       |
| Permitted Phases           |           |       |              |       |          | 3     |       |       |       |       |            | 2     |
| Detector Phase             | 4         | 4     | 17           | 3     | 3        | 3     | 1     | 6     |       | 5     | 2          | 2     |
| Switch Phase               |           |       |              |       |          |       |       |       |       |       |            |       |
|                            |           |       |              |       |          |       |       |       |       |       |            |       |

Synchro 10 Report

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| Lane Group                 | Ø7 | Ø8 |  |
|----------------------------|----|----|--|
| LanetConfigurations        |    |    |  |
| Traffic Volume (vph)       |    |    |  |
| Future Volume (vph)        |    |    |  |
| Ideal Flow (vphpl)         |    |    |  |
| Grade (%)                  |    |    |  |
| Storage Length (ft)        |    |    |  |
| Storage Lanes              |    |    |  |
| Taper Length (ft)          |    |    |  |
| Lane Util. Factor          |    |    |  |
| Ped Bike Factor            |    |    |  |
| Frt                        |    |    |  |
| Flt Protected              |    |    |  |
| Satd. Flow (prot)          |    |    |  |
| Flt Permitted              |    |    |  |
| Satd. Flow (perm)          |    |    |  |
| Right Turn on Red          |    |    |  |
| Satd. Flow (RTOR)          |    |    |  |
| Link Speed (mph)           |    |    |  |
| Link Distance (ft)         |    |    |  |
| Travel Time (s)            |    |    |  |
| Confl. Peds. (#/hr)        |    |    |  |
| Peak Hour Factor           |    |    |  |
| Adj. Flow (vph)            |    |    |  |
| Shared Lane Traffic (%)    |    |    |  |
| Lane Group Flow (vph)      |    |    |  |
| Enter Blocked Intersection |    |    |  |
| Lane Alignment             |    |    |  |
| Median Width(ft)           |    |    |  |
| Link Offset(ft)            |    |    |  |
| Crosswalk Width(ft)        |    |    |  |
| Two way Left Turn Lane     |    |    |  |
| Headway Factor             |    |    |  |
| Turning Speed (mph)        |    |    |  |
| Number of Detectors        |    |    |  |
| Detector Template          |    |    |  |
| Leading Detector (ft)      |    |    |  |
| Trailing Detector (ft)     |    |    |  |
| Detector 1 Position(ft)    |    |    |  |
| Detector 1 Size(ft)        |    |    |  |
| Detector 1 Type            |    |    |  |
| Detector 1 Channel         |    |    |  |
| Detector 1 Extend (s)      |    |    |  |
| Detector 1 Queue (s)       |    |    |  |
| Detector 1 Delay (s)       |    |    |  |
| Turn Type                  |    |    |  |
| Protected Phases           | 7  | 8  |  |
| Permitted Phases           |    |    |  |
| Detector Phase             |    |    |  |
| Switch Phase               |    |    |  |

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future a.m.

| 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoo | ody Rd #1 & Hammond Dr |
|---------------------------------------------|------------------------|
|---------------------------------------------|------------------------|

|                              | ٦            | -         | $\mathbf{i}$ | *     | +          | *         | •     | 1     | 1   | 1     | ţ     | ~     |
|------------------------------|--------------|-----------|--------------|-------|------------|-----------|-------|-------|-----|-------|-------|-------|
| Lane Group                   | EBL          | EBT       | EBR          | WBL   | WBT        | WBR       | NBL   | NBT   | NBR | SBL   | SBT   | SBR   |
| Minimum Initial (s)          | 8.0          | 8.0       |              | 8.0   | 8.0        | 8.0       | 8.0   | 10.0  |     | 8.0   | 10.0  | 10.0  |
| Minimum Split (s)            | 31.5         | 31.5      |              | 33.8  | 33.8       | 33.8      | 16.3  | 45.2  |     | 15.7  | 49.2  | 49.2  |
| Total Split (s)              | 38.0         | 38.0      |              | 35.0  | 35.0       | 35.0      | 46.0  | 80.0  |     | 17.0  | 51.0  | 51.0  |
| Total Split (%)              | 22.3%        | 22.3%     |              | 20.5% | 20.5%      | 20.5%     | 27.0% | 46.9% |     | 10.0% | 29.9% | 29.9% |
| Maximum Green (s)            | 30.5         | 30.5      |              | 27.2  | 27.2       | 27.2      | 37.7  | 72.8  |     | 9.3   | 43.8  | 43.8  |
| Yellow Time (s)              | 4.5          | 4.5       |              | 4.8   | 4.8        | 4.8       | 5.3   | 4.5   |     | 4.7   | 4.5   | 4.5   |
| All-Red Time (s)             | 3.0          | 3.0       |              | 3.0   | 3.0        | 3.0       | 3.0   | 2.7   |     | 3.0   | 2.7   | 2.7   |
| 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)          | 7.5          | 7.5       |              | 7.8   | 7.8        | 7.8       | 8.3   | 7.2   |     | 7.7   | 7.2   | 7.2   |
| Lead/Lag                     |              |           |              |       |            |           | Lead  | Lead  |     | Lag   | Lag   | Lag   |
| Lead-Lag Optimize?           |              |           |              |       |            |           |       |       |     |       |       |       |
| Vehicle Extension (s)        | 1.0          | 1.0       |              | 1.0   | 1.0        | 1.0       | 4.0   | 5.0   |     | 2.0   | 5.0   | 5.0   |
| Recall Mode                  | None         | None      |              | None  | None       | None      | Max   | Max   |     | None  | C-Max | C-Max |
| Walk Time (s)                | 4.0          | 4.0       |              | 4.0   | 4.0        | 4.0       |       | 7.0   |     |       | 7.0   | 7.0   |
| Flash Dont Walk (s)          | 20.0         | 20.0      |              | 22.0  | 22.0       | 22.0      |       | 31.0  |     |       | 35.0  | 35.0  |
| Pedestrian Calls (#/hr)      | 0            | 0         |              | 7     | 7          | 7         |       | 0     |     |       | 1     | 1     |
| Act Effct Green (s)          | 18.3         | 18.3      | 86.9         | 12.1  | 12.1       | 12.1      | 65.4  | 100.5 |     | 9.3   | 43.8  | 43.8  |
| Actuated g/C Ratio           | 0.11         | 0.11      | 0.51         | 0.07  | 0.07       | 0.07      | 0.38  | 0.59  |     | 0.05  | 0.26  | 0.26  |
| v/c Ratio                    | 0.74         | 0.74      | 0.22         | 0.44  | 0.25       | 0.20      | 0.63  | 0.70  |     | 0.52  | 1.12  | 0.40  |
| Control Delay                | 96.6         | 95.9      | 26.4         | 80.0  | 76.5       | 1.6       | 46.5  | 27.1  |     | 88.7  | 119.8 | 16.9  |
| Queue Delay                  | 0.0          | 0.0       | 0.0          | 0.0   | 0.0        | 0.0       | 0.0   | 1.1   |     | 0.0   | 0.0   | 0.0   |
| Total Delay                  | 96.6         | 95.9      | 26.4         | 80.0  | 76.5       | 1.6       | 46.5  | 28.2  |     | 88.7  | 119.8 | 16.9  |
| LOS                          | F            | F         | С            | F     | E          | А         | D     | С     |     | F     | F     | В     |
| Approach Delay               |              | 59.1      |              |       | 56.1       |           |       | 32.7  |     |       | 108.7 |       |
| Approach LOS                 |              | E         |              |       | E          |           |       | С     |     |       | F     |       |
| Intersection Summary         |              |           |              |       |            |           |       |       |     |       |       |       |
| Area Type:                   | Other        |           |              |       |            |           |       |       |     |       |       |       |
| Cycle Length: 170.5          |              |           |              |       |            |           |       |       |     |       |       |       |
| Actuated Cycle Length: 17    | 0.5          |           |              |       |            |           |       |       |     |       |       |       |
| Offset: 0 (0%), Referenced   | d to phase 2 | :SBT, Sta | rt of Yell   | OW    |            |           |       |       |     |       |       |       |
| Natural Cycle: 150           |              |           |              |       |            |           |       |       |     |       |       |       |
| Control Type: Actuated-Co    | pordinated   |           |              |       |            |           |       |       |     |       |       |       |
| Maximum v/c Ratio: 1.12      |              |           |              |       |            |           |       |       |     |       |       |       |
| Intersection Signal Delay:   |              |           |              |       | ntersectio |           |       |       |     |       |       |       |
| Intersection Capacity Utiliz | zation 90.5% | 0         |              | [(    | CU Level   | of Servic | еE    |       |     |       |       |       |
| Analysis Period (min) 15     |              |           |              |       |            |           |       |       |     |       |       |       |

