



Transportation Analysis

Northwoods DRI #3085

Gwinnett County, Georgia

Report Prepared:

April 2020

Prepared for:

The Providence Group of Georgia, LLC

Prepared by:

Kimley»Horn

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4/27/2020

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EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts of the proposed *Northwoods* development located in unincorporated Gwinnett County, Georgia. The approximate 210-acre site is located north of Club Drive and south of Sweetwater Road on the site of the former Northwood Country Club. The proposed development will consist of single family and multifamily residential units.

The project is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review due to the project size exceeding 500 residential units within an “Established Suburbs” area per the ARC *Unified Growth Policy Map*. The DRI trigger for this development is the submittal of a rezoning application with Gwinnett County on April 3, 2020. The DRI was formally triggered with the filing of the Initial DRI Information (Form 1) on March 11, 2020 by Gwinnett County.

The present zoning classification for the project site is RA-200 (agriculture-residence district as defined by the Gwinnett County *Unified Development Ordinance*. The site is proposed to be rezoned as RM-13 (multifamily residential district) and TND (traditional neighborhood development district). The proposed project is expected to be completed by 2027 (approximately 7 years), and this analysis will consider the full build-out of the proposed site in 2027.

The proposed development will consist of the following land uses and densities contained in **Table 1**:

Table 1: Proposed Land Use and Density	
Land Use	Proposed
Single-Family Residential	228 units
Multifamily Townhomes	228 units
Multifamily Apartments	354 units
<i>TOTAL</i>	<i>810 units</i>

The DRI analysis includes an estimation of the overall vehicle trips projected to be generated by the development, also known as gross trips. Reductions to gross trips, including mixed-use reductions, alternative transportation mode reductions, and pass-by reductions, were not applicable for this analysis.

Capacity analyses were performed throughout the study network for the Existing 2019 conditions, the Projected 2027 No-Build conditions, and the Projected 2027 Build conditions.

- Existing 2019 conditions represent traffic volumes that were collected in May 2019 by performing AM and PM peak hour turning movement counts.
- Projected 2027 No-Build conditions represent the existing traffic volumes grown for eight (8) years at 1.5 percent per year throughout the study network.
- Projected 2027 Build conditions represent the Projected 2027 No-Build conditions plus the addition of the project trips that are anticipated to be generated by the *Northwoods* development.

Based on the **Existing 2019** conditions (*present conditions; i.e. excludes both the background traffic growth and the estimated project trips from the Northwoods DRI*), two (2) study intersections currently operate below their acceptable overall LOS standards during the AM and PM peak hours. The intersection of Pleasant Hill Road at Club Drive (Intersection #1) currently operates at LOS F during the AM and PM peak hours. Additionally, the southbound approach at the unsignalized intersection of Club Drive at Sweetwater Club Drive (Intersection #2) is projected to operate at LOS E and LOS F during the AM and PM peak hours, respectively.

Based on the **Projected 2027 No-Build** conditions (*includes background traffic growth but excludes the estimated project trips from the Northwoods DRI*), two (2) study intersections are projected to operate below their acceptable overall LOS standard during the AM and PM peak hours. The intersection of Pleasant Hill Road at Club Drive (Intersection #1) is projected to operate at LOS F in both the AM and PM peak hours. Additionally, the southbound approach at the intersection of Club Drive at Sweetwater Club Drive (Intersection #2) is projected to operate at LOS F in both the AM and PM peak hours.

Based on the **Projected 2027 No-Build** conditions, the following improvements are required to achieve an acceptable LOS:

- Intersection #1: Pleasant Hill Road at Club Drive
 - **NOTE:** The following laneage is required to achieve LOS E per the GRTA guidelines. However, caution should be used as these improvements may be deemed “not feasible”.
 - Along the northbound approach, construct an additional left-turn lane and through lane and an exclusive right-turn lane to consist of four (4) left-turn lanes, four (4) through lanes and one (1) right-turn lane.
 - Along the southbound approach, construct an additional left-turn lane and through lane and an exclusive right-turn lane to consist of three (3) left-turn lanes, four (4) through lanes and one (1) right-turn lane.
 - Along the eastbound approach, construct an additional left-turn lane, through lane, and right-turn lane to consist of two (2) left-turn lanes, three (3) through lanes and three (3) right-turn lanes.
 - Along the westbound approach, construct an additional left-turn lane and through lane to consist of two (2) left-turn lanes, three (3) through lanes and one (1) right-turn lane.
 - ALTERNATIVE SOLUTION: Construct an overpass to grade-separate the northbound left-turns with a dual-lane flyover or construct an echelon interchange.
- Intersection #2: Club Drive at Sweetwater Club Drive
 - Construct a traffic signal, if and when warranted, or a roundabout.

Based on the **Projected 2027 Build** conditions (*includes both the Projected 2027 No-Build traffic volumes and the estimated project trips from the Northwoods DRI*), combined with the projected 2027 No-Build improvements above, all study intersections are expected to operate at an acceptable LOS during the AM and PM peak hours. Additional site access improvements (driveway improvements) are recommended to serve the traffic associated with the *Northwoods* development:

- Intersection #5: Club Drive at Site Driveway A
 - Construct a conventional side-street stop control driveway with one (1) ingress lane entering the site and two (2) egress lanes exiting the site.
 - Construct exclusive left-turn and right-turn lanes along Club Drive.
- Intersection #6: Club Drive at Site Driveway B
 - Construct a conventional side-street stop control driveway with one (1) ingress lane entering the site and two (2) egress lanes exiting the site.
 - Construct exclusive left-turn and right-turn lanes along Club Drive.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analysis of the anticipated traffic impacts of the proposed *Northwoods* development located in unincorporated Gwinnett County, Georgia. The approximate 210-acre site is located north of Club Drive and south of Sweetwater Road on the site of the former Northwood Country Club. The proposed development will consist of single family and multifamily residential units.

The project will exceed the 500-unit threshold for residential developments within an “Established Suburbs” area; therefore, the proposed development is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review.

Figure 1 provides the site location of the *Northwoods* development. **Figure 2** provides an aerial view of the project site. The Gwinnett County *Unified Development Ordinance Map*, the *Gwinnett County 2040 Unified Plan Future Development Map*, and the ARC *Unified Growth Policy Map* are included in **Appendix B**.

The proposed project is expected to be completed by 2027, and this analysis will consider the full build-out of the proposed site in 2027. A summary of the proposed land-use and density is shown in **Table 2**.

Table 2: Proposed Land Use and Density	
Land Use	Proposed
Single-Family Residential	228 units
Multifamily Townhomes	228 units
Multifamily Apartments	354 units
<i>TOTAL</i>	<i>810 units</i>

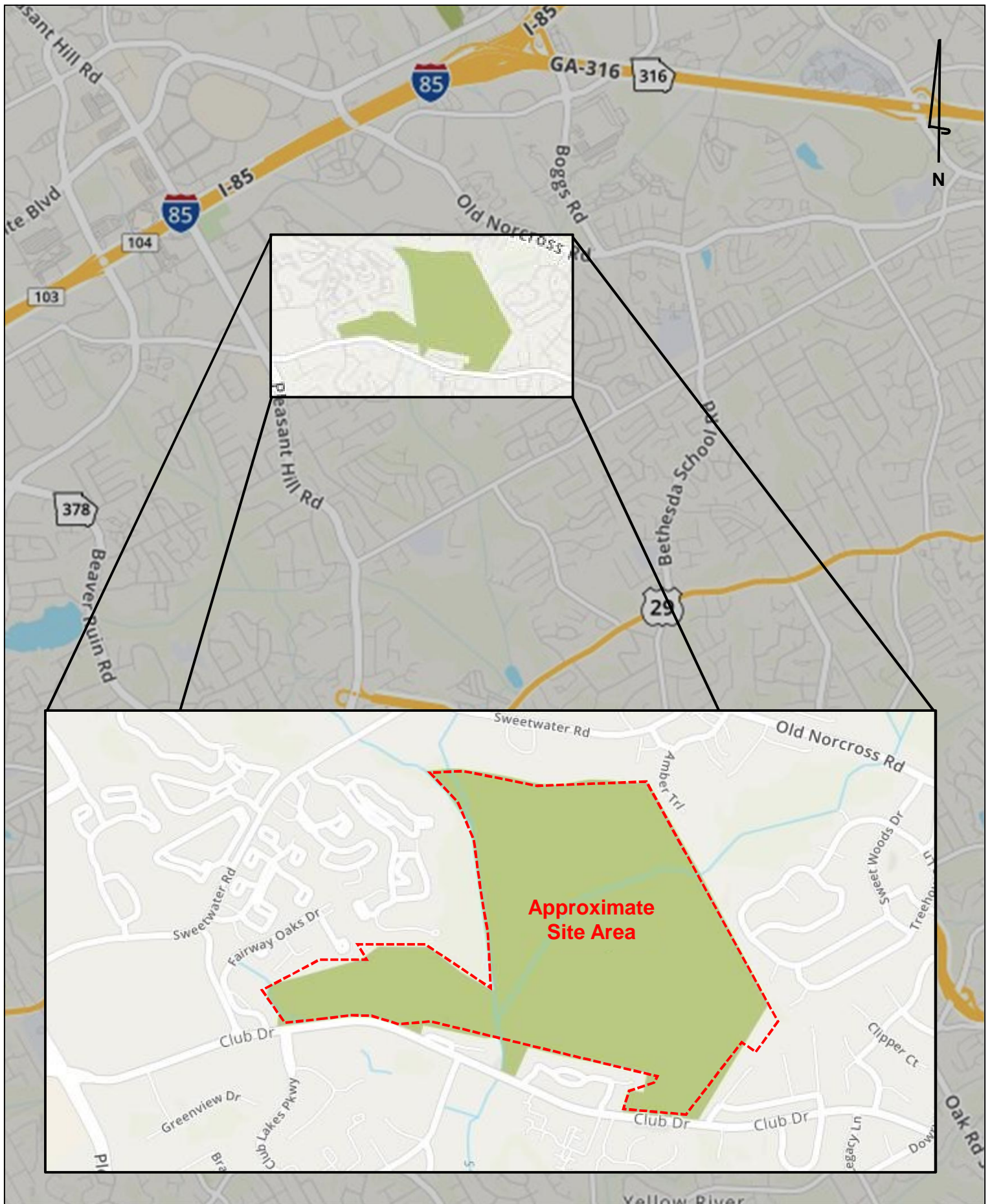
A reference of the proposed site plan is provided in **Appendix A**. A full-sized site plan consistent with GRTA’s Site Plan Guidelines is also being submitted as part of the review package.

1.2 Site Access

As currently envisioned, the proposed *Northwoods* development will be accessible via two (2) full movement driveways. All driveways are proposed to be gated.

1. **Site Driveway A** – a proposed full-movement driveway along Club Drive, approximately 1,300 feet east of Sweetwater Club Drive. The driveway will provide access to the multifamily apartment section of the development.
2. **Site Driveway B** – an existing full-movement driveway which is proposed to be relocated 50 feet west along Club Drive and reconstructed to serve the proposed development, approximately 4,300 feet east of Sweetwater Club Drive. The driveway will provide access to the single family detached and multifamily townhome tract.

Capacity analyses were performed for the proposed site driveway using *Synchro 10.0*. The results of the capacity analyses for this intersection (LOS, delay, and recommended laneage) are reported in *Section 5.3* of this report.