Splits and Phases: 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

| <b>A</b> Ø1 | Ø2 (R) |      | <b>₩</b> ø3 | <b>4</b> <sub>Ø4</sub> |             |
|-------------|--------|------|-------------|------------------------|-------------|
| 46 s        | 51 s   |      | 35 s        | 38 s                   |             |
| ¶ø6         |        | Ø5   |             | ≹ik <sub>Ø8</sub>      | <b>→</b> Ø7 |
| 80 s        | 1      | 17 s |             | 23 s                   | 15.5 s      |

future a.m.

| Lane Group              | Ø7   | Ø8   |
|-------------------------|------|------|
| Minimum Initial (s)     | 8.0  | 1.0  |
| Minimum Split (s)       | 15.5 | 22.0 |
| Total Split (s)         | 15.5 | 23.0 |
| Total Split (%)         | 9%   | 13%  |
| Maximum Green (s)       | 8.0  | 20.0 |
| Yellow Time (s)         | 4.5  | 3.0  |
| All-Red Time (s)        | 3.0  | 0.0  |
| Lost Time Adjust (s)    |      |      |
| Total Lost Time (s)     |      |      |
| Lead/Lag                | Lag  | Lead |
| Lead-Lag Optimize?      |      |      |
| Vehicle Extension (s)   | 1.0  | 2.0  |
| Recall Mode             | None | None |
| Walk Time (s)           |      | 4.0  |
| Flash Dont Walk (s)     |      | 15.0 |
| Pedestrian Calls (#/hr) |      | 7    |
| Act Effct Green (s)     |      |      |
| Actuated g/C Ratio      |      |      |
| v/c Ratio               |      |      |
| Control Delay           |      |      |
| Queue Delay             |      |      |
| Total Delay             |      |      |
| LOS                     |      |      |
| Approach Delay          |      |      |
| Approach LOS            |      |      |
| Intersection Summary    |      |      |

future a.m.

| #' | 7. |
|----|----|
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future mid-day

|                            | ayitai    |       | ASIIIOI            |       | loody    |          |       |            |       |           |            | inia aay |
|----------------------------|-----------|-------|--------------------|-------|----------|----------|-------|------------|-------|-----------|------------|----------|
|                            | ≯         | -     | $\mathbf{\hat{v}}$ | 4     | +        | *        | 1     | 1          | 1     | 1         | ţ          | 4        |
| Lane Group                 | EBL       | EBT   | EBR                | WBL   | WBT      | WBR      | NBL   | NBT        | NBR   | SBL       | SBT        | SBR      |
| Lane Configurations        | 5         | र्स   | 11                 | ኘኘ    | <b>†</b> | 1        | ካካ    | 4ttt       |       | ኘኘ        | 1111       | 1        |
| Traffic Volume (vph)       | 372       | 77    | 603                | 186   | 56       | 53       | 813   | 1728       | 119   | 106       | 2164       | 220      |
| Future Volume (vph)        | 372       | 77    | 603                | 186   | 56       | 53       | 813   | 1728       | 119   | 106       | 2164       | 220      |
| Ideal Flow (vphpl)         | 1900      | 1900  | 1900               | 1900  | 1900     | 1900     | 1900  | 1900       | 1900  | 1900      | 1900       | 1900     |
| Grade (%)                  | 1700      | 3%    | 1700               | 1700  | 3%       | 1700     | 1700  | 2%         | 1,00  | 1,00      | 0%         | 1700     |
| Storage Length (ft)        | 150       | 0,0   | 0                  | 0     | 0,0      | 140      | 225   | 270        | 0     | 150       | 0,0        | 220      |
| Storage Lanes              | 1         |       | 0                  | 2     |          | 2        | 2     |            | 0     | 2         |            | 1        |
| Taper Length (ft)          | 25        |       |                    | 25    |          | _        | 150   |            |       | 125       |            | · ·      |
| Lane Util. Factor          | 0.95      | 0.95  | 0.88               | 0.97  | 1.00     | 1.00     | 0.97  | 0.86       | 0.86  | 0.97      | 0.86       | 1.00     |
| Ped Bike Factor            | 0.98      | 0.98  | 0.00               | 0.77  | 1.00     | 0.96     | 1.00  | 0.00       | 0.00  | 0.77      | 0.00       | 0.99     |
| Frt                        | 0.70      | 0.70  | 0.850              |       |          | 0.850    | 1.00  | 0.990      |       |           |            | 0.850    |
| Flt Protected              | 0.950     | 0.968 | 0.000              | 0.950 |          | 0.000    | 0.950 | 0.770      |       | 0.950     |            | 0.000    |
| Satd. Flow (prot)          | 1656      | 1687  | 2745               | 3382  | 1835     | 1560     | 3399  | 6280       | 0     | 3433      | 6408       | 1583     |
| Flt Permitted              | 0.950     | 0.968 | 2745               | 0.950 | 1000     | 1500     | 0.950 | 0200       | 0     | 0.950     | 0400       | 1303     |
| Satd. Flow (perm)          | 1617      | 1661  | 2745               | 3382  | 1835     | 1502     | 3398  | 6280       | 0     | 3433      | 6408       | 1562     |
| Right Turn on Red          | 1017      | 1001  | No                 | 3302  | 1055     | Yes      | 5570  | 0200       | Yes   | 5455      | 0400       | Yes      |
| Satd. Flow (RTOR)          |           |       | NU                 |       |          | 196      |       | 11         | 163   |           |            | 151      |
| Link Speed (mph)           |           | 35    |                    |       | 25       | 170      |       | 40         |       |           | 40         | 131      |
| Link Distance (ft)         |           | 479   |                    |       | 540      |          |       | 552        |       |           | 596        |          |
| Travel Time (s)            |           | 9.3   |                    |       | 14.7     |          |       | 9.4        |       |           | 10.2       |          |
| Confl. Peds. (#/hr)        | 13        | 9.5   |                    |       | 14.7     | 13       | 1     | 9.4        |       |           | 10.2       | 1        |
| Peak Hour Factor           | 0.90      | 0.90  | 0.90               | 0.84  | 0.84     | 0.84     | 0.91  | 0.91       | 0.91  | 0.92      | 0.92       | 0.92     |
|                            | 413       | 0.90  | 670                | 221   | 0.84     | 0.84     | 893   | 1899       | 131   | 115       | 2352       |          |
| Adj. Flow (vph)            | 413       | 80    | 070                | 221   | 07       | 03       | 893   | 1899       | 131   | 115       | 2302       | 239      |
| Shared Lane Traffic (%)    |           | 251   | (70                | 221   | ( 7      | ()       | 002   | 2020       | 0     | 115       | 2252       | 220      |
| Lane Group Flow (vph)      | 248<br>No | 251   | 670<br>No          | 221   | 67       | 63<br>No | 893   | 2030       | 0     | 115<br>No | 2352<br>No | 239      |
| Enter Blocked Intersection |           | No    |                    | No    | No       |          | No    | No         | No    |           | No         | No       |
| Lane Alignment             | Left      | Left  | Right              | Left  | Left     | Right    | Left  | Left<br>34 | Right | Left      | Left       | Right    |
| Median Width(ft)           |           | 24    |                    |       | 40       |          |       |            |       |           | 34         |          |
| Link Offset(ft)            |           | 0     |                    |       | 0        |          |       | 0          |       |           | 0          |          |
| Crosswalk Width(ft)        |           | 16    |                    |       | 16       |          |       | 16         |       |           | 16         |          |
| Two way Left Turn Lane     | 1 0 0     | 1 0 0 | 1 00               | 1 00  | 1 00     | 1 00     | 1 01  | 1 01       | 1 01  | 1 00      | 1 00       | 1 00     |
| Headway Factor             | 1.02      | 1.02  | 1.02               | 1.02  | 1.02     | 1.02     | 1.01  | 1.01       | 1.01  | 1.00      | 1.00       | 1.00     |
| Turning Speed (mph)        | 15        | 1     | 9                  | 15    | 1        | 9        | 15    | 1          | 9     | 15        | 1          | 9        |
| Number of Detectors        | 1         | 1     | 1                  | 1     | 1        | 1        | 1     | 1          |       | 1         | 1          | 1        |
| Detector Template          | 50        | 50    | 50                 | 50    | 50       | 50       | 50    | FO         |       | 50        | 50         | FO       |
| Leading Detector (ft)      | 50        | 50    | 50                 | 50    | 50       | 50       | 50    | 50         |       | 50        | 50         | 50       |
| Trailing Detector (ft)     | 0         | 0     | 0                  | 0     | 0        | 0        | 0     | 0          |       | 0         | 0          | 0        |
| Detector 1 Position(ft)    | 0         | 0     | 0                  | 0     | 0        | 0        | 0     | 0          |       | 0         | 0          | 0        |
| Detector 1 Size(ft)        | 50        | 50    | 50                 | 50    | 50       | 50       | 50    | 50         |       | 50        | 50         | 50       |
| Detector 1 Type            | CI+Ex     | CI+Ex | CI+Ex              | CI+Ex | CI+Ex    | CI+Ex    | CI+Ex | CI+Ex      |       | CI+Ex     | CI+Ex      | CI+Ex    |
| Detector 1 Channel         |           |       |                    |       |          |          |       |            |       |           |            |          |
| Detector 1 Extend (s)      | 0.0       | 0.0   | 0.0                | 0.0   | 0.0      | 0.0      | 0.0   | 0.0        |       | 0.0       | 0.0        | 0.0      |
| Detector 1 Queue (s)       | 0.0       | 0.0   | 0.0                | 0.0   | 0.0      | 0.0      | 0.0   | 0.0        |       | 0.0       | 0.0        | 0.0      |
| Detector 1 Delay (s)       | 0.0       | 0.0   | 0.0                | 0.0   | 0.0      | 0.0      | 0.0   | 0.0        |       | 0.0       | 0.0        | 0.0      |
| Turn Type                  | Split     | NA    |                    | Split | NA       | Perm     | Prot  | NA         |       | Prot      | NA         | Perm     |
| Protected Phases           | 4         | 4     | 17                 | 3     | 3        |          | 1     | 6          |       | 5         | 2          |          |
| Permitted Phases           |           |       |                    |       |          | 3        |       |            |       |           |            | 2        |
| Detector Phase             | 4         | 4     | 17                 | 3     | 3        | 3        | 1     | 6          |       | 5         | 2          | 2        |
| Switch Phase               |           |       |                    |       |          |          |       |            |       |           |            |          |
|                            |           |       |                    |       |          |          |       |            |       |           |            |          |