1.3 Internal Circulation Analysis

Internal roadways throughout the site provide vehicular access to all buildings and parking on the site. The proposed site driveways and private roadways will provide access to the entirety of the site. See referenced site plan in **Appendix A** for a visual representation of vehicular access and circulation throughout the proposed development.

Parking will be provided throughout the development as follows (the final proposed parking details are currently being developed):

Parking Provided: 1,579 parking spaces
 Parking Required: 1,215 parking spaces

1.4 Bicycle and Pedestrian Facilities

Pedestrian facilities (sidewalks) exist intermittently along the Club Drive project site frontage. According to the DRI site plan pedestrian facilities are proposed along Club Drive. The Club Drive Park (owned and maintained by Gwinnett County) is located across Club Drive from the proposed development. A crosswalk with a Rectangular Rapid Flashing Beacon (RRFB) is installed at the park entrance.

1.5 Transit Facilities

Gwinnett County Transit route 30 runs along Sweetwater Road and Pleasant Hill Road west of the site. Route 30 stops along Sweetwater Road west of Pleasant Hill Road, approximately 1 mile from the site.

2.0 TRAFFIC ANALYSES, METHODOLOGY AND ASSUMPTIONS

2.1 Study Network Determination

A general study area was determined based on a review of land uses and population densities in the area as well as a review of peak hour traffic counts and engineering judgement. The study area was agreed upon during methodology discussions with GRTA, ARC, Gwinnett County, and GDOT staff, and includes the following four (4) intersections described in **Table 3**. The study intersections are shown in **Figure 3**.

Table 3: Intersection Control Summary	
Intersection	Control
1. Pleasant Hill Road at Club Drive	Signal
2. Club Drive at Sweetwater Club Drive	TWSC
3. Cruse Road at Club Drive	Signal
4. Cruse Road at Bethesda School Road/Herrington Road	Signal

Each of the intersections listed in **Table 3** were analyzed for the Existing 2019 conditions, the Projected 2027 No-Build conditions, and the Projected 2027 Build conditions.

2.2 Existing Roadway Facilities

Roadway classification descriptions and estimated Average Daily Traffic (ADT) for the entire study area are provided in **Table 4** (bolded roadway runs adjacent to the site).

Table 4: Roadway Classifications			
Roadway	No. of Lanes	Average Daily Traffic (ADT)	GDOT Functional Classification
Pleasant Hill Road	6	61,400 (north of Club Drive)	Principal Arterial
Club Drive	2	14,300 (east of Sweetwater Club)	Major Collector
Sweetwater Club Drive	2	N/A	Local Road
Cruse Road	2	N/A	Major Collector
Bethesda School Road	2	N/A	Local Road
Herrington Road	2	N/A	Local Road

2.3 Traffic Data Collection

Weekday peak hour turning movement counts were collected on Wednesday, May 8, 2019 at the study intersections during the AM and PM peak periods. Traffic count collection dates and peak hours for all the study intersections are shown in **Table 5** Error! Reference source not found..

Table 5: Traffic Count Summary			
Intersection	Collection Date	AM Peak Hour	PM Peak Hour
1. Pleasant Hill Road at Club Drive	5/8/2019	8:00 – 9:00 AM	5:00 – 6:00 PM
2. Club Drive at Sweetwater Club Drive	5/8/2019	7:30 – 8:30 AM	4:45 – 5:45 PM
3. Cruse Road at Club Drive	5/8/2019	7:45 – 8:45 AM	5:00 – 6:00 PM
4. Cruse Road at Bethesda School Road/Herrington Road	5/8/2019	7:15 – 8:15 AM	5:00 – 6:00 PM

The collected peak hour turning movement traffic counts are available upon request.



2.4 Growth Rate

Background traffic is defined as expected traffic on the roadway network in future year(s) absent the construction and opening of the *Northwoods* development. Background traffic can include a base growth rate based on historical count data as well as population growth data and estimates as well as trips anticipated from nearby or adjacent other projects. Based on methodology outlined in the GRTA Letter of Understanding (LOU), a 1.5 percent per year background traffic growth rate was used for all roadways.

The Projected 2027 No-Build conditions represent the existing traffic volumes grown for eight (8) years at 1.5 percent per year throughout the study network. The Projected 2027 Build conditions represent the project trips generated by the *Northwoods* development (discussed in Section 3.0 and 4.0) added to the Projected 2027 No-Build Conditions.

2.5 Detailed Intersection Analysis

Level-of-service (LOS) is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels-of-service, LOS A through LOS F, with A being the best and F being the worst. Level-of-service analyses were conducted at all intersections within the study network using *Synchro Professional, Version 10.0*. Existing traffic signal phasing and timing data were retrieved for available intersections.

LOS for signalized intersections are reported for the intersection as a whole. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably.

LOS for unsignalized intersections, with stop control on the minor street only, are reported for the side street approaches and the major street left-turn movements. Low levels-of-service for side street approaches are not uncommon, as vehicles may experience significant delays in turning onto a major roadway.

2.6 Level-of-Service Standards

For the purposes of this traffic analysis, a LOS standard of D was assumed for all intersections and segments within the study network, except for the intersection of Pleasant Hill Road at Club Drive where a LOS standard of E is assumed due to the intersection location within the Gwinnett Regional Center, consistent with the GRTA LOU. If, however, an intersection or segment currently operates at LOS E or LOS F during an existing peak period, the LOS standard for the intersection during that peak period becomes LOS E, consistent with the GRTA LOU.

3.0 TRIP GENERATION

As stated previously, gross trips associated with the proposed development were estimated using the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017*, using equations where available.

Trip generation for this proposed development is calculated based upon the Single Family Detached Housing (ITE 210) and Multifamily Housing (Low-Rise) (ITE 220) land uses. The total (net) trips generated and analyzed in this report are listed in **Table 6**.

Table 6: Net New Trip Generation								
Land Use	Density	Daily Traffic			AM Peak Hour		PM Peak Hour	
		Total	Enter	Exit	Enter	Exit	Enter	Exit
Single Family Detached Housing (ITE 210)	228 units	2,220	1,110	1,110	42	125	141	83
Multifamily Housing (Townhomes) (ITE 220)	228 units	1,704	852	852	23	78	71	42
Multifamily Housing (Apartments) (ITE 220)	354 units	2,652	1,326	1,326	35	119	108	64
Gross Project Trips		6,580	3,290	3,290	100	321	319	188
Mixed-Use Reduction		-0	-0	-0	-0	-0	-0	-0
Alternative Mode Reduction		-0	-0	-0	-0	-0	-0	-0
Pass-by Reduction		-0	-0	-0	-0	-0	-0	-0
Net New Trips		6,580	3,290	3,290	100	321	319	188

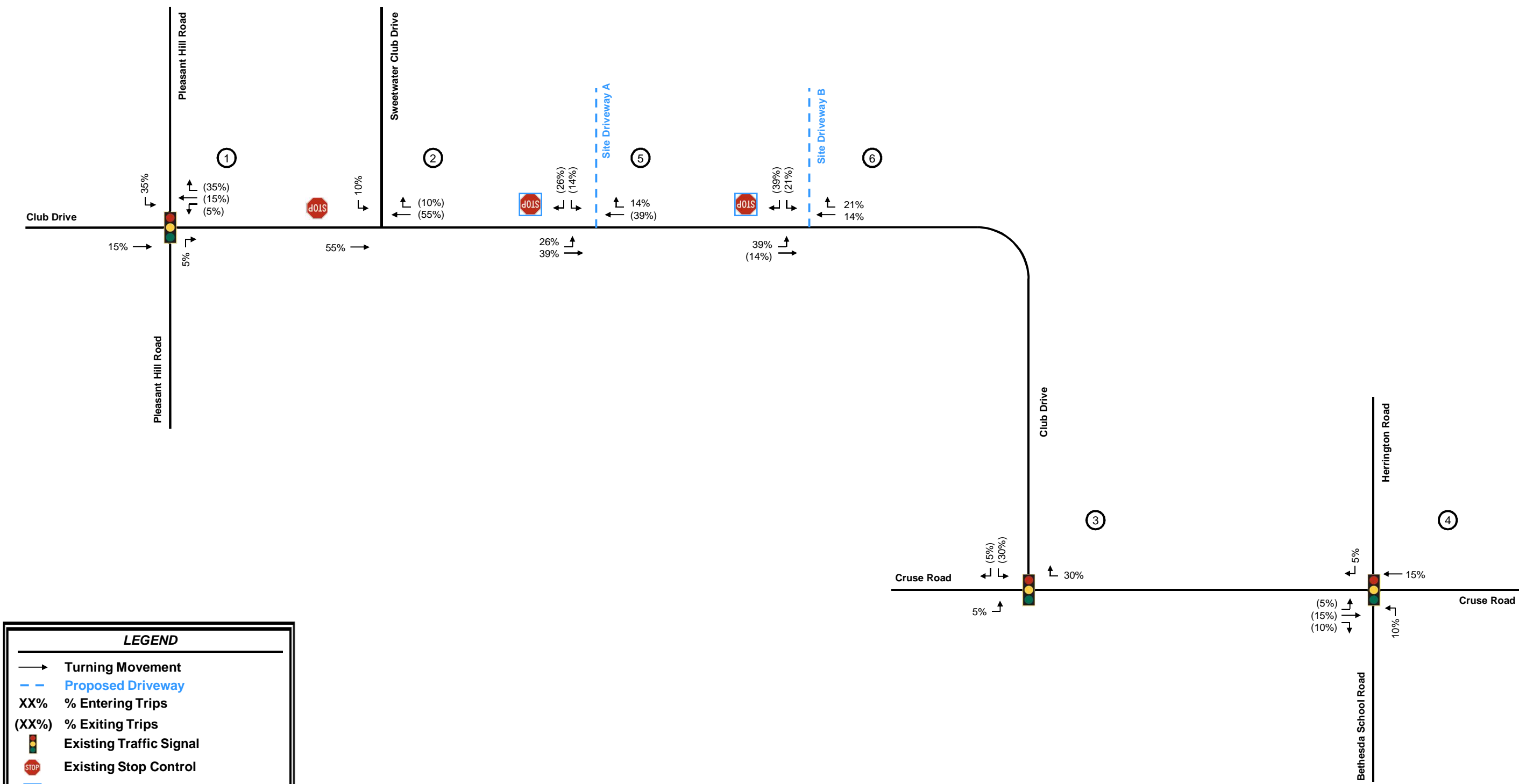
A more detailed trip generation analysis summary table is provided in **Appendix C**.

4.0 TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution and assignment of new project trips was based on the project land uses, a review of land use densities and road facilities in the area, engineering judgement, and methodology discussions with GRTA, ARC, GDOT, Gwinnett County, and GDOT staff.

Figure 4 displays the anticipated distribution and assignment of project trips throughout the study roadway network. These trip assignment percentages were applied to the net new trips expected to be generated by the development, and the volumes were assigned to the roadway network. The combined peak hour project trips by turning movement throughout the study network, anticipated to be generated by the proposed *Northwoods* development, are shown on **Figure 5**.

The Projected 2027 Build conditions add the project trips associated with the *Northwoods* development to the Projected 2027 No-Build conditions. Detailed intersection volume worksheets are provided in **Appendix D**.



LEGEND

→

Turning Movement

--

Proposed Driveway

XX

AM Peak Hour Project Trips

(XX)

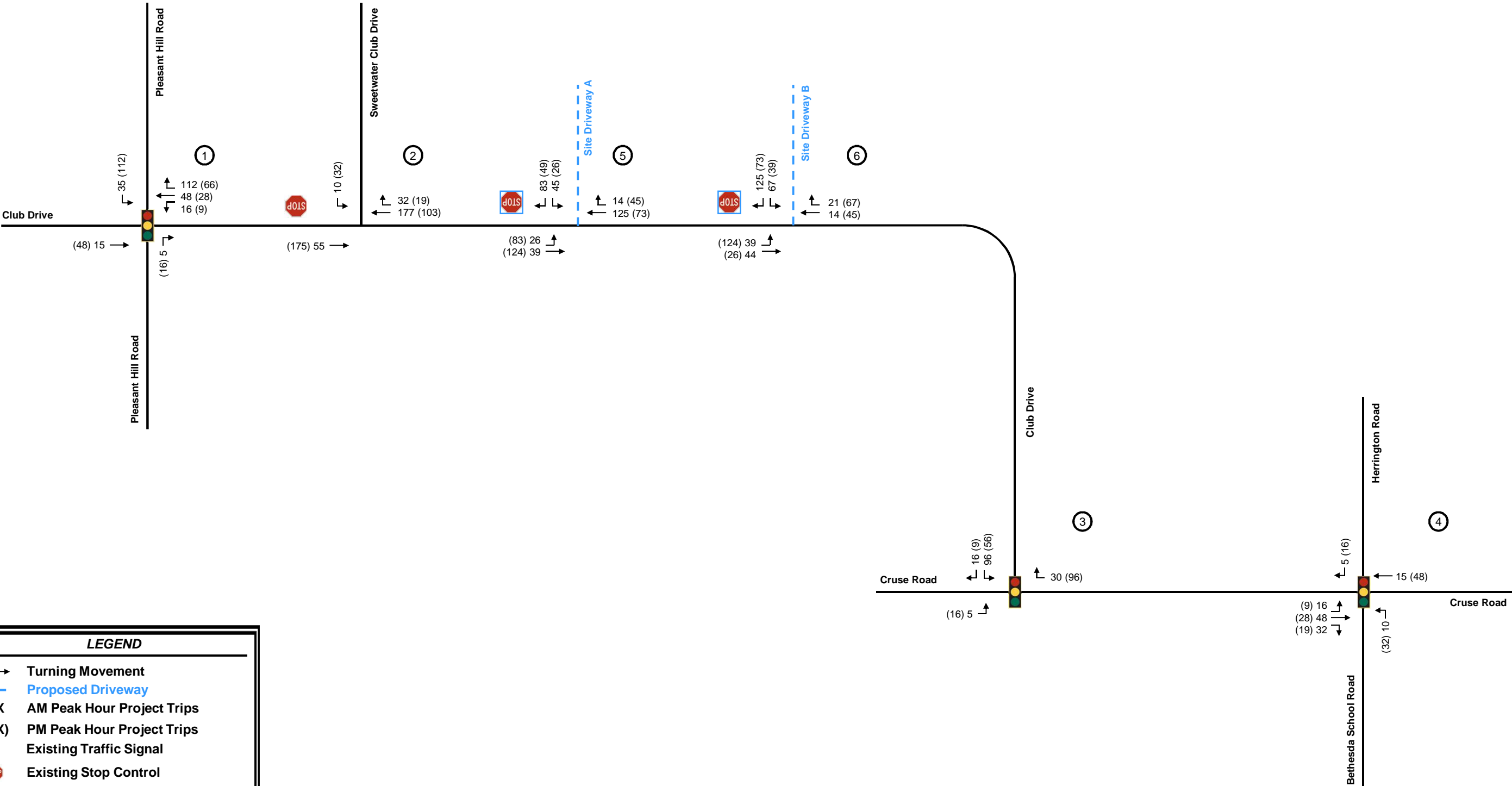
PM Peak Hour Project Trips

Existing Traffic Signal

Existing Stop Control

Proposed Stop Control

Intersection Reference Number



NOT TO SCALE

5.0 TRAFFIC ANALYSIS

5.1 Existing 2019 Conditions

The adjusted existing peak hour traffic volumes were entered into *Synchro 10.0*, and capacity analyses were performed for the AM and PM peak hours.

The existing peak hour traffic volumes are displayed in **Figure 6**, and the results of the capacity analyses for the Existing 2019 conditions are shown in **Table 7**. Detailed *Synchro* analysis reports are available upon request.

Table 7: Existing 2019 Level-of-Service Summary LOS (delay in seconds)					
Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. Pleasant Hill Road at Club Drive	Signal	Overall	E	F (112.2)	F (189.9)
2. Club Drive at Sweetwater Club Drive	TWSC	SB	**	E (49.0)	F (62.6)
		EBL		B (11.0)	A (8.8)
3. Cruse Road at Club Drive	Signal	Overall	D	B (10.7)	C (27.0)
4. Cruse Road at Bethesda School Road	Signal	Overall	D	D (51.2)	D (54.4)

**LOS D is the overall intersection standard per GRTA Letter of Understanding, no approach LOS standard is set

As shown in **Table 7**, all study intersections except two (2) currently operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Existing 2019 conditions. The intersection of Pleasant Hill Road at Club Drive (Intersection #1) currently operates at LOS F during the AM and PM peak hours. Additionally, the southbound approach at the intersection of Club Drive at Sweetwater Club Drive (Intersection #2) is projected to operate at LOS E and LOS F during the AM and PM peak hours, respectively.

5.2 Projected 2027 No-Build Conditions

To account for growth in the vicinity of the proposed development, the existing traffic volumes were increased for seven (7) years at 1.5 percent per year throughout the study network. These volumes were entered into *Synchro 10.0*, and capacity analyses were performed. The Projected 2027 No-Build conditions were analyzed using future roadway geometry and future intersection control types per Gwinnett TSPLOST project F-0581. This project is currently under construction.

The intersection laneage and traffic volumes for the Projected 2027 No-Build conditions are shown in **Figure 8**. The results of the capacity analyses for the Projected 2027 No-Build are shown in **Table 8**. Detailed *Synchro* analysis reports are available upon request.

Table 8: Projected 2027 No-Build Level-of-Service Summary LOS (delay in seconds)					
Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. Pleasant Hill Road at Club Drive	Signal*	Overall	E	F (157.6)	F (245.1)
2. Club Drive at Sweetwater Club Drive	TWSC	SB	**	F (87.4)	F (141.5)
		EBL		B (12.0)	A (9.1)
3. Cruse Road at Club Drive***	Signal	Overall	D	B (18.1)	B (19.1)
4. Cruse Road at Bethesda School Road/Herrington Road***	Signal	Overall	D	D (50.5)	D (52.3)

** LOS D is the overall intersection standard per GRTA Letter of Understanding, no approach LOS standard is set

*** Includes improvements associated with Gwinnett Project F-0581.

As shown in **Table 8**, all but two (2) study intersections are projected to operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Projected 2027 No-Build conditions. The intersection of Pleasant Hill Road at Club Drive (Intersection #1) is projected to operate at LOS F in both the AM and PM peak hours. Additionally, the southbound approach at the intersection of Club Drive at Sweetwater Club Drive (Intersection #2) is projected to operate at LOS F in both the AM and PM peak hours.

Based on the Projected 2027 No-Build Conditions scenario, the following are needed to achieve an acceptable LOS:

- Intersection #1: Pleasant Hill Road at Club Drive
 - **NOTE:** The following laneage is required to achieve LOS E per the GRTA guidelines. However, caution should be used as these improvements may be deemed “not feasible”.
 - Along the northbound approach, construct an additional left-turn lane and through lane and an exclusive right-turn lane to consist of four (4) left-turn lanes, four (4) through lanes and one (1) right-turn lane.
 - Along the southbound approach, construct an additional left-turn lane and through lane and an exclusive right-turn lane to consist of three (3) left-turn lanes, four (4) through lanes and one (1) right-turn lane.
 - Along the eastbound approach, construct an additional left-turn lane, through lane, and right-turn lane to consist of two (2) left-turn lanes, three (3) through lanes and three (3) right-turn lanes.
 - Along the westbound approach, construct an additional left-turn lane and through lane to consist of two (2) left-turn lanes, three (3) through lanes and one (1) right-turn lane.
 - ALTERNATIVE SOLUTION: Construct an overpass to grade-separate the northbound left-turns with a dual-lane flyover or construct an echelon interchange.
- Intersection #2: Club Drive at Sweetwater Club Drive
 - Construct a traffic signal or conventional single lane roundabout if and when warranted.

The results of the capacity analysis for the Projected 2027 No-Build Improved conditions are shown in **Table 9**.

Table 9: Projected 2027 No-Build Improved Level-of-Service Summary <i>LOS (delay in seconds)</i>					
Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. Pleasant Hill Road at Club Drive	Signal	Overall	E	E (65.8)	E (71.8)
2. Club Drive at Sweetwater Club Drive	Signal	Overall	D	B (15.1)	A (9.1)

NOTE: The following laneage is required to achieve LOS E per the GRTA guidelines. However, caution should be used as these improvements may be deemed “not feasible”.

Construct a traffic signal, if and when warranted, or a roundabout.

ALTERNATIVE SOLUTION:
Construct an overpass to grade-separate the northbound left-turns with a dual-lane flyover or construct an echelon interchange.

NOT TO SCALE

Figure 7

Projected 2027
No-Build Conditions

Northwoods
DRI #3085
Transportation Analysis

LEGEND

Existing Roadway Laneage

Project F-0581 Roadway Laneage

No-Build Roadway Laneage

Proposed Driveway

XX

AM Peak Hour Traffic Volumes

(XX)