Synchro 10 Report

Marc R Acampora, PE, LLC

| Lane Group                 | Ø7 | Ø8 |  |
|----------------------------|----|----|--|
| LaneConfigurations         |    |    |  |
| Traffic Volume (vph)       |    |    |  |
| Future Volume (vph)        |    |    |  |
| Ideal Flow (vphpl)         |    |    |  |
| Grade (%)                  |    |    |  |
| Storage Length (ft)        |    |    |  |
| Storage Lanes              |    |    |  |
| Taper Length (ft)          |    |    |  |
| Lane Util. Factor          |    |    |  |
| Ped Bike Factor            |    |    |  |
| Frt                        |    |    |  |
| Flt Protected              |    |    |  |
| Satd. Flow (prot)          |    |    |  |
| Flt Permitted              |    |    |  |
| Satd. Flow (perm)          |    |    |  |
| Right Turn on Red          |    |    |  |
| Satd. Flow (RTOR)          |    |    |  |
| Link Speed (mph)           |    |    |  |
| Link Distance (ft)         |    |    |  |
| Travel Time (s)            |    |    |  |
| Confl. Peds. (#/hr)        |    |    |  |
| Peak Hour Factor           |    |    |  |
| Adj. Flow (vph)            |    |    |  |
| Shared Lane Traffic (%)    |    |    |  |
| Lane Group Flow (vph)      |    |    |  |
| Enter Blocked Intersection |    |    |  |
| Lane Alignment             |    |    |  |
| Median Width(ft)           |    |    |  |
| Link Offset(ft)            |    |    |  |
| Crosswalk Width(ft)        |    |    |  |
| Two way Left Turn Lane     |    |    |  |
| Headway Factor             |    |    |  |
| Turning Speed (mph)        |    |    |  |
| Number of Detectors        |    |    |  |
| Detector Template          |    |    |  |
| Leading Detector (ft)      |    |    |  |
| Trailing Detector (ft)     |    |    |  |
| Detector 1 Position(ft)    |    |    |  |
| Detector 1 Size(ft)        |    |    |  |
| Detector 1 Type            |    |    |  |
| Detector 1 Channel         |    |    |  |
| Detector 1 Extend (s)      |    |    |  |
| Detector 1 Queue (s)       |    |    |  |
| Detector 1 Delay (s)       |    |    |  |
| Turn Type                  |    |    |  |
| Protected Phases           | 7  | 8  |  |
| Permitted Phases           |    |    |  |
| Detector Phase             |    |    |  |
| Switch Phase               |    |    |  |
|                            |    |    |  |