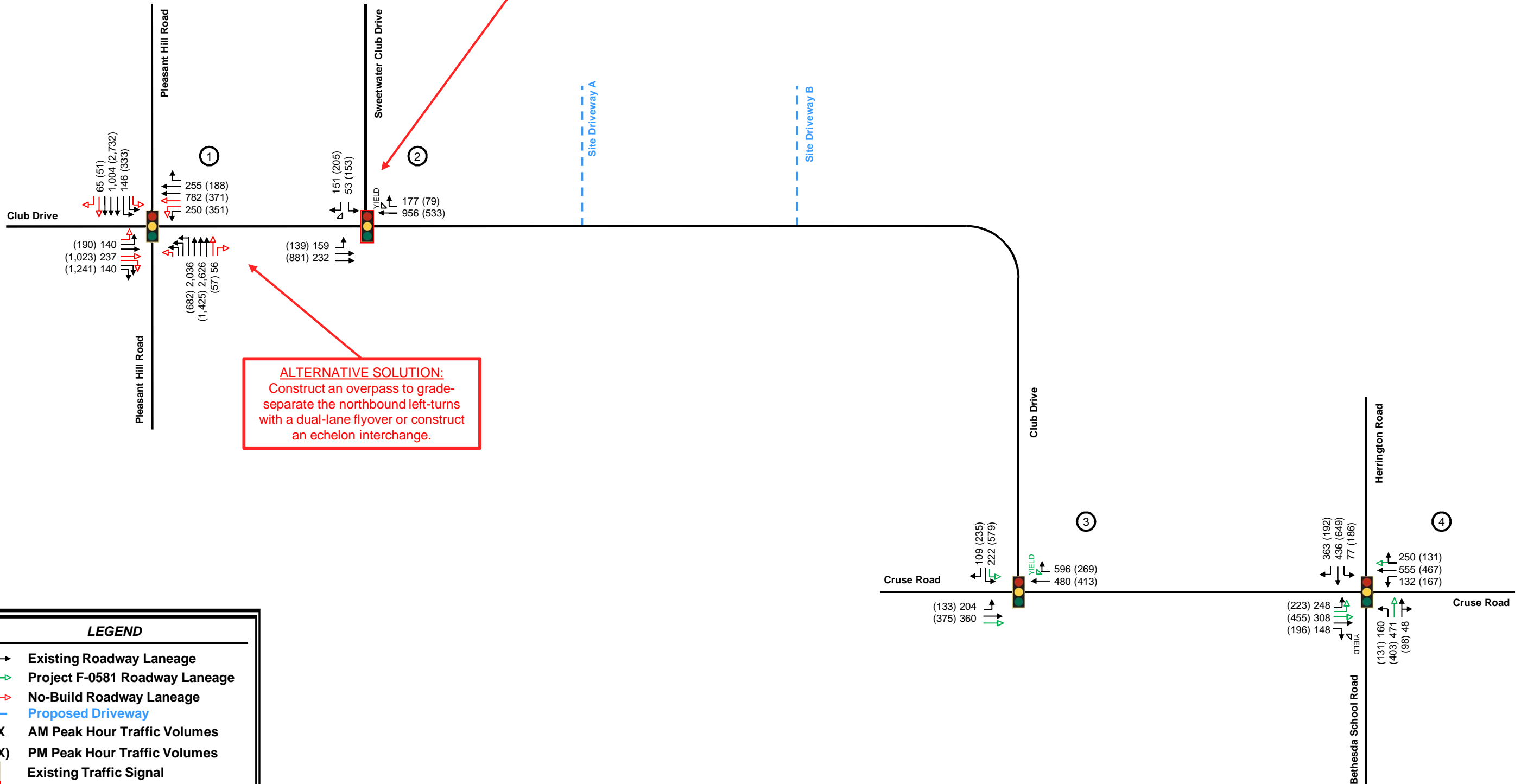
PM Peak Hour Traffic Volumes

Existing Traffic Signal

No-Build Traffic Signal

(X)

Intersection Reference Number



5.3 Projected 2027 Build Conditions

The traffic associated with the proposed *Northwoods* development was added to the Projected 2027 No-Build volumes. These volumes were then entered into *Synchro 10.0*, and capacity analyses were performed. The Projected 2027 Build conditions were analyzed using future roadway geometry and future intersection control types per Gwinnett TSPLOST project F-0581 and proposed site driveways as shown in the DRI site plan.

The intersection laneage and traffic volumes used for the Projected 2027 Build conditions are shown in **Figure 9**. The results of the capacity analyses for the Projected 2027 Build conditions are shown in **Table 10**. Detailed *Synchro* analysis reports are available upon request.

Table 10: Projected 2027 Build Level-of-Service Summary LOS (delay in seconds)					
Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. Pleasant Hill Road at Club Drive	Signal	Overall	E	F (163.7)	F (251.9)
2. Club Drive at Sweetwater Club Drive	TWSC	SB	**	F (227.8)	F (\$)
		EBL		B (13.8)	A (9.5)
3. Cruse Road at Club Drive***	Signal	Overall	D	C (20.1)	C (20.2)
4. Cruse Road at Bethesda School Road/Herrington Road***	Signal	Overall	D	D (50.9)	D (54.5)
5. Club Drive at Site Driveway A	TWSC	SB	**	F (59.4)	F (69.8)
		EBL		B (12.6)	A (9.8)
6. Club Drive at Site Driveway B	TWSC	SB	**	F (70.4)	F (95.7)
		EBL		B (12.0)	B (10.1)

** LOS D is the overall intersection standard per GRTA Letter of Understanding, no approach LOS standard is set

*** Includes improvements associated with Gwinnett Project F-0581.

\$ Delay exceeds 300 seconds

As shown in **Table 10**, all but four (4) study intersections are projected to operate at or above their acceptable overall LOS standard during the AM and/or PM peak hour for the Projected 2027 Build conditions. The intersection of Pleasant Hill Road at Club Drive (Intersection #1) is projected to operate at LOS F in the AM and PM peak hours. Additionally, the southbound approach at the intersection of Club Drive at Sweetwater Club Drive (Intersection #2) is projected to operate at LOS F in both the AM and PM peak hours. It should be noted that the site driveways (Intersections #5 & #6) are projected to operate at LOS F during the AM and PM peak hours. It is not uncommon for vehicles from a side-street stop approach to experience significant delay when turning onto a major roadway.

With the improvements noted in the Projected 2027 No-Build conditions, Intersections 1 and 2 are projected to operate at an acceptable LOS for all approaches during the AM and PM peak hours. The results of the capacity analysis for the Projected 2027 Build Improved Conditions is shown in **Table 11**.

Table 11: Projected 2027 Build Improved Level-of-Service Summary <i>LOS (delay in seconds)</i>					
Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. Pleasant Hill Road at Club Drive	Signal	Overall	E	E (67.3)	E (75.7)
2. Club Drive at Sweetwater Club Drive	Signal	Overall	D	C (21.2)	B (10.8)

Additional improvements are proposed to improve access to the site:

- Intersection #5: Club Drive at Site Driveway A
 - Construct a conventional side-street stop control driveway with one (1) ingress lane entering the site and two (2) egress lanes exiting the site.
 - Construct exclusive left-turn and right-turn lanes along Club Drive.
- Intersection #6: Club Drive at Site Driveway B
 - Construct a conventional side-street stop control driveway with one (1) ingress lane entering the site and two (2) egress lanes exiting the site.
 - Construct exclusive left-turn and right-turn lanes along Club Drive.

NOTE: The following laneage is required to achieve LOS E per the GRTA guidelines. However, caution should be used as these improvements may be deemed “not feasible”.

Construct a traffic signal, if and when warranted, or a roundabout.

ALTERNATIVE SOLUTION:
Construct an overpass to grade-separate the northbound left-turns with a dual-lane flyover or construct an echelon interchange.

NOT TO SCALE

Figure 8

Projected 2027
Build Conditions

Northwoods
DRI #3085
Transportation Analysis

LEGEND

Existing Roadway Laneage

Project F-0581 Roadway Laneage

No-Build Roadway Laneage

Build Roadway Laneage

Proposed Driveway

XX

AM Peak Hour Traffic Volumes

(XX)

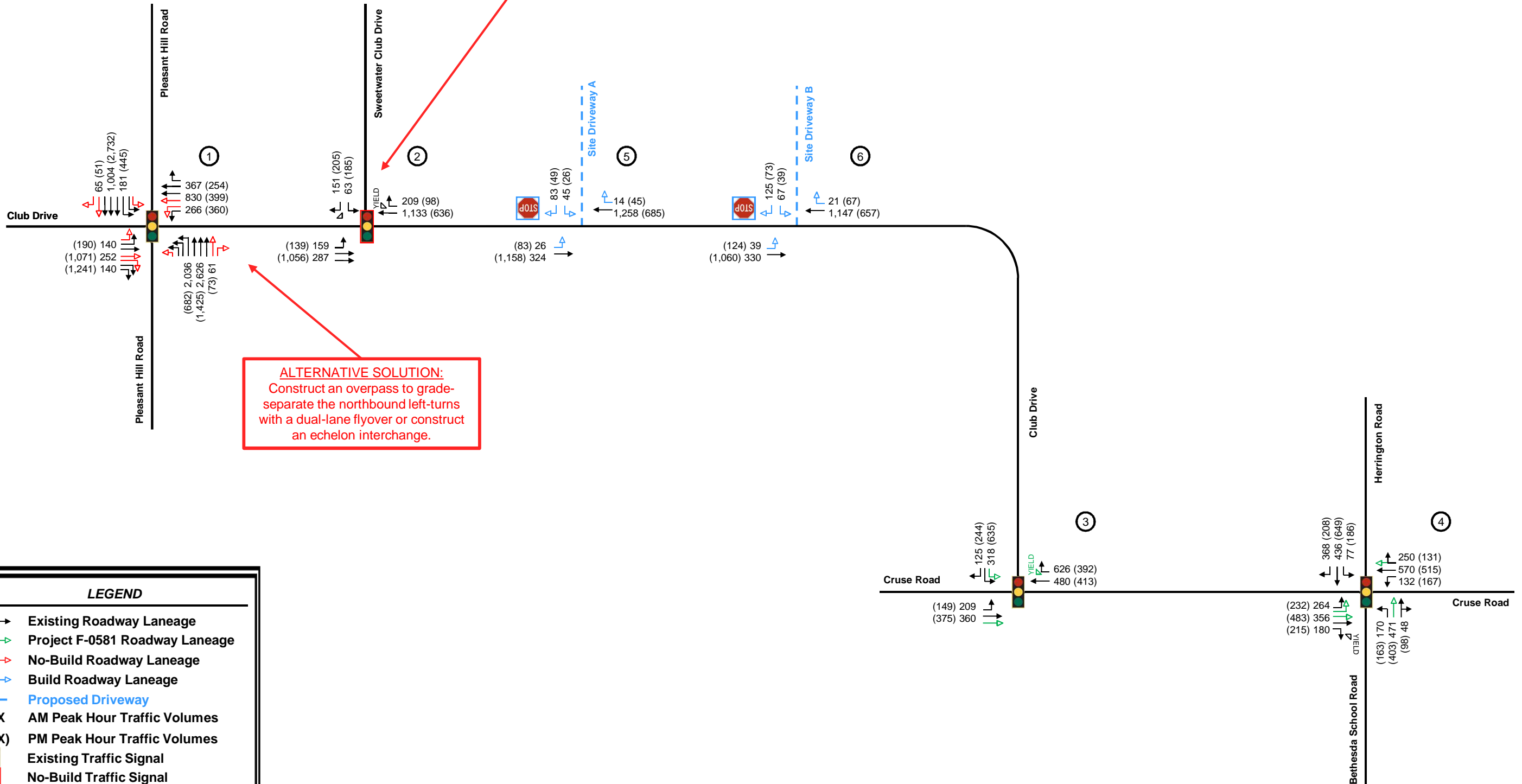
PM Peak Hour Traffic Volumes

Existing Traffic Signal

No-Build Traffic Signal

Build Stop Control

Intersection Reference Number



6.0 IDENTIFICATION OF PROGRAMMED PROJECTS

According to ARC's Transportation Improvement Program, the Regional Transportation Plan (Atlanta Region's Plan), GDOT's construction work programs, Gwinnett County SPLOST program, and the Georgia STIP, the following projects are programmed or planned to be completed by the respective years within the vicinity of the proposed development. The identified projects are listed in **Table 12** below.

Table 12: Programmed Improvements			
#	Year	Project ID	Project Description
1	2020	F-0581	Cruse Road widening from 2 to 4 lanes with a center turn lane from Club Drive to Paden Drive (currently under construction), expected to be open in 2020. The length of this section is approximately 0.8 miles long
2	2030	GW-309	West Liddell Road widening from 2 to 4 lanes from Satellite Boulevard to Venture Drive and extends across I-85 to Shackleford Road
3	2040	AR-ML-420	Express lanes project along I-85 North from I-285 to Old Peachtree Road
4	N/A	GW-414D	County ITS System Extension: Includes Cruse Road from Old Norcross Road to Club Drive

Fact sheets for projects can be found in **Appendix E**. It should be noted that the Piedmont Path is a proposed greenway along Club Drive and Sweetwater Road in the vicinity of the site. As of April 2020, TIP funds have been requested to undergo a planning and feasibility study for the proposed greenway route and the construction of this route is unfunded.