Marc R Acampora, PE, LLC

future mid-day

1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

|                              | ٦            | -         | $\mathbf{i}$ | 4     | +          | •         | 1     | 1     | 1   | 1     | ţ     | ~     |
|------------------------------|--------------|-----------|--------------|-------|------------|-----------|-------|-------|-----|-------|-------|-------|
| Lane Group                   | EBL          | EBT       | EBR          | WBL   | WBT        | WBR       | NBL   | NBT   | NBR | SBL   | SBT   | SBR   |
| Minimum Initial (s)          | 8.0          | 8.0       |              | 8.0   | 8.0        | 8.0       | 8.0   | 10.0  |     | 8.0   | 10.0  | 10.0  |
| Minimum Split (s)            | 31.5         | 31.5      |              | 33.8  | 33.8       | 33.8      | 16.3  | 45.2  |     | 15.7  | 49.2  | 49.2  |
| Total Split (s)              | 38.0         | 38.0      |              | 35.0  | 35.0       | 35.0      | 46.0  | 80.0  |     | 17.0  | 51.0  | 51.0  |
| Total Split (%)              | 22.3%        | 22.3%     |              | 20.5% | 20.5%      | 20.5%     | 27.0% | 46.9% |     | 10.0% | 29.9% | 29.9% |
| Maximum Green (s)            | 30.5         | 30.5      |              | 27.2  | 27.2       | 27.2      | 37.7  | 72.8  |     | 9.3   | 43.8  | 43.8  |
| Yellow Time (s)              | 4.5          | 4.5       |              | 4.8   | 4.8        | 4.8       | 5.3   | 4.5   |     | 4.7   | 4.5   | 4.5   |
| All-Red Time (s)             | 3.0          | 3.0       |              | 3.0   | 3.0        | 3.0       | 3.0   | 2.7   |     | 3.0   | 2.7   | 2.7   |
| 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)          | 7.5          | 7.5       |              | 7.8   | 7.8        | 7.8       | 8.3   | 7.2   |     | 7.7   | 7.2   | 7.2   |
| Lead/Lag                     |              |           |              |       |            |           | Lead  | Lead  |     | Lag   | Lag   | Lag   |
| Lead-Lag Optimize?           |              |           |              |       |            |           |       |       |     |       |       |       |
| Vehicle Extension (s)        | 1.0          | 1.0       |              | 1.0   | 1.0        | 1.0       | 4.0   | 5.0   |     | 2.0   | 5.0   | 5.0   |
| Recall Mode                  | None         | None      |              | None  | None       | None      | Мах   | Мах   |     | None  | C-Max | C-Max |
| Walk Time (s)                | 4.0          | 4.0       |              | 4.0   | 4.0        | 4.0       |       | 7.0   |     |       | 7.0   | 7.0   |
| Flash Dont Walk (s)          | 20.0         | 20.0      |              | 22.0  | 22.0       | 22.0      |       | 31.0  |     |       | 35.0  | 35.0  |
| Pedestrian Calls (#/hr)      | 0            | 0         |              | 7     | 7          | 7         |       | 0     |     |       | 1     | 1     |
| Act Effct Green (s)          | 27.5         | 27.5      | 83.0         | 16.0  | 16.0       | 16.0      | 52.4  | 87.5  |     | 9.3   | 43.8  | 43.8  |
| Actuated g/C Ratio           | 0.16         | 0.16      | 0.49         | 0.09  | 0.09       | 0.09      | 0.31  | 0.51  |     | 0.05  | 0.26  | 0.26  |
| v/c Ratio                    | 0.93         | 0.93      | 0.50         | 0.70  | 0.39       | 0.20      | 0.86  | 0.63  |     | 0.61  | 1.43  | 0.47  |
| Control Delay                | 109.1        | 107.7     | 33.9         | 86.1  | 77.6       | 1.4       | 64.4  | 31.9  |     | 93.4  | 240.2 | 22.3  |
| Queue Delay                  | 0.0          | 0.0       | 0.0          | 0.0   | 0.0        | 0.0       | 0.0   | 0.4   |     | 0.0   | 0.0   | 0.0   |
| Total Delay                  | 109.1        | 107.7     | 33.9         | 86.1  | 77.6       | 1.4       | 64.4  | 32.3  |     | 93.4  | 240.2 | 22.3  |
| LOS                          | F            | F         | С            | F     | E          | А         | E     | С     |     | F     | F     | С     |
| Approach Delay               |              | 65.7      |              |       | 69.3       |           |       | 42.1  |     |       | 214.7 |       |
| Approach LOS                 |              | E         |              |       | E          |           |       | D     |     |       | F     |       |
| Intersection Summary         |              |           |              |       |            |           |       |       |     |       |       |       |
| Area Type:                   | Other        |           |              |       |            |           |       |       |     |       |       |       |
| Cycle Length: 170.5          |              |           |              |       |            |           |       |       |     |       |       |       |
| Actuated Cycle Length: 17    | 0.5          |           |              |       |            |           |       |       |     |       |       |       |
| Offset: 0 (0%), Reference    | d to phase 2 | :SBT, Sta | rt of Yell   | WO    |            |           |       |       |     |       |       |       |
| Natural Cycle: 150           |              |           |              |       |            |           |       |       |     |       |       |       |
| Control Type: Actuated-Co    | oordinated   |           |              |       |            |           |       |       |     |       |       |       |
| Maximum v/c Ratio: 1.43      |              |           |              |       |            |           |       |       |     |       |       |       |
| Intersection Signal Delay:   |              |           |              |       | ntersectio |           |       |       |     |       |       |       |
| Intersection Capacity Utiliz | zation 96.4% | 0         |              | [(    | CU Level   | of Servic | e F   |       |     |       |       |       |
| Analysis Period (min) 15     |              |           |              |       |            |           |       |       |     |       |       |       |

Splits and Phases: 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

| <b>\$</b> Ø1 | Ø2 (R) |      | ₹ø3  | <b>A</b> <sub>04</sub> |   |
|--------------|--------|------|------|------------------------|---|
| 46 s         | 51s    |      | 35 s | 38 s                   |   |
| ¶ø6          |        | Ø5   |      |                        | 7 |
| 80 s         |        | 17 s |      | 23 s 15.5 s            |   |

future mid-day

| Lane Group              | Ø7   | Ø8   |
|-------------------------|------|------|
| Minimum Initial (s)     | 8.0  | 1.0  |
| Minimum Split (s)       | 15.5 | 22.0 |
| Total Split (s)         | 15.5 | 23.0 |
| Total Split (%)         | 9%   | 13%  |
| Maximum Green (s)       | 8.0  | 20.0 |
| Yellow Time (s)         | 4.5  | 3.0  |
| All-Red Time (s)        | 3.0  | 0.0  |
| Lost Time Adjust (s)    |      |      |
| Total Lost Time (s)     |      |      |
| Lead/Lag                | Lag  | Lead |
| Lead-Lag Optimize?      |      |      |
| Vehicle Extension (s)   | 1.0  | 2.0  |
| Recall Mode             | None | None |
| Walk Time (s)           |      | 4.0  |
| Flash Dont Walk (s)     |      | 15.0 |
| Pedestrian Calls (#/hr) |      | 7    |
| Act Effct Green (s)     |      |      |
| Actuated g/C Ratio      |      |      |
| v/c Ratio               |      |      |
| Control Delay           |      |      |
| Queue Delay             |      |      |
| Total Delay             |      |      |
| LOS                     |      |      |
| Approach Delay          |      |      |
| Approach LOS            |      |      |
| Intersection Summary    |      |      |

future mid-day

future p.m.

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|----------------------------|------------|-------|--------------|------------|----------|---------|-----------|---------|--------|-------|-------|-------|
|                            | ٦          | -     | $\mathbf{r}$ | 4          | +        | *       | 1         | 1       | 1      | 1     | Ļ     | 1     |
| Lane Group                 | EBL        | EBT   | EBR          | WBL        | WBT      | WBR     | NBL       | NBT     | NBR    | SBL   | SBT   | SBR   |
| Lane Configurations        | ۲          | र्स   | 77           | ካካ         | <b>†</b> | 1       | ሻሻ        | 4111    |        | ኘኘ    | 1111  | 1     |
| Traffic Volume (vph)       | 215        | 50    | 637          | 424        | 102      | 106     | 547       | 1693    | 131    | 55    | 1323  | 42    |
| Future Volume (vph)        | 215        | 50    | 637          | 424        | 102      | 106     | 547       | 1693    | 131    | 55    | 1323  | 42    |
| Ideal Flow (vphpl)         | 1900       | 1900  | 1900         | 1900       | 1900     | 1900    | 1900      | 1900    | 1900   | 1900  | 1900  | 1900  |
| Grade (%)                  |            | 3%    |              | .,         | 3%       |         | .,        | 2%      | .,     | .,    | 0%    | .,    |
| Storage Length (ft)        | 150        |       | 0            | 0          |          | 140     | 225       |         | 0      | 150   |       | 220   |
| Storage Lanes              | 1          |       | 0            | 2          |          | 2       | 2         |         | 0      | 2     |       | 1     |
| Taper Length (ft)          | 25         |       |              | 25         |          |         | 150       |         |        | 125   |       |       |
| Lane Util. Factor          | 0.95       | 0.95  | 0.88         | 0.97       | 1.00     | 1.00    | 0.97      | 0.86    | 0.86   | 0.97  | 0.86  | 1.00  |
| Ped Bike Factor            | 0.98       | 0.99  |              |            |          | 0.96    | 1.00      |         |        |       |       | 0.99  |
| Frt                        |            |       | 0.850        |            |          | 0.850   |           | 0.989   |        |       |       | 0.850 |
| Flt Protected              | 0.950      | 0.970 |              | 0.950      |          |         | 0.950     |         |        | 0.950 |       |       |
| Satd. Flow (prot)          | 1656       | 1691  | 2745         | 3382       | 1835     | 1560    | 3399      | 6274    | 0      | 3433  | 6408  | 1583  |
| Flt Permitted              | 0.950      | 0.970 | 27.10        | 0.950      | 1000     |         | 0.950     | 0271    |        | 0.950 | 0.00  |       |
| Satd. Flow (perm)          | 1620       | 1668  | 2745         | 3382       | 1835     | 1502    | 3398      | 6274    | 0      | 3433  | 6408  | 1562  |
| Right Turn on Red          |            |       | No           |            |          | Yes     |           |         | Yes    |       |       | Yes   |
| Satd. Flow (RTOR)          |            |       |              |            |          | 196     |           | 12      |        |       |       | 151   |
| Link Speed (mph)           |            | 35    |              |            | 25       | 170     |           | 40      |        |       | 40    | 101   |
| Link Distance (ft)         |            | 479   |              |            | 540      |         |           | 552     |        |       | 596   |       |
| Travel Time (s)            |            | 9.3   |              |            | 14.7     |         |           | 9.4     |        |       | 10.2  |       |
| Confl. Peds. (#/hr)        | 13         | 7.0   |              |            | 17.7     | 13      | 1         | 7.4     |        |       | 10.2  | 1     |
| Peak Hour Factor           | 0.94       | 0.94  | 0.94         | 0.92       | 0.92     | 0.92    | 0.96      | 0.96    | 0.96   | 0.95  | 0.95  | 0.95  |
| Adj. Flow (vph)            | 229        | 53    | 678          | 461        | 111      | 115     | 570       | 1764    | 136    | 58    | 1393  | 44    |
| Shared Lane Traffic (%)    | 39%        | 55    | 070          | 101        |          | 115     | 570       | 1704    | 150    | 50    | 1373  |       |
| Lane Group Flow (vph)      | 140        | 142   | 678          | 461        | 111      | 115     | 570       | 1900    | 0      | 58    | 1393  | 44    |
| Enter Blocked Intersection | No         | No    | No           | No         | No       | No      | No        | No      | No     | No    | No    | No    |
| Lane Alignment             | Left       | Left  | Right        | Left       | Left     | Right   | Left      | Left    | Right  | Left  | Left  | Right |
| Median Width(ft)           | Lon        | 24    | rtight       | Lon        | 40       | rtigitt | Lon       | 34      | rtight | Lon   | 34    | Right |
| Link Offset(ft)            |            | 0     |              |            | 0        |         |           | 0       |        |       | 0     |       |
| Crosswalk Width(ft)        |            | 16    |              |            | 16       |         |           | 16      |        |       | 16    |       |
| Two way Left Turn Lane     |            | 10    |              |            | 10       |         |           | 10      |        |       | 10    |       |
| Headway Factor             | 1.02       | 1.02  | 1.02         | 1.02       | 1.02     | 1.02    | 1.01      | 1.01    | 1.01   | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15         | 1.02  | 9            | 15         | 1.02     | 9       | 15        | 1.01    | 9      | 15    | 1.00  | 9     |
| Number of Detectors        | 1          | 1     | 1            | 1          | 1        | , 1     | 1         | 1       | ,      | 1     | 1     | 1     |
| Detector Template          |            |       |              | •          | •        | •       |           |         |        |       | •     | •     |
| Leading Detector (ft)      | 50         | 50    | 50           | 50         | 50       | 50      | 50        | 50      |        | 50    | 50    | 50    |
| Trailing Detector (ft)     | 0          | 0     | 0            | 0          | 0        | 0       | 0         | 0       |        | 0     | 0     | 0     |
| Detector 1 Position(ft)    | 0          | 0     | 0            | 0          | 0        | 0       | 0         | 0       |        | 0     | 0     | 0     |
| Detector 1 Size(ft)        | 50         | 50    | 50           | 50         | 50       | 50      | 50        | 50      |        | 50    | 50    | 50    |
| Detector 1 Type            | CI+Ex      | CI+Ex | CI+Ex        | CI+Ex      | CI+Ex    | CI+Ex   | CI+Ex     | CI+Ex   |        | CI+Ex | CI+Ex | CI+Ex |
| Detector 1 Channel         | OFLA       | OHEA  | OFLA         | OTLA       | OTLA     | OFLA    | OFLA      | OHEA    |        | OFFER | OHEA  | OFFER |
| Detector 1 Extend (s)      | 0.0        | 0.0   | 0.0          | 0.0        | 0.0      | 0.0     | 0.0       | 0.0     |        | 0.0   | 0.0   | 0.0   |
| Detector 1 Queue (s)       | 0.0        | 0.0   | 0.0          | 0.0        | 0.0      | 0.0     | 0.0       | 0.0     |        | 0.0   | 0.0   | 0.0   |
| Detector 1 Delay (s)       | 0.0        | 0.0   | 0.0          | 0.0        | 0.0      | 0.0     | 0.0       | 0.0     |        | 0.0   | 0.0   | 0.0   |
| Turn Type                  | Split      | NA    |              | Split      | NA       | Perm    | Prot      | NA      |        | Prot  | NA    | Perm  |
| Protected Phases           | Spiit<br>4 | 4     | 17           | Spiit<br>3 | 3        | i cilli | 1         | NA<br>6 |        | 5     | 2     |       |
| Permitted Phases           | 4          | 4     |              | J          | J        | 3       | 1         | 0       |        | - J   | 2     | 2     |
| Detector Phase             | 4          | 4     | 17           | 3          | 3        | 3       | 1         | 6       |        | 5     | 2     | 2     |
| Switch Phase               | 4          | 4     | 17           | 3          | 3        | 3       | 1         | 0       |        | 5     | Z     | Z     |
|                            |            |       |              |            |          |         |           |         |        |       |       |       |