Proposed Site Plan

LAND DESCRIPTION OF CLUB DRIVE TRACT

All that tract or parcel of land lying and being in Land Lots 179, 180, 181 AND 205, 6th District, Gwinnett County, Georgia and being more particularly described as follows:

BEGINNING at a ½" rebar found at the intersection of the southwest corner of Land Lot 40, 7th District, Gwinnett County, Georgia, the northwest corner of Land Lot 39, 7th District, Gwinnett County, Georgia and the northeasterly line of Land Lot 179, 6th District, Gwinnett County, Georgia [said point being on the District Line between the 6th and 7th Districts, Gwinnett County, Georgia] THENCE South 35 degrees 10 minutes 00 seconds West a distance of 390.43 feet to a point; THENCE North 52 degrees 58 minutes 28 seconds West a distance of 179.96 feet to a point; THENCE South 37 degrees 01 minutes 49 seconds West a distance of 967.53 feet to a point; THENCE North 83 degrees 37 minutes 34 seconds West a distance of 150.81 feet to a point; THENCE North 85 degrees 15 minutes 26 seconds West a distance of 142.21 feet to a point; THENCE North 83 degrees 44 minutes 41 seconds West a distance of 224.06 feet to a point; THENCE North 83 degrees 52 minutes 31 seconds West a distance of 106.33 feet to a point; THENCE North 13 degrees 41 minutes 15 seconds West a distance of 209.50 feet to a point; THENCE North 77 degrees 10 minutes 26 seconds East a distance of 358.95 feet to a point; THENCE North 34 degrees 23 minutes 34 seconds East a distance of 85.47 feet to a point; THENCE North 76 degrees 19 minutes 11 seconds West a distance of 2400.24 feet to a point; THENCE South 85 degrees 35 minutes 38 seconds West a distance of 337.23 feet to a point; THENCE South 89 degrees 06 minutes 12 seconds East a distance of 267.07 feet to a point; THENCE North 84 degrees 41 minutes 41 seconds East a distance of 216.54 feet to a point; THENCE North 29 degrees 54 minutes 49 seconds West a distance of 192.39 feet to a point; THENCE South 89 degrees 30 minutes 23 seconds East a distance of 677.97 feet to a point; THENCE South 57 degrees 12 minutes 14 seconds East a distance of 826.94 feet to a point; THENCE North 03 degrees 36 minutes 01 seconds West a distance of 579.29 feet to a point; THENCE North 28 degrees 34 minutes 24 seconds West a distance of 265.45 feet to a point; THENCE North 62 degrees 58 minutes 06 seconds East a distance of 24.21 feet to a point; THENCE North 26 degrees 06 minutes 57 seconds West a distance of 95.59 feet to a point; THENCE North 15 degrees 12 minutes 55 seconds West a distance of 80.91 feet to a point; THENCE North 20 degrees 08 minutes 19 seconds West a distance of 66.13 feet to a point; THENCE North 20 degrees 36 minutes 12 seconds West a distance of 47.45 feet to a point; THENCE North 16 degrees 41 minutes 57 seconds West a distance of 67.56 feet to a point; THENCE North 23 degrees 15 minutes 42 seconds West a distance of 51.45 feet to a point; THENCE North 15 degrees 52 minutes 54 seconds West a distance of 30.48 feet to a point; THENCE North 17 degrees 28 minutes 58 seconds West a distance of 83.45 feet to a point; THENCE North 23 degrees 24 minutes 11 seconds West a distance of 45.39 feet to a point; THENCE North 09 degrees 50 minutes 44 seconds West a distance of 46.38 feet to a point; THENCE North 35 degrees 38 minutes 56 seconds West a distance of 36.35 feet to a point; THENCE North 21 degrees 11 minutes 46 seconds West a distance of 39.02 feet to a point; THENCE North 13 degrees 07 minutes 06 seconds West a distance of 106.95 feet to a point; THENCE North 38 degrees 35 minutes 25 seconds East a distance of 9.27 feet to a point; THENCE North 14 degrees 55 minutes 15 seconds West a distance of 12.34 feet to a point; THENCE North 66 degrees 10 minutes 40 seconds West a distance of 8.60 feet to a point; THENCE North 20 degrees 16 minutes 46 seconds West a distance of 63.91 feet to a point; THENCE North 03 degrees 19 minutes 00 seconds West a distance of 67.97 feet to a point; THENCE North 40 degrees 11 minutes 24 seconds West a distance of 39.30 feet to a point; THENCE North 35 degrees 04 minutes 27 seconds West a distance of 33.80 feet to a point; THENCE North 31 degrees 53 minutes 10 seconds West a distance of 61.79 feet to a point; THENCE North 57 degrees 11 minutes 05 seconds West a distance of 86.34 feet to a point; THENCE South 45 degrees 03 minutes 33 seconds West a distance of 44.70 feet to a point; THENCE North 65 degrees 36 minutes 19 seconds West a distance of 64.09 feet to a point; THENCE North 71 degrees 55 minutes 53 seconds East a distance of 499.81 feet to a point; THENCE South 79 degrees 58 minutes 59 seconds East a distance of 801.92 feet to a point; THENCE North 89 degrees 31 minutes 46 seconds East a distance of 1025.84 feet to a point; THENCE South 29 degrees 30 minutes 27 seconds East a distance of 2849.60 feet to a point; said point being the **TRUE POINT OF BEGINNING**.

Said tract contains 8,972,430 square feet or 205.979 acres.

REFERENCE DOCUMENTS:

Note:
This Zoning Plan is based on boundary and topo information from a survey for Wood Commerce Group, LLC, by DPE Development Planning & Engineering, Inc, dated 08-08-2019.

Kimley-Horn and Associates

John Walker, P.E., PTOE

11720 Amber Park Drive, Suite 600
Alpharetta, GA 30009
Ph: 770-619-4280

OWNER/DEVELOPER

thePROVIDENCEgroup

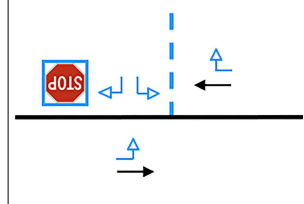
Warren Jolly

Johns Creek, Georgia 30097
Tele: (678) 475-1800



4317 Park Drive, Suite 400
Norcross, Georgia 30093
Phone: (770)416-7511
Fax: (770)416-6759
www.travispruitt.com

SITE ENTRANCE 'A' LANEAGE DIAGRAM

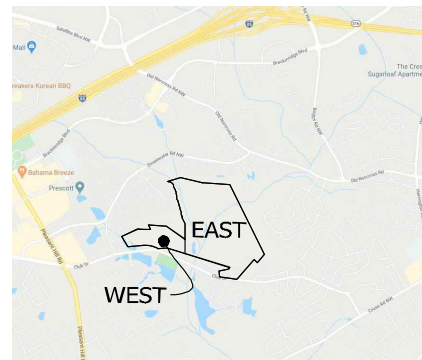
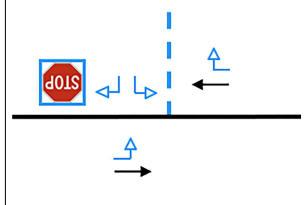


TND ZONING LOT CATEGORY PER ZONING CONDITIONS				
TYPE	LOT AREA (SF)	DESIGNATION	EAST	HEATED FLOOR AREA
DETACHED MID-SIZE	7,500	A	21	2,000 SF MIN.
DETACHED SMALL-SIZE	5,000 - 7,499	B	117	1,800 SF MIN.
DETACHED OTHER	4,000 - 4,999	C	63	1,600 SF MIN.
ATTACHED TOWNHOME LARGE	2,000 - 5,999	D	57	1,400 SF MIN.
ATTACHED TOWNHOME SMALL	1,600 - 1,999	E	198	1,200 SF MIN.
TOTAL LOTS			456	

ZONING LOT CATEGORY PER RM-13 ZONING CONDITIONS			
TYPE	RM-13	354	

PARKING TOTALS			
TYPE		TND	RM-13
GARAGE PARKING SPACES		456	
SURFACE PARKING SPACES		456	572
ON STREET PARKING SPACES		95	
TOTAL PARKING SPACES		1007	572

SITE DRIVEWAY 'B' LANEAGE DIAGRAM



VICINITY MAP

not to scale

SITE DATA:

TOTAL SITE AREA	205.979 ACRES
RM-13 SITE AREA	33.6 ACRES
TND SITE AREA	172.3 ACRES
FLOODPLAIN (APPROXIMATE)	94.8 ACRES
GROSS RESIDENTIAL DENSITY	3.36 U/A

ZONING

EXISTING ZONING	RA-200
PROPOSED ZONING	RM-13 AND TND
ZONING JURISDICTION	GWINNETT COUNTY

DEVELOPMENT TYPE

RM-13 UNITS	354
TND UNITS	456
TOTAL UNITS	810

DEVELOPMENT STANDARDS

MAXIMUM BUILDING HEIGHT	65'
FRONT YARD	5 FEET
REAR YARD	10 FEET
SIDE YARD	5 FEET
MINIMUM BUILDING SEPARATION	10 FEET
MINIMUM LOT SIZE	NA

BUFFERS

SIDE/REAR	NONE
FRONT	NONE

COMMON AREA CALCULATIONS RM-13

AMENITY AREA	0.7 ACRES
COMMON AREA(15% GROSS SITE AREA)	4.0 ACRES

COMMON AREA CALCULATIONS TND

COMMON AREA(20% GROSS AREA)	16.82 ACRES
-----------------------------	-------------

MINIMUM REQUIRED PARKING

MULTI-FAMILY = 1.5 PER UNIT X 354	531
SINGLE FAMILY & TOWNHOUSE 1.5 PER UNIT X 456	684
ON STREET PARKING PROVIDED	95

NOTES

1. SPEED LIMIT OF CLUB DRIVE IS 35 MPH.
2. ACCORDING TO THE U.S. FISH AND WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY - WETLANDS ARE LOCATED ON THIS SITE.
3. ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP FOR GWINNETT COUNTY PANEL NO. 13135C0085F DATED SEPTEMBER 29, 2006, THE PROPERTY DOES FALL WITHIN A DESIGNATED FLOOD ZONE "A" (AREAS OF 100 YEAR FLOOD).
4. WATERS OF THE STATED ARE WITHIN 200' OF THIS PROPERTY.
5. THE CHATTAHOOCHEE RIVER IS NOT WITHIN 2000' OF THIS PROPERTY.
6. GWINNETT COUNTY FIRE DEPARTMENT SHALL APPROVE ROAD LAYOUT AND ENTRANCES.
7. WATER SERVICE SHALL BE PROVIDED BY GWINNETT COUNTY. EXISTING WATER SERVICE WILL BE USED.
8. SANITARY SEWER SERVICE WILL BE PROVIDED BY GWINNETT COUNTY. EXISTING SEWER WILL BE TAPPED ON SITE.
9. THE PROPOSED DEVELOPMENT MAY BE GATED AND HAVE PRIVATE STREETS.
10. ALL COMMON AREAS SHOWN FOR RM-13 AND TND ZONING CATEGORIES ARE OUTSIDE OF THE 100 YEAR FLOODPLAIN.