Synchro 10 Report

Marc R Acampora, PE, LLC

| Lane Group                 | Ø7 | Ø8 |  |
|----------------------------|----|----|--|
| LanetConfigurations        |    |    |  |
| Traffic Volume (vph)       |    |    |  |
| Future Volume (vph)        |    |    |  |
| Ideal Flow (vphpl)         |    |    |  |
| Grade (%)                  |    |    |  |
| Storage Length (ft)        |    |    |  |
| Storage Lanes              |    |    |  |
| Taper Length (ft)          |    |    |  |
| Lane Util. Factor          |    |    |  |
| Ped Bike Factor            |    |    |  |
| Frt                        |    |    |  |
| Flt Protected              |    |    |  |
| Satd. Flow (prot)          |    |    |  |
| Flt Permitted              |    |    |  |
| Satd. Flow (perm)          |    |    |  |
| Right Turn on Red          |    |    |  |
| Satd. Flow (RTOR)          |    |    |  |
| Link Speed (mph)           |    |    |  |
| Link Distance (ft)         |    |    |  |
| Travel Time (s)            |    |    |  |
| Confl. Peds. (#/hr)        |    |    |  |
| Peak Hour Factor           |    |    |  |
| Adj. Flow (vph)            |    |    |  |
| Shared Lane Traffic (%)    |    |    |  |
| Lane Group Flow (vph)      |    |    |  |
| Enter Blocked Intersection |    |    |  |
| Lane Alignment             |    |    |  |
| Median Width(ft)           |    |    |  |
| Link Offset(ft)            |    |    |  |
| Crosswalk Width(ft)        |    |    |  |
| Two way Left Turn Lane     |    |    |  |
| Headway Factor             |    |    |  |
| Turning Speed (mph)        |    |    |  |
| Number of Detectors        |    |    |  |
| Detector Template          |    |    |  |
| Leading Detector (ft)      |    |    |  |
| Trailing Detector (ft)     |    |    |  |
| Detector 1 Position(ft)    |    |    |  |
| Detector 1 Size(ft)        |    |    |  |
| Detector 1 Type            |    |    |  |
| Detector 1 Channel         |    |    |  |
| Detector 1 Extend (s)      |    |    |  |
| Detector 1 Queue (s)       |    |    |  |
| Detector 1 Delay (s)       |    |    |  |
| Turn Type                  |    |    |  |
| Protected Phases           | 7  | 8  |  |
| Permitted Phases           |    |    |  |
| Detector Phase             |    |    |  |
| Switch Phase               |    |    |  |

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| 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwood | dy Rd #1 & Hammond Dr |
|----------------------------------------------|-----------------------|
|----------------------------------------------|-----------------------|