OVERALL GRTA SITE PLAN

NORTHWOODS

3157 Club Drive

Land Lot 179, 180, 181 & 205

Gwinnett County, Georgia

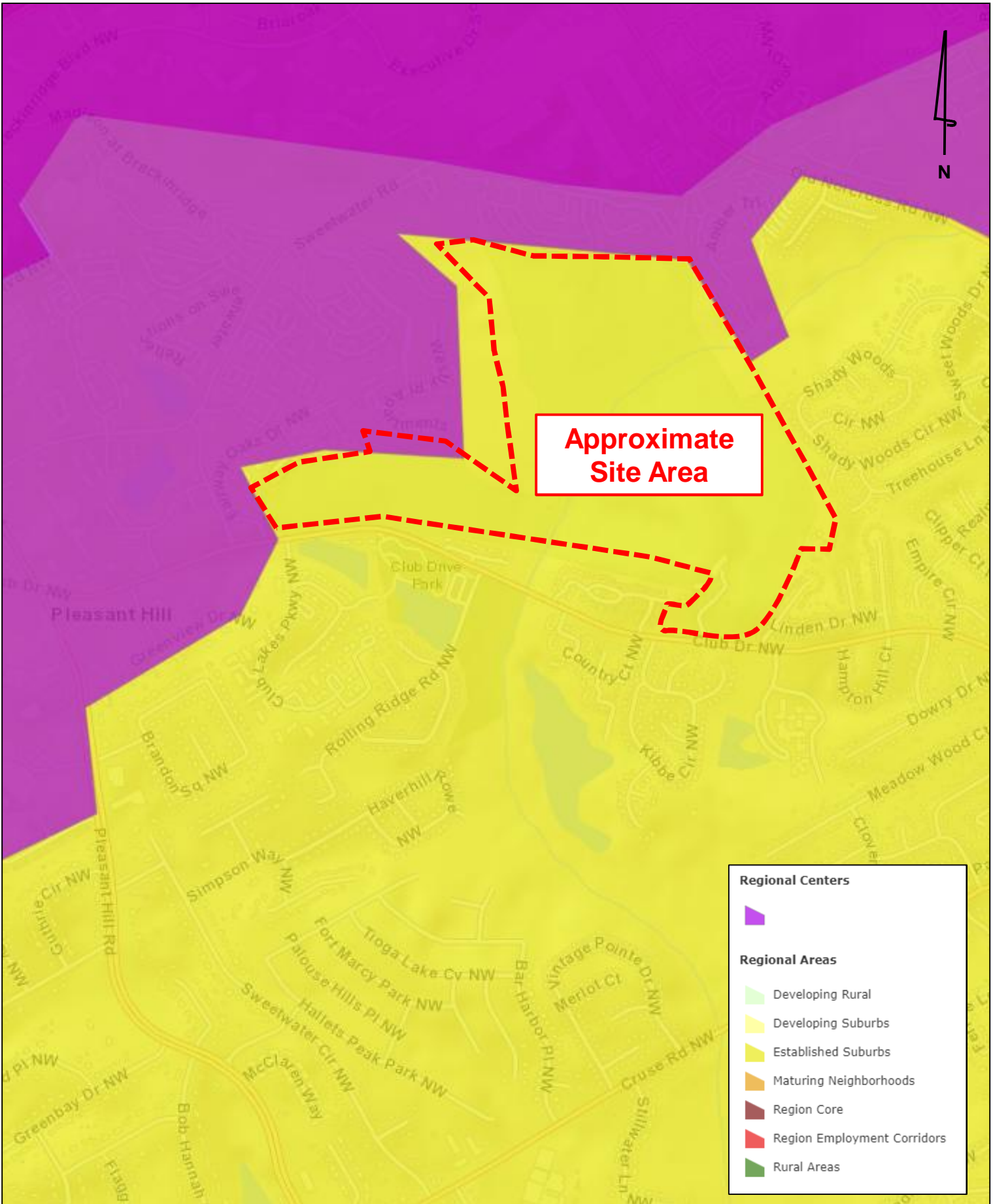
DRI #3085

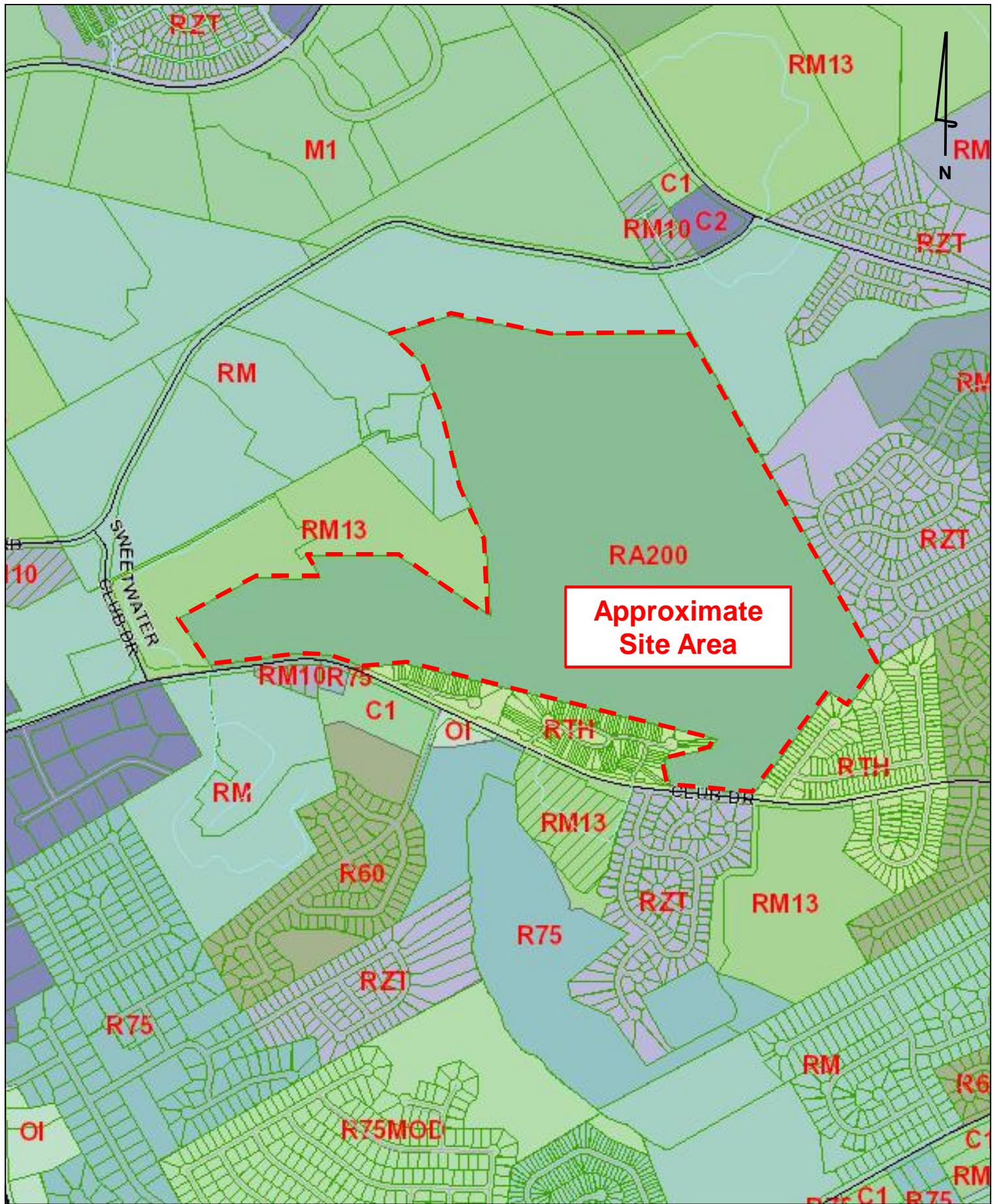


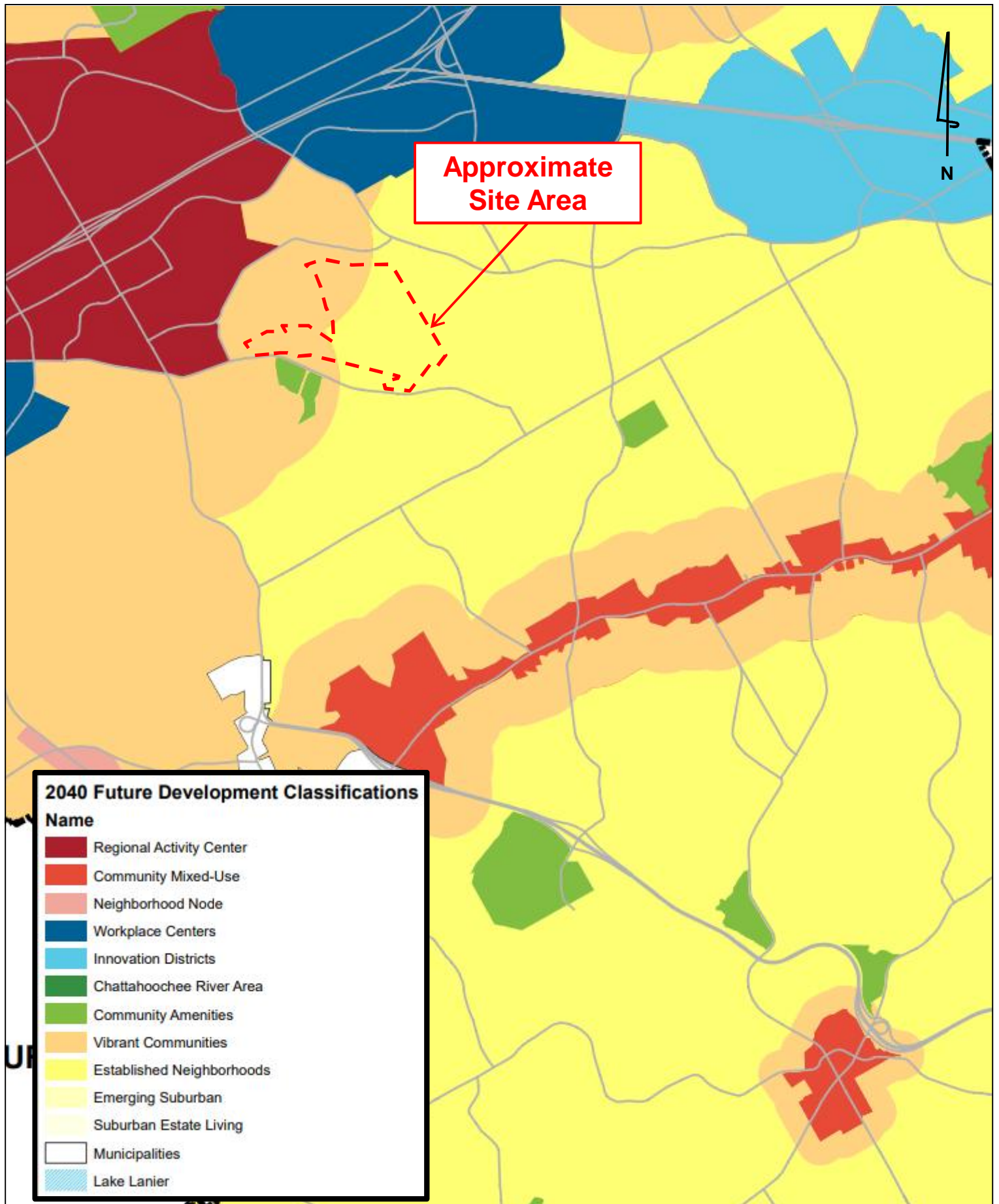
For The Firm
Travis Pruitt
&
Associates, Inc.