|                              | ٦            | -         | $\mathbf{i}$ | *     | +          | *         | •     | 1     | 1   | 1     | ţ     | ~     |
|------------------------------|--------------|-----------|--------------|-------|------------|-----------|-------|-------|-----|-------|-------|-------|
| Lane Group                   | EBL          | EBT       | EBR          | WBL   | WBT        | WBR       | NBL   | NBT   | NBR | SBL   | SBT   | SBR   |
| Minimum Initial (s)          | 8.0          | 8.0       |              | 8.0   | 8.0        | 8.0       | 8.0   | 10.0  |     | 8.0   | 10.0  | 10.0  |
| Minimum Split (s)            | 31.5         | 31.5      |              | 33.8  | 33.8       | 33.8      | 16.3  | 45.2  |     | 15.7  | 49.2  | 49.2  |
| Total Split (s)              | 38.0         | 38.0      |              | 35.0  | 35.0       | 35.0      | 46.0  | 80.0  |     | 17.0  | 51.0  | 51.0  |
| Total Split (%)              | 22.3%        | 22.3%     |              | 20.5% | 20.5%      | 20.5%     | 27.0% | 46.9% |     | 10.0% | 29.9% | 29.9% |
| Maximum Green (s)            | 30.5         | 30.5      |              | 27.2  | 27.2       | 27.2      | 37.7  | 72.8  |     | 9.3   | 43.8  | 43.8  |
| Yellow Time (s)              | 4.5          | 4.5       |              | 4.8   | 4.8        | 4.8       | 5.3   | 4.5   |     | 4.7   | 4.5   | 4.5   |
| All-Red Time (s)             | 3.0          | 3.0       |              | 3.0   | 3.0        | 3.0       | 3.0   | 2.7   |     | 3.0   | 2.7   | 2.7   |
| 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)          | 7.5          | 7.5       |              | 7.8   | 7.8        | 7.8       | 8.3   | 7.2   |     | 7.7   | 7.2   | 7.2   |
| Lead/Lag                     |              |           |              |       |            |           | Lead  | Lead  |     | Lag   | Lag   | Lag   |
| Lead-Lag Optimize?           |              |           |              |       |            |           |       |       |     |       |       |       |
| Vehicle Extension (s)        | 1.0          | 1.0       |              | 1.0   | 1.0        | 1.0       | 4.0   | 5.0   |     | 2.0   | 5.0   | 5.0   |
| Recall Mode                  | None         | None      |              | None  | None       | None      | Max   | Мах   |     | None  | C-Max | C-Max |
| Walk Time (s)                | 4.0          | 4.0       |              | 4.0   | 4.0        | 4.0       |       | 7.0   |     |       | 7.0   | 7.0   |
| Flash Dont Walk (s)          | 20.0         | 20.0      |              | 22.0  | 22.0       | 22.0      |       | 31.0  |     |       | 35.0  | 35.0  |
| Pedestrian Calls (#/hr)      | 0            | 0         |              | 7     | 7          | 7         |       | 0     |     |       | 1     | 1     |
| Act Effct Green (s)          | 18.9         | 18.9      | 73.6         | 25.4  | 25.4       | 25.4      | 51.6  | 90.1  |     | 9.0   | 43.8  | 43.8  |
| Actuated g/C Ratio           | 0.11         | 0.11      | 0.43         | 0.15  | 0.15       | 0.15      | 0.30  | 0.53  |     | 0.05  | 0.26  | 0.26  |
| v/c Ratio                    | 0.77         | 0.76      | 0.57         | 0.91  | 0.41       | 0.29      | 0.55  | 0.57  |     | 0.32  | 0.85  | 0.09  |
| Control Delay                | 98.3         | 97.1      | 40.8         | 94.7  | 70.0       | 1.9       | 53.8  | 29.3  |     | 82.5  | 66.0  | 0.3   |
| Queue Delay                  | 0.0          | 0.0       | 0.0          | 0.0   | 0.0        | 0.0       | 0.0   | 0.3   |     | 0.0   | 0.0   | 0.0   |
| Total Delay                  | 98.3         | 97.1      | 40.8         | 94.7  | 70.0       | 1.9       | 53.8  | 29.6  |     | 82.5  | 66.0  | 0.3   |
| LOS                          | F            | F         | D            | F     | E          | А         | D     | С     |     | F     | E     | А     |
| Approach Delay               |              | 57.5      |              |       | 75.2       |           |       | 35.2  |     |       | 64.7  |       |
| Approach LOS                 |              | E         |              |       | E          |           |       | D     |     |       | E     |       |
| Intersection Summary         |              |           |              |       |            |           |       |       |     |       |       |       |
| Area Type:                   | Other        |           |              |       |            |           |       |       |     |       |       |       |
| Cycle Length: 170.5          |              |           |              |       |            |           |       |       |     |       |       |       |
| Actuated Cycle Length: 17    | 70.5         |           |              |       |            |           |       |       |     |       |       |       |
| Offset: 0 (0%), Referenced   | d to phase 2 | :SBT, Sta | rt of Yell   | OW    |            |           |       |       |     |       |       |       |
| Natural Cycle: 150           |              |           |              |       |            |           |       |       |     |       |       |       |
| Control Type: Actuated-Co    | pordinated   |           |              |       |            |           |       |       |     |       |       |       |
| Maximum v/c Ratio: 0.91      |              |           |              |       |            |           |       |       |     |       |       |       |
| Intersection Signal Delay:   |              |           |              |       | ntersectio |           |       |       |     |       |       |       |
| Intersection Capacity Utiliz | zation 92.2% | ,<br>D    |              | [(    | CU Level   | of Servic | e F   |       |     |       |       |       |
| Analysis Period (min) 15     |              |           |              |       |            |           |       |       |     |       |       |       |

Splits and Phases: 1: Ashford Dunwoody Rd #1 #2/Ashford Dunwoody Rd #1 & Hammond Dr

| <b>A</b> Ø1 | Ø2 (R) |      | <b>₩</b> ø3 | <b>4</b> <sub>Ø4</sub> |             |
|-------------|--------|------|-------------|------------------------|-------------|
| 46 s        | 51 s   |      | 35 s        | 38 s                   |             |
| ¶ø6         |        | Ø5   |             | ≹ik <sub>Ø8</sub>      | <b>→</b> Ø7 |
| 80 s        | 1      | 17 s |             | 23 s                   | 15.5 s      |

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| Lane Group              | Ø7   | Ø8   |
|-------------------------|------|------|
| Minimum Initial (s)     | 8.0  | 1.0  |
| Minimum Split (s)       | 15.5 | 22.0 |
| Total Split (s)         | 15.5 | 23.0 |
| Total Split (%)         | 9%   | 13%  |
| Maximum Green (s)       | 8.0  | 20.0 |
| Yellow Time (s)         | 4.5  | 3.0  |
| All-Red Time (s)        | 3.0  | 0.0  |
| Lost Time Adjust (s)    |      |      |
| Total Lost Time (s)     |      |      |
| Lead/Lag                | Lag  | Lead |
| Lead-Lag Optimize?      |      |      |
| Vehicle Extension (s)   | 1.0  | 2.0  |
| Recall Mode             | None | None |
| Walk Time (s)           |      | 4.0  |
| Flash Dont Walk (s)     |      | 15.0 |
| Pedestrian Calls (#/hr) |      | 7    |
| Act Effct Green (s)     |      |      |
| Actuated g/C Ratio      |      |      |
| v/c Ratio               |      |      |
| Control Delay           |      |      |
| Queue Delay             |      |      |
| Total Delay             |      |      |
| LOS                     |      |      |
| Approach Delay          |      |      |
| Approach LOS            |      |      |
| Intersection Summary    |      |      |

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