DATE: 04-27-2020
SCALE: 1" = 200'
CN: 190442CPO7
LSV:
JN:
FN:

Land Use and Zoning Maps







Trip Generation Analysis

Trip Generation Analysis (10th Ed. with *2nd Edition Handbook Daily IC & 3rd Edition AM/PM IC*)

Northwoods DRI #3085

Gwinnett County, GA

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
<u>Proposed Site Traffic</u>								
210 Single-Family Detached Housing	228 d.u.	2,220	167	42	125	224	141	83
220 Multi-Family Housing (Low-Rise) - Townhomes	228 d.u.	1,708	100	23	77	111	70	41
220 Multi-Family Housing (Low-Rise) - Apartments	354 d.u.	2,652	154	35	119	172	108	64
Gross Trips Residential Trips <i>Mixed-Use Reductions</i> <i>Alternative Mode Reductions</i> Adjusted Residential Trips		6,580	421	100	321	507	319	188
		6,580	421	100	321	507	319	188
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		6,580	421	100	321	507	319	188
New Trips Driveway Volumes		6,580	421	100	321	507	319	188
		6,580	421	100	321	507	319	188

Intersection Volume Worksheets

INTERSECTION VOLUME DEVELOPMENT

Intersection #1: Pleasant Hill Road @ Club Drive AM PEAK HOUR

Description	Pleasant Hill Road <u>Northbound</u>			Pleasant Hill Road <u>Southbound</u>			Club Drive <u>Eastbound</u>			Club Drive <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes	1,807	2,331	50	130	891	58	124	210	124	222	694	226
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.89			0.89			0.89			0.89		
Adjustment												
Adjusted 2019 Volumes	1807	2331	50	130	891	58	124	210	124	222	694	226
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	2,036	2,626	56	146	1,004	65	140	237	140	250	782	255
Project Trips												
Trip Distribution IN			5%	35%				15%				
Trip Distribution OUT										5%	15%	35%
Residential Trips	0	0	5	35	0	0	0	15	0	16	48	112
Total Project Trips	0	0	5	35	0	0	0	15	0	16	48	112
2027 Buildout Total	2,036	2,626	61	181	1,004	65	140	252	140	266	830	367

PM PEAK HOUR

Description	Pleasant Hill Road <u>Northbound</u>			Pleasant Hill Road <u>Southbound</u>			Club Drive <u>Eastbound</u>			Club Drive <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes	605	1,265	51	296	2,425	45	169	908	1,102	312	329	167
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.94			0.94			0.94			0.94		
Adjustment												
Adjusted 2019 Volumes	605	1265	51	296	2425	45	169	908	1102	312	329	167
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	682	1,425	57	333	2,732	51	190	1,023	1,241	351	371	188
Project Trips												
Trip Distribution IN			5%	35%				15%				
Trip Distribution OUT										5%	15%	35%
Residential Trips	0	0	16	112	0	0	0	48	0	9	28	66
Total Project Trips	0	0	16	112	0	0	0	48	0	9	28	66
2027 Buildout Total	682	1,425	73	445	2,732	51	190	1,071	1,241	360	399	254

INTERSECTION VOLUME DEVELOPMENT

Intersection #2: Club Drive @ Sweetwater Club Drive AM PEAK HOUR

Description	<u>Northbound</u>			<u>Sweetwater Club Drive Southbound</u>			<u>Club Drive Eastbound</u>			<u>Club Drive Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes	0	0	0	47	0	134	141	206	0	0	849	157
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	0%	0%	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%
Peak Hour Factor	0.94			0.94			0.94			0.94		
Adjustment												
Adjusted 2019 Volumes	0	0	0	47	0	134	141	206	0	0	849	157
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	0	0	0	53	0	151	159	232	0	0	956	177
Project Trips												
Trip Distribution IN				10%			55%					
Trip Distribution OUT										55%	10%	
Residential Trips	0	0	0	10	0	0	0	55	0	0	177	32
Total Project Trips	0	0	0	10	0	0	0	55	0	0	177	32
2027 Buildout Total	0	0	0	63	0	151	159	287	0	0	1,133	209

PM PEAK HOUR

Description	<u>Northbound</u>			<u>Sweetwater Club Drive Southbound</u>			<u>Club Drive Eastbound</u>			<u>Club Drive Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes	0	0	0	136	0	182	123	782	0	0	473	70
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%
Peak Hour Factor	0.99			0.99			0.99			0.99		
Adjustment												
Adjusted 2019 Volumes	0	0	0	136	0	182	123	782	0	0	473	70
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	0	0	0	153	0	205	139	881	0	0	533	79
Project Trips												
Trip Distribution IN				10%			55%					
Trip Distribution OUT										55%	10%	
Residential Trips	0	0	0	32	0	0	0	175	0	0	103	19
Total Project Trips	0	0	0	32	0	0	0	175	0	0	103	19
2027 Buildout Total	0	0	0	185	0	205	139	1,056	0	0	636	98

INTERSECTION VOLUME DEVELOPMENT

Intersection #3: Cruse Road @ Club Drive AM PEAK HOUR

Description	<u>Northbound</u>			<u>Club Drive Southbound</u>			<u>Cruse Road Eastbound</u>			<u>Cruse Road Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes	0	0	0	197	0	97	181	320	0	0	426	529
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	0%	0%	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%
Peak Hour Factor	0.97			0.97			0.97			0.97		
Adjustment												
Adjusted 2019 Volumes	0	0	0	197	0	97	181	320	0	0	426	529
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	0	0	0	222	0	109	204	360	0	0	480	596
Project Trips												
Trip Distribution IN							5%					30%
Trip Distribution OUT				30%		5%						
Residential Trips	0	0	0	96	0	16	5	0	0	0	0	30
Total Project Trips	0	0	0	96	0	16	5	0	0	0	0	30
2027 Buildout Total	0	0	0	318	0	125	209	360	0	0	480	626

PM PEAK HOUR

Description	<u>Northbound</u>			<u>Club Drive Southbound</u>			<u>Cruse Road Eastbound</u>			<u>Cruse Road Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes	0	0	0	514	0	209	118	333	0	0	367	263
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	0%	0%	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%
Peak Hour Factor	0.95			0.95			0.95			0.95		
Adjustment												
Adjusted 2019 Volumes	0	0	0	514	0	209	118	333	0	0	367	263
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	0	0	0	579	0	235	133	375	0	0	413	296
Project Trips												
Trip Distribution IN							5%					30%
Trip Distribution OUT				30%		5%						
Residential Trips	0	0	0	56	0	9	16	0	0	0	0	96
Total Project Trips	0	0	0	56	0	9	16	0	0	0	0	96
2027 Buildout Total	0	0	0	635	0	244	149	375	0	0	413	392

INTERSECTION VOLUME DEVELOPMENT

Intersection #4: Bethesda School Road / Herrington Road @ Cruse Road AM PEAK HOUR

Description	Bethesda School Road <u>Northbound</u>			Herrington Road <u>Southbound</u>			Cruse Road <u>Eastbound</u>			Cruse Road <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes	142	418	43	68	387	322	220	273	131	117	493	222
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.98			0.98			0.98			0.98		
Adjustment												
Adjusted 2019 Volumes	142	418	43	68	387	322	220	273	131	117	493	222
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	160	471	48	77	436	363	248	308	148	132	555	250
Project Trips												
Trip Distribution IN	10%					5%					15%	
Trip Distribution OUT							5%	15%	10%			
Residential Trips	10	0	0	0	0	5	16	48	32	0	15	0
Total Project Trips	10	0	0	0	0	5	16	48	32	0	15	0
2027 Buildout Total	170	471	48	77	436	368	264	356	180	132	570	250

PM PEAK HOUR

Description	Bethesda School Road <u>Northbound</u>			Herrington Road <u>Southbound</u>			Cruse Road <u>Eastbound</u>			Cruse Road <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes	116	358	87	165	576	170	198	404	174	148	415	116
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	2	24	4	0	7	1	7	2	1	1	3	0
Heavy Vehicle %	2%	7%	5%	2%	2%	2%	4%	2%	2%	2%	2%	2%
Peak Hour Factor	0.94			0.94			0.94			0.94		
Adjustment												
Adjusted 2019 Volumes	116	358	87	165	576	170	198	404	174	148	415	116
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	131	403	98	186	649	192	223	455	196	167	467	131
Project Trips												
Trip Distribution IN	10%					5%					15%	
Trip Distribution OUT							5%	15%	10%			
Residential Trips	32	0	0	0	0	16	9	28	19	0	48	0
Total Project Trips	32	0	0	0	0	16	9	28	19	0	48	0
2027 Buildout Total	163	403	98	186	649	208	232	483	215	167	515	131

INTERSECTION VOLUME DEVELOPMENT

Intersection #5: Club Drive @ Proposed Driveway A AM PEAK HOUR

Description	Northbound			Proposed Driveway A Southbound			Club Drive Eastbound			Club Drive Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes								253			1,006	
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Peak Hour Factor	0.92			0.92			0.92			0.92		
Adjustment												
Adjusted 2019 Volumes	0	0	0	0	0	0	0	253	0	0	1006	0
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	0	0	0	0	0	0	0	285	0	0	1,133	0
Project Trips												
Trip Distribution IN							26%	39%				14%
Trip Distribution OUT				14%		26%				39%		
Residential Trips	0	0	0	45	0	83	26	39	0	0	125	14
Total Project Trips	0	0	0	45	0	83	26	39	0	0	125	14
2027 Buildout Total	0	0	0	45	0	83	26	324	0	0	1,258	14

PM PEAK HOUR

Description	Northbound			Proposed Driveway A Southbound			Club Drive Eastbound			Club Drive Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes								918			543	
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Peak Hour Factor	0.92			0.92			0.92			0.92		
Adjustment												
Adjusted 2019 Volumes	0	0	0	0	0	0	0	918	0	0	543	0
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	0	0	0	0	0	0	0	1,034	0	0	612	0
Project Trips												
Trip Distribution IN							26%	39%				14%
Trip Distribution OUT				14%		26%				39%		
Residential Trips	0	0	0	26	0	49	83	124	0	0	73	45
Total Project Trips	0	0	0	26	0	49	83	124	0	0	73	45
2027 Buildout Total	0	0	0	26	0	49	83	1,158	0	0	685	45

INTERSECTION VOLUME DEVELOPMENT

Intersection #6: Club Drive @ Proposed Driveway B AM PEAK HOUR

Description	<u>Northbound</u>			<u>Proposed Driveway B Southbound</u>			<u>Club Drive Eastbound</u>			<u>Club Drive Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes								253			1,006	
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Peak Hour Factor	0.92			0.92			0.92			0.92		
Adjustment												
Adjusted 2019 Volumes	0	0	0	0	0	0	0	253	0	0	1006	0
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	0	0	0	0	0	0	0	285	0	0	1,133	0
Project Trips												
Trip Distribution IN							39%				14%	21%
Trip Distribution OUT				21%		39%		14%				
Residential Trips	0	0	0	67	0	125	39	45	0	0	14	21
Total Project Trips	0	0	0	67	0	125	39	45	0	0	14	21
2027 Buildout Total	0	0	0	67	0	125	39	330	0	0	1,147	21

PM PEAK HOUR

Description	<u>Northbound</u>			<u>Proposed Driveway B Southbound</u>			<u>Club Drive Eastbound</u>			<u>Club Drive Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2019 Traffic Volumes								918			543	
Pedestrians	0			0			0			0		
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles												
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Peak Hour Factor	0.92			0.92			0.92			0.92		
Adjustment												
Adjusted 2019 Volumes	0	0	0	0	0	0	0	918	0	0	543	0
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
New Road Adjustment												
Other Proposed Developments												
2027 Background Traffic	0	0	0	0	0	0	0	1,034	0	0	612	0
Project Trips												
Trip Distribution IN							39%				14%	21%
Trip Distribution OUT				21%		39%		14%				
Residential Trips	0	0	0	39	0	73	124	26	0	0	45	67
Total Project Trips	0	0	0	39	0	73	124	26	0	0	45	67
2027 Buildout Total	0	0	0	39	0	73	124	1,060	0	0	657	67

Programmed Project Fact Sheets

GWINNETT COUNTY DEPARTMENT OF TRANSPORTATION
2017 SPECIAL PURPOSE LOCAL OPTION SALES TAX PROGRAM
MAJOR ROAD IMPROVEMENTS



TIER I

Project Number	BOC District	Project Name	Location	Improvement Type	Current Status	Est. Construction
F-0581	4	Cruse Road	Club Drive to Paden Drive	2 to 5 Lanes	Under Construction	Early 2020
F-1286	1 & 2	Interstate 85	South County Line to SR 316 / University Parkway	Widening	Georgia DOT	
F-1262	2	Killian Hill Road	Church Street to Arcado Road	2 to 5 lanes		
F-1055	2	Peachtree Industrial Boulevard	from SR 141 / Peachtree Parkway to Medlock Bridge Road (northbound only)	2 to 3 lanes		
F-1272	1	Pleasant Hill Road	Howell Ferry Road to Chattahoochee River	4 to 6 lanes	Acquiring ROW	Mid 2020
F-1058	2	Spalding Drive	SR 140 / Holcomb Bridge Road to Winters Chapel Road	2 to 4/5 lanes	Under Construction	Early 2022
F-0835	3	SR 124 / Braselton Highway	Pine Road to County Line	2 to 4 lanes	Design	2021
F-1263	3 & 4	SR 124 / Scenic Highway	from US 78 / SR 10 / West Main Street to Sugarloaf Parkway	4 to 6 lanes	Design	
F-1264	1 & 4	SR 20 / Buford Drive	US 23 / SR 13 / Buford Highway to Peachtree Industrial Boulevard	4 to 6 lanes	Design	2022
F-1249	3	SR 316 / University Parkway	at Harbins Road	Interchange Improvement	Under Construction	Mid 2022
F-1256	3 & 4	SR 316 / University Parkway	Hi-Hope Road to US 29 / SR 8 / Winder Highway	Interchange Improvements	Design	2023
F-1265	1	Sugarloaf Parkway	Meadow Church Road to Satellite Boulevard	4 to 6 lanes	Under Construction	Mid 2020
F-1061-01	3 & 4	Sugarloaf Parkway Extension	SR 316 / University Parkway to I-85		Design	

Short Title

WEST LIDDELL ROAD / CLUB DRIVE CONNECTOR - NEW ALIGNMENT FROM STEVE REYNOLDS BOULEVARD TO SATELLITE BOULEVARD (INCLUDES I-85 BRIDGE) - DESIGN PHASE WILL INCLUDE ACCESS MANAGEMENT PLAN

GDOT Project No.

TBD

Federal ID No.

N/A

Status

Long Range

Service Type

Roadway / General Purpose Capacity

Sponsor

Gwinnett County

Jurisdiction

Gwinnett County

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

0

LCI

☐

Planned Thru Lane

4

Flex

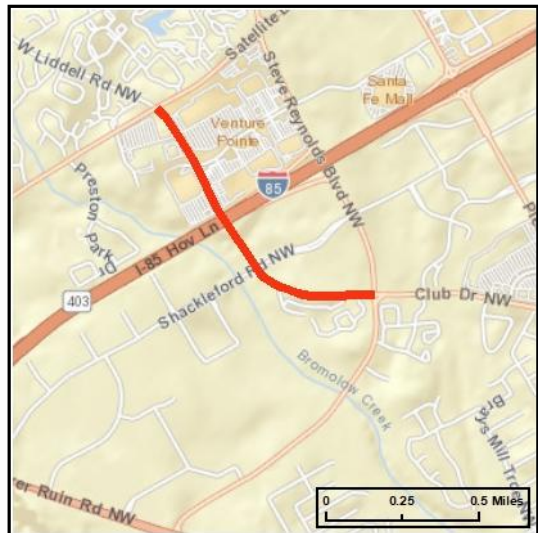
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Network Year

2030

Corridor Length

1.1 miles



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Detailed Description and Justification

This project consists of widening existing West Liddell Road from Satellite Boulevard to Venture Drive from 2 to 4 lanes with a center turn lane divided with raised median. The project extends west of Liddell Road to a new location from Venture Drive across I-85 to Shackleford Road, including the I-85 bridge. The project will improve congestion on the I-85 corridor and improve access across I-85.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds	AUTH	2006	\$700,000	\$0,000	\$0,000	\$0,000	\$700,000
PE-OV	STP - Statewide Flexible (GDOT)	AUTH	2011	\$50,000	\$40,000	\$10,000	\$0,000	\$0,000
ROW	Local Jurisdiction/Municipality Funds	AUTH	2011	\$7,000,000	\$0,000	\$0,000	\$0,000	\$7,000,000
ROW	Local Jurisdiction/Municipality Funds		LR 2026-2030	\$16,600,000	\$0,000	\$0,000	\$0,000	\$16,600,000
UTL	Local Jurisdiction/Municipality Funds		LR 2026-2030	\$300,000	\$0,000	\$0,000	\$0,000	\$300,000
CST	Local Jurisdiction/Municipality Funds		LR 2026-2030	\$17,586,000	\$0,000	\$0,000	\$0,000	\$17,586,000
				\$42,236,000	\$40,000	\$10,000	\$0,000	\$42,186,000

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquisition
 UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases



For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.



Short Title

I-85 NORTH EXPRESS LANES FROM I-285 TO OLD PEACHTREE ROAD

GDOT Project No.

0013920

Federal ID No.

N/A

Status

Long Range

Service Type

Roadway / Express Lanes

Sponsor

GDOT

Jurisdiction

Regional - Northeast

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

2

LCI

☐

Planned Thru Lane

4

Flex

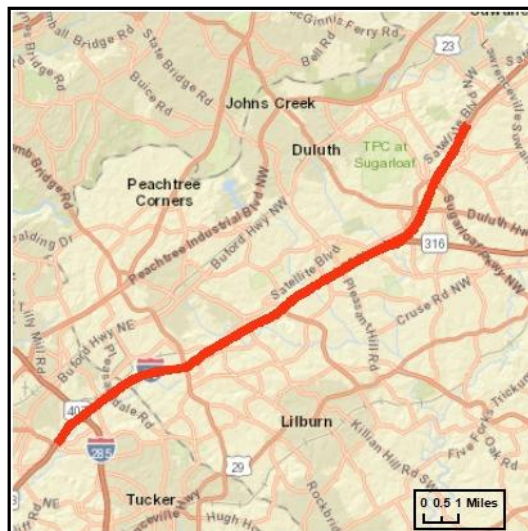
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Network Year

2040

Corridor Length

17 miles



Detailed Description and Justification

This is an express lanes project along I-85 North from I-285 to Old Peachtree Road.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	General Federal Aid - 2026-2050		LR 2026-2030	\$12,356,434	\$9,885,147	\$2,471,287	\$0,000	\$0,000
ROW	General Federal Aid - 2026-2050		LR 2031-2040	\$44,032,728	\$35,226,182	\$8,806,546	\$0,000	\$0,000
CST	General Federal Aid - 2026-2050		LR 2031-2040	\$152,283,170	\$121,826,536	\$30,456,634	\$0,000	\$0,000
CST	Public Private Partnership		LR 2031-2040	\$124,595,321	\$0,000	\$0,000	\$124,595,321	\$0,000
				\$333,267,653	\$166,937,865	\$41,734,467	\$124,595,321	\$0,000

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquisition
 UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases



For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

Short Title

WEST LAWRENCEVILLE AREA ITS ENHANCEMENTS
FROM SR 120 (DULUTH HIGHWAY) TO CRUSE ROAD

GDOT Project No.

0016406

Federal ID No.

N/A

Status

Programmed

Service Type

Roadway / Operations & Safety

Sponsor

Gwinnett County

Jurisdiction

Gwinnett County

Analysis Level

Exempt from Air Quality Analysis (40 CFR 93)

Existing Thru Lane

N/A

LCI

☐

Planned Thru Lane

N/A

Flex

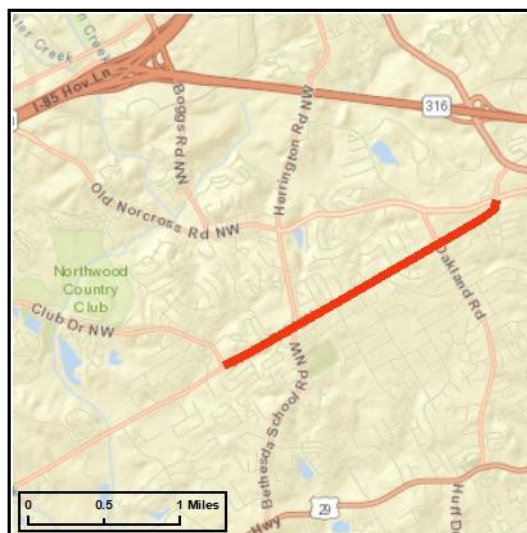
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Network Year

TBD

Corridor Length

4.4 miles



Detailed Description and Justification

This project is part of a program of enhancements which support regional mobility objectives through a full ITS deployment for fiber redundancy that will allow for expanded camera coverage of SR 20 in southeastern Gwinnett County and that will connect to existing Hamilton Mill Road fiber and will allow for expanded camera coverage of SR 13 in Buford. Full ITS deployment will increase the fiber count and ITS device coverage in northwestern Gwinnett along a major north-south arterial in Suwanee and Sugar Hill. This project is also a full ITS installment with underground fiber, cameras and upgrades to cabinets (network switches), etc. from US 29 to Five Forks Trickum Road along commuter routes and will push the edge of fiber ring close to DeKalb County line. Proposed project segments/treatments are listed below:

- * SR 20 from Ozora Road to Brand Road at US 78 (County ITS system expansion)
- * SR 13 from SR 20 to Hall County Line (County ITS system expansion)
- * Rockbridge Road from Five Forks Trickum Road to US 78 EB Ramp/W. Park Place Blvd (Fiber expansion)
- * Killian Hill Road from Five Forks Trickum Road to US 29 (County ITS system expansion)
- * Cruse Road from Old Norcross Road to Club Drive (County ITS system expansion)
- * SR 120 from Riverside Parkway to Sugarloaf Parkway (County ITS system expansion)

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds	AUTH	2019	\$120,000	\$0,000	\$0,000	\$0,000	\$120,000
CST	Congestion Mitigation & Air Quality Improvement (CMAQ)		2021	\$1,026,120	\$820,896	\$0,000	\$0,000	\$205,224
				\$1,146,120	\$820,896	\$0,000	\$0,000	\$325,224

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquisition
 UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases



For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

Site Photo Log

Northwoods DRI #3085

Photo No. 5



Comments: Site Driveway B looking east.

Photo No. 6



Comments: Site Driveway B looking west.